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DRAFT CUSTOMS NOMENCLATURE

Volume II

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and

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DRAFT CUSTOMS NOMENCLATURE

Volume II

Series of League of Nations Publications

II. ECONOMIC AND FINANCIAL

1931. II.B. 25.II.

N.B.—*The English translation of the Notes relating to the Draft Customs Nomenclature has been revised by the English Section of the International Office of Customs Tariffs. As, however, this work could not be done in the regular working hours of the Service in question, it has not always been possible, owing to lack of time, to go into the revision as thoroughly as would have been desirable ; this particularly applies to the Notes referring to Sections XVI to XXI.*

SUMMARY.

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PRELIMINARY NOTE.

The introduction to the first volume of the *Draft Customs Nomenclature* quotes a passage from a report by the Sub-Committee of Experts to the Economic Committee, dealing with the question of the application of the common Customs nomenclature. This passage may perhaps require explanation, and the following observations are designed to show as clearly as possible —mainly with the help of practical illustrations—the working of the system contemplated by the experts for adapting the nomenclature elaborated by them to the special requirements of the several States without prejudicing the uniformity of the tariff nomenclature which the League of Nations desires to achieve.

First, the need for such adaptation is quite clear. In preparing its draft, the Sub-Committee took into account the economic conditions obtaining in those countries where all branches of production, both agricultural and industrial, have reached a fairly advanced stage of development. For this reason, after setting up some thousand principal or basic items relating to products which, in respect to quantity or value, are largely dealt in on the international market, the Sub-Committee had no hesitation in introducing subdivisions (sub-items) into the principal items, when such sub-items seemed to meet a *real* need of *all* the countries in question. On the other hand, in cases where the subdivision of a commodity, regardless of the criterion chosen in establishing it, would have been very unlikely to meet with general approval, the Sub-Committee refrained from making any proposals. This applies in particular to articles such as tobacco, sugar, petroleum oils, etc., which, in many countries, are subjected to special regulations.

In many cases, several successive subdivisions were created, each new subdivision being of less importance than the previous one.

Nevertheless, the principle on which the Sub-Committee of Experts has based its work does not always correspond with the facts : the conditions pertaining in agriculture and industry vary greatly in the different countries. It is natural, therefore—as clearly realised by the Sub-Committee—that the nomenclature of the League of Nations should in some cases appear too detailed and in others too cursory, and that, consequently, adjustments should be inevitable in order to obviate the disadvantages arising out of a nomenclature regarded as excessive or inadequate, and to bring it into harmony with the economic and fiscal exigencies as well as the requirements of the contractual policy of each State. The experts are of opinion that this work of adjustment should, where necessary, apply not *to the basic items* but *within* these items. In other words, the 985 basic headings are such—by reason of the nature and character of the goods or categories of goods comprised therein—that, in the opinion of the Sub-Committee, they should *all* be included in every Customs tariff, to the exclusion of all others. In this way, the Customs tariffs would be given an identical frame or structure sufficient of itself to render the Customs nomenclatures substantially and essentially uniform.

On the other hand, while being bound to leave intact the title and contents of the principal items, each State would be free to make, within every one of such items, certain alterations of form which would give full satisfaction to its own special interests. The principles laid down for this purpose by the Sub-Committee are as follows :

I.

Basic Items not containing any Sub-items in the League of Nations Draft.

States would be free to subdivide these items at their discretion.

Thus, for the following item in the draft :

(849) *Machine tools,*

the following specifications might, for instance, be made :

(849) *Machine tools,* weighing each :

a. Up to 100 kg.
b. More than 100, but not more than 250 kg.
c. More than 250, but not more than 1,000 kg.
d. More than 1,000, but not more than 3,000 kg.
e. More than 3,000, but not more than 15,000 kg.
f. More than 15,000, but not more than 50,000 kg.
g. More than 50,000 kg.

Similarly, the item :

(68) *Wheat, spelt and meslin*

might, for instance, be subdivided as follows :

(68) *Wheat, spelt and meslin :*

a. Wheat :
1. Soft.
2. Hard.

b. Spelt and meslin.

II.

Basic Items which already have Sub-items in the League of Nations Draft.

A.—The countries might :

(1) Entirely omit the sub-items.

Example. Item of the draft :

(264) *Persalts :*

a. Perborates.
b. Percarbonates.
c. Persulphates.
d. Other.

The omission of the four secondary items, in the event of their being regarded as superfluous, would simply leave the heading :

(264) *Persalts.*

(2) Reduce the number of sub-items by grouping together two or more sub-items of the same degree, provided always that *these sub-items are not followed in the draft by further specialisations.*

The following are examples :

(527) *Cotton fabrics, not figured :*

a. Unbleached.
b. Bleached.
c. Dyed.
d. Printed.
e. Woven with threads of different colours.
f. Mercerised.
g. Glazed, moiré or goffered.

It would be permissible, if all these distinctions were regarded as superfluous for the purpose of taxation, to group together, for instance, *a* with *b*, *c* with *d* and *e*, and *f* with *g* :

(527) *Cotton fabrics, not figured :*

a, b. Unbleached or bleached.
c, d, e. Dyed, printed, or woven with threads of different colours.
f, g. Mercerised, glazed, moiré or goffered.

(675) *Blown or pressed glassware, not elsewhere specified or included :*

a. Of blown glass, unworked :
1. In natural, greenish, brownish, or blackish colours.
2. Uncoloured, white or half-white.
3. Coloured throughout, or flashed.

b. Of pressed glass, unworked :
1. In natural, greenish, brownish or blackish colours.
2. Uncoloured, white or half-white.
3. Coloured throughout, or flashed.

c. Of blown or pressed glass, worked :
1. Ground.
2. Polished, cut, engraved, painted, gilt, silvered or otherwise decorated.

d. Combined with other materials.

This item, unlike the preceding one, contains secondary and tertiary items. According to the principle enunciated above, it would not be permissible to group the secondary items together, but only the tertiary items. For instance, it would not be possible to alter this item as follows :

(675) *Blown or pressed glassware, not elsewhere specified or included :*

a, b. Of blown or pressed glass, unworked :
1. In natural, greenish, brownish or blackish colours.
2. Uncoloured, white or half-white.
3. Coloured throughout, or flashed.

c. Of blown or pressed glass, worked :
1. Ground.
2. Polished, cut, engraved, painted, gilt, silvered, or otherwise decorated.

d. Combined with other materials.

On the other hand, it would be permissible within *a*, *b* and *c* to group together at will the tertiary items 1, 2 and 3, for instance, as follows :

(675) *Blown or pressed glassware, not elsewhere specified or included :*

a. Of blown glass, unworked :
1. In natural, greenish, brownish or blackish colours.
2, 3. Uncoloured, white or half-white, coloured throughout, or flashed.

b. Of pressed glass, unworked :

1. In natural, greenish, brownish or blackish colours.
2, 3. Uncoloured, white or half-white, coloured throughout, or flashed.

c. Of blown or pressed glass, worked :

1. Ground.
2. Polished, cut, engraved, painted, gilt, silvered or otherwise decorated.

d. Combined with other materials.

Another example :

(629) *Wares of stone, not elsewhere specified or included :*

a. Simply cut or sawn, smooth or plain surface :

1. Of marble, alabaster and serpentine.
2. Of granite, porphyry, syenite and similar hard stones.
3. Of other stone.

b. Shaped or turned, but not polished or carved :

1. Of marble, alabaster and serpentine.
2. Of granite, porphyry, syenite and similar hard stones.
3. Of other stone.

c. Polished, decorated or otherwise worked, but not carved :

1. Of marble, alabaster and serpentine.
2. Of granite, porphyry, syenite and similar hard stones.
3. Of other stone.

d. Carved.

This item also comprises secondary and tertiary items ; consequently it would not be permissible to condense the secondary items :

(629) *Wares of stone, not elsewhere specified or included :*

a. Simply cut or sawn, smooth or plain surface :

1. Of marble, alabaster and serpentine.
2. Of granite, porphyry, syenite and similar hard stones.
3. Of other stone.

b. Shaped, turned, polished, decorated or otherwise worked ; carved :

1. Of marble, alabaster and serpentine.
2. Of granite, porphyry, syenite and similar stones.
3. Of other stone.

But, in each of the secondary items, *a*, *b* and *c*, the tertiary items might be differently grouped. Thus, for instance, if they were all grouped together, they would entirely disappear, which would leave the following heading :

(629) *Wares of stone, not elsewhere specified or included :*

a. Simply cut or sawn, smooth or plain surface.
b. Shaped or turned, but not polished or carved.
c. Polished, decorated or otherwise worked, but not carved.
d. Carved.

(3) Extend the sub-items by introducing new ones *within the framework of the existing sub-items*. In other words, any fresh distinction would always have to be *added* to that or to those already existing in the draft.

The item :

(507) *Woollen fabrics, not elsewhere specified :*

a. Of pure wool.
b. Of mixed wool,

could thus, if necessary, become :

(507) *Woollen fabrics, not elsewhere specified :*

a. Of pure wool :

1. Weighing more than 300 grammes per sq. metre.
2. Weighing 300 grammes or less per sq. metre.

b. Of mixed wool :

1. Weighing more than 300 grammes per sq. metre.
2. Weighing 300 grammes or less per sq. metre.

Naturally, the choice might fall on other specialisations : for instance, a distinction might be made between fabrics of *carded* wool and fabrics of *combed* wool, or the following kinds of fabrics might be specified : fabrics unbleached, bleached, dyed, printed, and those made of dyed yarn. Moreover, the distinction might be further developed by introducing *quaternary* items based on the quality of the fabrics if the secondary items were established on the basis of the weight per sq. metre, or, conversely, on such weight if the secondary items were established on the basis of the quality of the fabrics.

* * *

Naturally there would be nothing to prevent the compression or extension of the sub-items provided for under II.A being undertaken at the same time.

The item :

(58) *Almonds, nuts, chestnuts and similar fruits :*
- *a.* Almonds.
- *b.* Hazel nuts.
- *c.* Walnuts.
- *d.* Chestnuts.
- *e.* Others,

could therefore be changed to :

(58) *Almonds, nuts, chestnuts and similar fruits :*
- *a.* Almonds :
  1. Unshelled.
  2. Shelled.
- *b.* Hazel nuts :
  1. Unshelled.
  2. Shelled.
- *c.* Walnuts :
  1. Unshelled.
  2. Shelled.
- *d, e.* Chestnuts and others.

B.—Countries should not :

(1) Replace the sub-items of the League of Nations draft by other sub-items established on the basis of a totally different criterion.

They would not be allowed to replace the item :

(153) *Wine and grape-must :*
- *a.* In casks.
- *b.* In bottles,

by :

(153) *Wine and grape-must :*
- *a.* Liqueur wines.
- *b.* Other wines.
- *c.* Grape-must.

It has been laid down (A.3) that a further distinction could always be made *after* that provided for in the draft and as a subsequent and supplementary specialisation. Consequently, the item :

(153) *Wine and grape-must :*
- *a.* In casks :
  1. Liqueur wines.
  2. Other wines.
  3. Grape-must.
- *b.* In bottles :
  1. Liqueur wines.
  2. Other wines.
  3. Grape-must,

could be inserted in the tariff—if necessary, with further specifications (for instance, " other wines " according to their alcohol content, and " grape-must " according to whether it is fermented or alcoholised or not). The possible need to distinguish between liqueur wines and other wines would thus also be entirely met.

(2) Change the order of the sub-items where a given heading of the League of Nations draft comprises not only secondary items but tertiary items, quarternary items, etc.

The item :

(545) *Flax or ramie yarns :*
- *a.* Single :
  1. Unbleached.
  2. Scoured, bleached, dyed and other.
- *b.* Twisted :
  1. Unbleached.
  2. Scoured, bleached, dyed and other,

would thus have to be accepted and remain as it stands, and it would not be admissible to transpose the order of the secondary and tertiary items by putting the latter in the place of the former, in the following manner :

(545) *Flax or ramie yarns :*

a. Unbleached :

1. Single.
2. Twisted.

b. Scoured, bleached, dyed and other :

1. Single.
2. Twisted.

* * *

These restrictions on the freedom to modify and alter the specifications of the commodities contained in the draft are fully warranted by the fact that the Sub-Committee chose and established them after careful reflection and on the basis of technical or rational principles, the violation of which would disturb the structure and balance of the whole of its work.

Moreover, the method suggested by the experts is, even with the restrictions it contains, sufficiently flexible to avoid its interfering in any way with the tarification of goods.

Nor is the freedom of the Governments to assess goods for duty affected by the notes appearing in the text of the League of Nations nomenclature. Some of these notes determine the classification of certain products. They in nowise purport to subject the goods to one duty rather than another, and an appropriate extension of the sub-items is sufficient to render any Customs treatment possible in the case of a given product.

For example, the item

(8) *Poultry*

contains the following note : " Domestic and carrier pigeons come under this item ". This note and any other note in which the words " come under " are replaced by similar terms, such as " are also included in ", are not to be regarded as an *assimilation* within the Customs meaning of the word—that is to say, as an obligation to impose duties on domestic and carrier pigeons at the same rate of duty as other kinds of poultry. The item might, for instance, be made to read as follows :

(8) Poultry :

a. Pigeons :

1. Carrier.
2. Other.

b. Not specified,

which, as will be seen, would make it possible to distinguish pigeons from other poultry and also to distinguish carrier pigeons (which are subjected to special regulations in certain countries) from other pigeons.

Other notes determine the line of demarcation between products of the same nature (paper and cardboard, mixed fabrics, aluminium leaves and thin aluminium leaves, etc.). These are restrictions of weight, dimensions, etc., which, in many cases, do not coincide with those adopted in certain tariffs. The consequence to be drawn from these definitions—which may appear arbitrary, but are the result of a compromise between divergent principles and are, in any case, indispensable in an international nomenclature—is that the countries which apply principles of classification and tarification other than those adopted in the draft and which desire to retain them will only have to introduce special sub-items and will not be obliged to alter their tariff assessment in any way.

Thus, a general note to Chapter 44 states that " products weighing 300 grammes or more per square metre are regarded as cardboard, and articles weighing less than 300 grammes per square metre are treated as paper ".

There are tariffs in which the limit of weight separating paper from cardboard is not 300 grammes, but a lower or a higher weight ; for instance, it is 180 grammes in the Hungarian tariff, while it reaches 350 grammes in the German and French tariffs, and 400 grammes in the Swiss tariff. The countries desirous to retain these limits need only establish the appropriate scale in the items relating to paper or in those relating to cardboard. A country like Hungary could introduce the following distinction in the respective items (or sub-items) relating to paper :

1. Weighing 180 grammes or more per square metre, up to 300 grammes (exclusive).
2. Weighing 300 grammes or more per square metre,

and could apply to products coming under No. 1 of the *cardboard* duties.

On the other hand, countries like Germany, France or Switzerland could subdivide the items (or sub-items) of *cardboard* into two groups :

1. Weighing 300 grammes or more per square metre, up to 350 (or 400) grammes (exclusive).
2. Weighing 350 (or 400) grammes or more per square metre,

and could subject products coming under Group 1 to the Customs treatment applicable to *paper*.

After this detailed statement of the method of applying the nomenclature of the League of Nations, the advantages of this method may be briefly summarised as follows :

(1) This method would make it possible to render Customs nomenclatures still more uniform, as identity of heading and contents would, instead of being confined to the basic items, be extended to many of the sub-items.

(2) It would consequently facilitate the establishment of concurring commercial statistics, since these statistics are known to be generally based on the nomenclature of the Customs tariffs.

(3) It would help to eliminate the arbitrary factor from tariff distinctions, especially if, when introducing fresh sub-items, the countries followed the numerous suggestions contained in the comments on the draft for a common Customs nomenclature.

Tariff distinctions based on these suggestions and on the spirit animating the whole work of the Sub-Committee of Experts would always be legitimate and justifiable, inasmuch as they would always be based on the intrinsic and objective characteristics of the commodities.

EXPLANATORY NOTES ON THE DRAFT CUSTOMS NOMENCLATURE.

Section I.

LIVE ANIMALS AND PRODUCTS OF THE ANIMAL KINGDOM.

Chapter 1.

LIVE ANIMALS

(Except Fish, Crustaceans and Molluscs).

Chapter 1 includes all animals for slaughter and breeding and small domestic animals (poultry, rabbits, pigeons, dogs), game and all other kinds of animals (except fish, crustaceans and molluscs), all of them being alive. The great majority of the basic items contained in the draft are and always will be comprised in every Customs tariff, so that it does not seem necessary to indicate the reasons for the inclusion of each item.

Items 1 to 6.

The draft avoids too detailed a division of the basic items, reserved for the main groups of animals : the equine and bovine species, sheep, goats and swine. Generally speaking the draft merely distinguishes between young animals and fully grown animals—a distinction of undisputable necessity. Nevertheless, other sub-items for bulls, cows and oxen, on the one part, and for stallions, gelding, and mares, on the other part, have been recognised as meeting a general need. A special sub-item for horses for slaughter also corresponds to national economic requirements, inasmuch as, if so desired, it enables the levy of a lower duty on animals to be consumed by the poorer classes. The national tariffs will, no doubt, have other sub-divisions, according to weight or other criteria, such as breed (cold blood or hot blood) in the case of horses, animals for slaughter, draught or breeding in the case of the bovine species, etc. Here, however, the views are so divergent that each country must be allowed complete freedom.

The following are the proposals of the Sub-Committee as regards the distinction to be made between young and fully grown animals :

Young horses which have none but milk incisors in their upper and lower jaws are regarded as foals.

Young animals of the bovine species which have not yet lost any of their eight milk teeth are called calves. Animals which have lost the two milk teeth in the middle of the lower jaw are classed as yearling bulls, steers or heifers, if they have not yet acquired all their outer teeth in the middle of the jaw (that is to say, the third pair of the eight incisors).

Animals whose weight does not exceed 14 kg. are included in the sub-item : lambs or kids.

In drawing a distinction between young pigs and pigs, a weight of 30 kg. would be fair, although swine vary so much that any limit which could be proposed would inevitably entail certain disadvantages.

Item 8.

Poultry will generally be divided into sub-items. Inasmuch as many tariffs make an essential distinction between the various kinds of poultry (fowls, geese, ducks, etc.), the draft does not contain any proposal with regard to this. Domestic and carrier pigeons are given together ; as regards the latter, some countries may see fit to introduce a special item, but, this expediency not being general, the inclusion of such an item in the draft unified Customs nomenclature could hardly be justified.

Item 11.

The item " bees " includes bees in hives.

Item 12.

The last item of this Chapter—" Live animals not elsewhere specified or included "—includes animals in parks or menageries, birds in cages, etc., all of them alive. This item also includes tortoises, frogs and leeches.

Chapter 2.

MEAT.

Item 13.

In a Customs tariff, it is no doubt desirable, as far as possible, to place the meat derived from slaughtered animals (oxen, sheep, pigs, horses, etc.) in close proximity with the live animals themselves. For this reason, the draft places at the head of this chapter a basic item which includes all kinds of butcher's meat, whether fresh, chilled or frozen. This naturally includes slaughtered animals and edible internal organs of animals of the bovine species, sheep, pigs, horses, etc., separately imported. The internal organs imported with the whole animal are included in the expression " slaughtered animals ". Non-edible internal organs come under Item 31 of Chapter 5 : " Guts, etc. ".

With regard to the sub division of this main item, there are, of course, two possibilities: the four important kinds of animals for slaughter : the bovine species, sheep, pigs and the equine species could be taken as a basis ; or the two main categories of fresh and chilled or frozen meat could be taken. The draft combines these two methods of classification. It is no doubt essential that tariffs should show a discrimination between the various kinds of animals and, as a matter of fact, this distinction is now made in most tariffs. The draft, therefore, applies the same rule with regard to sub divisions, by providing, in the case of meat of the bovine species and sheep (large quantities of which are imported frozen), tertiary items which distinguish between fresh and frozen meat. To proceed otherwise—*i.e.*, to make a fundamental distinction between fresh and frozen meat—would compel several countries to introduce into their Customs tariffs a subdivision which they have so far regarded as unnecessary and would lead to a discrimination being made between fresh meat, which is usually produced by neighbouring countries, and frozen meat, which generally comes from very remote parts of the world.

Items 14 to 16.

Item 13 is followed by three other items which comprise the other categories of edible meat or of dead animals used for food : dead poultry, dead game and all other kinds of fresh or frozen meat, such as domestic rabbits, etc. Fresh poultry liver is included under dead poultry, in conformity with the classification of the edible internal organs of slaughtered animals. The draft provides, in the case of dead game, for the same subdivisions—ground game and feathered game—as in the case of live game. Among others, the following are regarded as ground game : boars, bears, reindeer, wild rabbits. Wild ducks and wild geese are regarded as feathered game.

Item 17.

A special basic item is allotted to bacon. Bacon is sold in certain countries fresh, to be melted down as lard. In view of the importance of fresh bacon for many European countries, the draft provides for a sub-item for that article. This sub-item also includes pig's fat (in a raw state), which is found round the internal organs. A second sub-item includes bacon, salted, dried, smoked or otherwise prepared for immediate consumption.

Item 18.

The last basic item of this chapter includes all other meat, salted, dried, smoked, cooked or otherwise simply prepared. These are, for the most part, very simply prepared articles, the production of which is rather closely connected with that of fresh meat. The joint expediency for the simplification of and ready reference to the Customs tariffs therefore makes it desirable that such meat should not be classified otherwise than as simple preparations of fresh meat. On the other hand, this chapter does not include meat imported in tins, jars, *croûtes* or in hermetically sealed containers, these actually being products of the preserved foods industries and therefore included in Chapter 16.

In view of its special importance, the draft contains a sub-item for ham.

Chapter 3.

FISH, CRUSTACEANS AND MOLLUSCS.

The products of fishing and breeding in sea water, fresh water and artificial basins represent such an important branch of the national production of the various countries that they should obviously be included in a special chapter of the Customs nomenclature. The draft divides these products into three categories : fresh fish (including aquarium fish and fry), simply prepared fish, and crustaceans and molluscs, fresh or simply prepared.

Item 19.

The basic item, fresh fish, which also includes fish preserved fresh by any freezing process for transport, is divided into two sub-items : one includes fresh-water fish and the other sea fish. This distinction is made for economic reasons and corresponds to the requirements of the Customs tariffs. In certain cases, there might be some doubt as to the classification of particular kinds of fish ; for instance, does salmon come under the first or second sub-item ? The draft classifies salmon, as a product of river fishing, with fresh-water fish. Generally speaking, fish which are the product of sea fisheries may be classified as sea-water fish, even if they spend part of their life in rivers, while certain fresh-water fish, which are sometimes to be found in the sea but are usually found in the estuaries of big rivers, are not to be regarded as sea-water fish.

Item 20.

As in the case of meat, a basic item is provided for fish simply salted, dried or smoked, with the exception of fish which have undergone any preparation, imported in hermetically sealed receptacles (tins, glasses, etc.). These prepared fish come under Chapter 16 as products of the preserved foods industries. Among fish subjected to simple preparation, herrings, which are clearly important not only for the fisheries but also for consumption, are given a special sub-item.

Item 21.

In spite of the fact that, for certain countries, they are not of much importance, crustaceans and molluscs, fresh or simply prepared but not packed in hermetically sealed receptacles, should be allotted a special basic item in the Customs tariffs. The different nature of these two groups is sufficient to explain the two sub-divisions. The first sub-division includes crustaceans (lobsters, spiny lobsters, crabs, crayfish, shrimps, etc.), and the second includes molluscs, oysters being the most important of these for international trade

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Chapter 4.

MILK AND DAIRY PRODUCTS ; EGGS AND HONEY.

This chapter includes certain dairy products such as milk, cream, butter, cheese, eggs and honey. The chapter, therefore, includes the products in a natural state and those which have undergone a certain amount of transformation. This classification finds its justification in the great advantage, from an economic point of view, of grouping together all products of the same branch of agriculture. In the case of these products, the draft even abandons the principle adopted in the preceding chapters of showing separately those articles which are the products of the preserved foods industry or those placed on the market in hermetically sealed receptacles. It has been decided to include in this chapter milk and cream, preserved or condensed, as this industry is closely connected with dairy farming.

Items 22 and 23.

The first basic item of this chapter comprises milk in all its forms, except only milk in blocks, in powder, or condensed. It thus includes milk, full cream or skimmed, buttermilk, curdled milk, fermented milk (such as Kephir and Yughurt), and also pasteurised, sterilised or peptonised milk, in whatever receptacles it is placed on the market. This applies also to cream, which comes in the second basic item when not preserved or condensed, regardless of the receptacles used for transport.

Item 24.

While the products enumerated in the two preceding items are, generally speaking, confined to frontier traffic, the third basic item includes an important international commodity:

preserved or condensed milk and cream. This item includes all the usual forms of this commodity : milk in blocks and in powder and milk (cream) condensed in syrupy form. The draft makes no distinction based on the absence or addition of sugar in preserved or condensed milk or the nature of the packing. Many of the Customs tariffs will no doubt maker a subdivision according to the sugar content, owing to the need for indicating, in the import duties on these sweetened products, the duties, imposts or other charges generally levied on sugar imports. As these needs vary very much in the various countries, which have widely differing sugar laws, the draft contains no sub-items.

Item 25.

This basic item, which includes butter, fresh or salt, whether melted or not, meets a general need of all the tariffs.

Item 26.

This also applies to the basic item " cheese ", which even includes margarine cheese or artificial cheese. Three sub-items have been considered necessary. The first includes clotted cream (white cheese), the separate classification of this product being explained by the fact that this commodity is less valuable than cheeses in general, and is used not only for food but also for the manufacture of casein. Further, cheeses, properly speaking, are grouped together in two sub-items : soft cheese and hard or medium hard cheese. The distinction between soft cheese and hard or medium hard cheese may, in some cases, meet with difficulties. The products of the various countries vary so widely that no complete enumeration is possible. But, in order to bring out the idea of the draft, the best known European types of the two groups of cheeses are here given. Soft cheeses are, for instance, Camembert, Romatour, Brie, cream cheeses (such as Gervais, Petit-Suisse, etc.), Gorgonzola, Stracchino, etc., while hard or medium hard cheeses are such cheeses as Gruyère, Emmenthal, Grana (Parmigiano, Lodigiano, Reggiano), Caciocavallo, Roquefort, Chester, Dutch cheese, Edam, Gouda, Tilsit, etc. The melted cheeses derived from hard cheese are classified with them.

Item 27.

This basic item, which includes eggs of poultry, also comprises eggs of game. A sub-item has been provided for the important international commodity, eggs in the shell, while another sub-item includes eggs shelled, dried eggs and in particular yolks of eggs which are used in the manufacture of various foodstuffs and are put to technical uses in certain branches of industry. White of egg, on the other hand, comes under Chapter 33, Item 327 (Albumens).

Item 28.

The last basic item of this chapter is natural honey—that is to say, the honey of bees or other insects, regardless of the form in which it is placed on the market. Certain tariffs do and will no doubt in the future make a distinction between honey in the comb and honey which has been centrifugated. Artificial honey is included in Chapter 17 under " Other sugars " (Item 123). This clear distinction is laid down by the legislation of certain countries, which alls for very clear differentiation between natural honey and substitutes therefor.

Mixtures of natural honey and its substitutes come under Item 123, regardless of the proportions of the mixture.

Chapter 5.

RAW MATERIALS AND OTHER RAW PRODUCTS OF ANIMAL ORIGIN.

This chapter includes all materials of animal origin, whether raw or having undergone a simple process of preparation, which are not intended for use as food and do not constitute the raw material of any branch of industry dealt with in a special chapter of the draft. Such raw or simply prepared materials are included in the chapter dealing with the semi-manufactured and manufactured products of the respective industries, and that enables them to find, assembled in one chapter of the Customs tariff, all the items in which they are directly concerned. Thus—to quote only the most important products—natural silk, wool, horsehair and coarse hair are classified in the respective chapters of Section XI (textile materials and textile goods), raw hides and skins, raw skins and peltries in the respective chapters of Section VII (hides, skins, leather, fur skins (peltries) and articles made of these materials). The following are also excluded from the present chapter : fatty substances, greases and waxes of animal origin, which are included in Chapter 15 (Section III) with greases and oils of vegetable origin ; fertilisers of animal origin, which are classified with other fertilisers, natural or chemical, in Chapter 35 (Section VI) ; and unworked real pearls, which

come under Chapter 61 with precious stones and precious metals, this being their natural place in view of their generally very high value.

As most of the raw materials classified in this chapter are not ordinarily subjected to import duties, no need has been felt for a very detailed nomenclature. The draft has grouped the articles coming under this chapter in eleven basic items dictated by the special character of the goods rather than by their importance for international trade.

Item 29.

This basic item includes human hair unworked, whether or not washed and scoured, but not curled or prepared for the manufacture of postiches, wigs, etc. It also includes waste of human hair.

Item 30.

This basic item includes pigs' and boars' bristles, mainly used as a raw material of the brush manufacturing industry and also for padding.

Item 31.

This item, which is of some importance, comprises all guts, bladders and stomachs of animals, fresh, salted or dried, except edible internal organs, which come under " Butcher's meat " (Item 13). This item also includes calves' rennet bags, whether or not cut up and dried, which are used for the manufacture of rennet—an important product used in the manufacture of cheese. Rennet, which is extracted from the fourth stomach of the calf, is included in a special sub-item of the item " Organo-therapeutic products " (No. 289).

Item 32.

This basic item includes waste of animal origin—with the exception of bones—used in the manufacture of glue—that is to say, sinews, parings and similar waste of untanned hides and skins, leather parings and fish bladders which are used in the manufacture of special fish glues. This item naturally does not include waste of tanned hides and skins, which can be used in the manufacture of leather articles and other objects (toys, etc.). This item also includes the blood of slaughtered animals, liquid or dried, the albumen extracted from the blood of slaughtered animals coming under " albumens " (Item 327).

Item 33.

This item includes bird skins and parts of bird skins, and birds' feathers except manufactured or semi-manufactured articles such as feather borders stuck on to cloth. This item does not include painted bird-feathers, dressed or mounted for decoration. Three sub-items have been created : the first comprises bird skins and parts of bird skins with the feathers on, unworked or simply dressed but only so far as is necessary to preserve them during transport. The second sub-item comprises an important article—bed-feathers and down, whether cleaned or not. The third sub-item includes feathers and wings for decoration, unworked or cleaned, and quills cut up and cleaned but not otherwise worked. These quills are generally used for the manufacture of cigar-holders, toothpicks and the like.

Item 34.

This basic item comprises bones, horns, antlers, hoofs, and other hard parts of the bodies of animals, whether these articles are used as materials for carving, or for the manufacture of glue, fertilisers, etc. This item includes not only materials in their raw state but also those which have been subjected to some simple treatment not extending beyond cutting up, splitting or flattening. It also includes parings and other waste of these materials. Powdered bones, powdered horns, etc., which are used mainly as fertilisers, are, on that account, included in Item 342 (Chapter 35). Pieces of bone, horn, etc., already cut out in a particular shape or otherwise worked (polished, etc.) come under Chapter 82.

Item 35.

This item comprises fine materials for carving, of animal origin, such as ivory, tortoiseshell, mother-of-pearl, coral, etc., raw or simply worked within the limits mentioned above, those materials which have been subjected to any further process coming under Chapter 82.

Item 36.

One special article—natural sponges—is classified in a separate basic item. It was necessary to create two special item—sone for unworked sponges and the other for prepared

sponges. By preparation is understood the cleaning of sponges in order to remove any stony impurities, stains, etc., and also bleaching, which gives the sponges a uniform colour.

Item 37.

This item comprises certain raw products of animal origin used in medicine and perfumery, such as ambergris, castoreum, musk, civet, cantharides and other similar products, as also the non-prepared organs of animals (for instance, gall-bladders, ovaries, etc.) used in the manufacture of organo-therapeutic products, even dried, ground or preserved in acetone, etc.

Item 38.

In the case of certain countries, the various kinds of eggs, other than those of poultry or game, are of special importance. The draft nomenclature, therefore, provides a basic item for these eggs, the most important of which are those of fish. This item also includes roe and spawn of cod, mackerel and similar fish, silkworms' eggs, ants' eggs, etc., while caviare and substitutes therefor come under Item 119 (Chapter 16).

Item 39.

A final basic item comprises all raw animal products not elsewhere specified or included. Although such of these products as are of any importance are already to be found in special items, there can be no doubt that such a collective item is useful. This item also includes dead animals not intended for consumption.

Section II.

PRODUCTS OF THE VEGETABLE KINGDOM.

Chapter 6.

LIVE PLANTS AND PRODUCTS OF FLORICULTURE.

At the beginning of this section embracing all products of the vegetable kingdom generally, the draft places live plants and cut portions of live plants, even prepared, if these cut portions serve as bouquets, ornaments, etc.

Item 40.

Following the same logical order, a basic item has been placed at the head of the chapter for bulbs, tubers, onions and rhizomes of flowering or foliage plants—*i.e.*, the raw materials for certain branches of horticulture. Of course, such bulbs, onions, roots, etc., as are utilised for consumption or for the feeding of cattle are not included in this item.

Item 41.

A second basic item comprises cuttings and slips, including hop-cuttings (portions of plants usually without roots) and vine plants, these being products which can easily be distinguished from the plants or parts of plants contained in the subsequent items.

Item 42.

This basic item is a very extensive one, since it embraces all live plants without making any distinction between hothouse plants, nursery plants and other live plants. This distinction, existing in certain Customs tariffs, would be highly objectionable in an international nomenclature. The growing of plants under glass or in the open depends, in many cases, on the climate, and the same plant grown in the open in one country can only live in hothouses in another. Moreover, the needs of different Customs tariffs, as regards the grouping of different live plants, vary considerably, so that the draft confines itself to a single basic item which leaves countries full freedom in this connection. In any case, the most important parts of this item are indicated by a division into four sub-items, the first being for young apple trees and pear trees and other young trees for grafting or rearing purposes, including rhizomes of asparagus and other vegetable plants. This applies to young plants derived from seeds or cuttings which nurserymen or horticulturists introduce temporarily into their gardens before placing them on the market. It is, of course, sometimes difficult to establish a clear demarcation between plants intended for rearing in hothouses or nurseries and those delivered as they stand to retail trade. In the case of fruit or forest trees at any rate, a limit can be laid down for the height of the young plants ; a practical figure for leafy trees and bushes not grafted would be 1½ metres and for conifer trees and bushes 50 centimetres. The second subhead comprises fruit trees and bushes and the third forest trees and bushes ; this distinction corresponds to a need recognised in several Customs tariffs. The fourth subhead embraces all other live plants : palms, laurels and other ornamental plants, rose-bushes, flowering plants, etc., a tertiary subdivision being provided for this last subhead, according to the mode of transport of the plants, which, by modifying the weight of consignments, determines the average value of the goods.

Item 43.

This item, which comprises cut flowers and buds for bouquets or ornaments, is to be found in every Customs tariff. Even the sub-items provided—one for fresh flowers and the second for dried, dyed, bleached, impregnated or otherwise prepared flowers—will necessarily have to be introduced into tariffs.

Item 44.

The same applies to the last basic item of this chapter, which comprises foliage, leaves, branches, grasses and mosses for bouquets or for ornaments, whether or not made up into bouquets or wreaths, but without flowers or buds. Wreaths with flowers or buds come under Item 43. The same subdivision has to be made as in the previous item.

Chapter 7.

ALIMENTARY VEGETABLES, PLANTS, ROOTS AND TUBERS.

The draft places in this chapter all kinds of vegetables, plants, roots and tubers used for human food, whether imported fresh or dried, the import of all these products in brine, sulphur-water or other solution for preserving them during transport will in nowise debar their inclusion in this chapter unless they are imported in hermetically sealed containers (boxes, tins, bottles, jars and the like). In the latter case, the products come under Chapter 20.

Items 45 to 49.

Special basic items have been allotted to products for which a separate classification practically in all Customs tariffs has proved to be necessary. The following are regarded as such products : edible mushrooms (including truffles), olives which have been placed with capers, tomatoes, the onion, shallot and garlic group, and, lastly, potatoes.

Item 50.

As regards other fresh vegetables and pot-herbs, it would be difficult to determine those for which basic items are undoubtedly necessary in an international nomenclature. It therefore seems well to place all these products in sub-items which, according to national requirements, might be further reduced in number or divided into tertiary items. Such sub-items have been provided for : *(a)* Asparagus and artichokes ; *(b)* cauliflowers and Brussels sprouts (these species being of greater value than ordinary cabbages) ; *(c)* other cabbages of all kinds ; *(d)* spinach, lettuce, endives, chicory and salads of all kinds ; *(e)* carrots, turnips, salad beetroots and other similar edible roots ; *(f)* haricots, peas and other fresh leguminous vegetables ; *(g)* cucumbers, gherkins, pumpkins, gourds and similar products ; *(h)* unspecified vegetables and pot-herbs, such as eggplants, rhubarb, cardoons, leeks, etc.

Item 51.

A basic item is provided for leguminous vegetables, dry, in grains, whether or not shelled or split up. The most important articles in this group are dry haricots, beans and horse-beans, which are placed in a special sub-item. A second sub-item has been assigned to peas and lentils ; several Customs tariffs will no doubt create tertiary items for shelled peas, which play a considerable part in trade. The last sub-item includes lupines, vetches and other vegetables of this kind which are more often used for animal food, but their character as dried leguminous vegetables justifies their classification in this item.

Item 52.

Vegetables and kitchen plants which, when fresh, are placed in the basic item mentioned above—divided, in its turn, into eight sub-items—are all put in the same basic item if they are dried or cut up or sliced. In trade, all these vegetables and kitchen plants in the dried state and mixed are known under the name of " Julienne ", and these mixtures are often found made up for retail sale. All these goods are contained in the same basic item.

Item 53.

A last basic item in this chapter contains manioc root, arrowroot, Jerusalem artichokes and other similar roots or tubers with a high starch content, whether or not dried or cut up into pieces. These products would evidently be better placed in Chapter 12 with other industrial plants, but this would be contrary to the logical principle that raw materials must

always be placed before the products which are derived therefrom. These roots are used for the extraction of starch and fecula; as these come in Chapter 11, which comprises all starch and fecula, it follows that the roots in question must remain in this chapter.

Chapter 8.

EDIBLE FRUITS.

The contents of this chapter require little explanation. It comprises all kinds of fruits from different parts of the world which pass into consumption without any process of preparation completely changing their character. It includes fruit imported fresh, and dry or dried fruits, and, even by analogy with the previous chapter, fresh edible fruit imported in brine, sulphur-water or other solution for the purpose of preserving them during transport, save that fruit is not to be imported in hermetically sealed containers.

The great variety of fruits which pass into the international trade, the importance of which varies greatly for the different countries, has made it necessary to classify this fruit in the draft on a basis which is both logical and practical. The groups created in the draft seem, from the scientific point of view, to be well devised and to ensure both the simplicity and the elasticity desirable for national tariffs.

Item 54.

In the first basic item have been placed fruit of tropical countries with sub-items for dates, bananas, coconuts, Brazil nuts and similar fruits, pineapples and others. These sub-items also include the same fruits in a dry or dried state.

Items 55 and 56.

The next two basic items apply to the typical fruits of Southern Europe—the first to oranges and lemons and the second to figs. The item for oranges and lemons is divided into two sub-items, the first comprising oranges and mandarins, and the second, lemons and other similar fruits (for example, cedrats and grapefruit). Lemon and orange peel generally utilised in the alimentary industry come under Item 89 (Chapter 12). The item for figs is also divided into two, one sub-item comprising fresh figs, which is obviously of lesser importance, and the second, the important article of dried figs.

Item 57.

A basic item for grapes may also be regarded as essential in Customs tariffs. The item contains two sub-items, one for fresh grapes (whether dessert grapes or grapes for wine pressing) and the other for dried grapes, the best-known kinds being currants, sultanas and Malaga raisins.

Items 58 to 61.

As regards other fruit, it is obviously necessary to create a basic item (59) for apples, pears and quinces, which are all of the same character and, especially in the case of apples, play a great part in international trade.

In addition, the draft provides for three big basic items dividing fruit not dealt with in the items mentioned above into the groups of shell fruit (almonds, nuts, etc.), stone fruit and other fresh fruit.

The basic item (60) for stone fruit contains sub-items for apricots and peaches, for cherries (of which egriot cherries constitute a variety), for plums (including greengages) and for other stone fruit.

The item which comprises shell fruit (58) is also divided into several sub-items relating to almonds, hazel nuts, walnuts, chestnuts and other fruits of the same description (for example—pine-kernels and pistachio nuts). In classifying these fruits, no distinction is made according to whether they are shelled or not ; national tariffs will, in many cases, provide tertiary items on this basis. The fresh (unripe) fruit of almonds and walnuts is excluded from this item and is classed in Item 61 which comprises all edible fresh fruits not specified in the previous items.

This latter collective item first of all contains a sub-item for edible berries like strawberries, whortleberries, currants and gooseberries, raspberries and the like, and another for fruit not specified elsewhere, among which special mention may be made of melons of all kinds, pomegranates and cactus figs.

Item 62.

The trade in certain dried fruits is in practice quite separate from the trade in the same fruit in a fresh state ; it is, therefore, necessary to provide a basic item for these fruits

imported in a dried state, whether or not cut in pieces or sliced. This item contains first of all two sub-items for the most important dried fruits in this branch of trade, the first for apples and pears and the second for plums, and, lastly, a third sub-item for other fruits—for example, dried apricots.

Chapter 9.

COFFEE, TEA AND SPICES.

Item 63.

At the head of this chapter has been placed the most important product of the group—viz., coffee; this basic item also includes husks, waste and pellicles of coffee, and coffee with the caffeine removed, whereas extracts, essences and preparations with a basis of coffee come under Item 146 (Chapter 21). The item is divided into two sub-items : one for coffee not roasted and the other for coffee roasted, whether ground or not.

Item 64.

The second item refers to tea. Most tariffs place with tea, maté, a product consisting of the dried leaves of certain South-American shrubs. The draft takes into account the fact that the countries of that continent, for which maté represents a national product of great importance, strongly protest against the usual assimilation of maté to tea and that maté is picked from wild shrubs whereas tea is a plantation product, besides which there is a very considerable difference in value between maté and tea. Maté has, therefore, been taken from this item and transferred to Item 89 (Chapter 12), which comprises plants, portions of plants, grains and fruits not elsewhere specified or included, a special sub-item being introduced for maté.

Item 65.

Pepper and allspice (pimento)—the most important spices—must be put in a separate basic item, which includes these spices even when ground. The item (65) is divided into three sub-items. The first applies to pepper properly so-called *(piper)*, the chief kinds of which are black pepper, white pepper and long pepper *(piper officinarum, piper longum)*. The second applies to paprika, a special product of certain countries, though well known everywhere, belonging to the botanical species of capsicum, which is generally known in French by the term " *piment* ". Lastly, a third sub-item applies to other piments *(pimenta)*, the best known of which is usually described as " clove pepper " or " Jamaica pepper ". It should be noted that fresh fruits of the capsicum species used for direct consumption are included among pot-herbs in Item 50 (Chapter 7).

Item 66.

A special basic item is provided for vanilla, owing to the great value of this product relatively to the other spices.

Item 67.

A last basic item comprises the other spices in four sub-items. The first is given to Ceylon cinnamon *(cinnamonum ceylanicum)*, including China cinnamon *(cinnamonum cassia)* and cinnamon-tree chips and flowers. This item does not include white cinnamon, clove bark and bitter cinnamon *(culilawan)*, which, being mainly used in pharmacy, come under Item 88 (Chapter 12). The second sub-item includes cloves and clove stems, and the third, nutmeg and mace. There is a last sub-item for all other spices, including ginger (with or without husk), saffron, amomums and cardamoms, dried laurel leaves and thyme, and other spices. Seeds of anise, badian, fennel, coriander, cumin, caraway and the like, which, in several Customs tariffs, are classed with spices, come under Item 89 (Chapter 12).

Chapter 10.

CEREALS.

This chapter comprises all alimentary cereals and grains, including rice, millet and buckwheat for human consumption or animal fodder. Cereals in sheaves or in ear are classed in this chapter, as well as threshed grain.

Items 68 to 74.

The basic items in this chapter are self-explanatory. Customs tariffs naturally always contain items for products as important as wheat, rye, rice, barley, oats and maize, and a

collective item for other cereals (millet, buckwheat, etc.). According to the usual practice, the draft places spelt and meslin (a mixture of wheat and rye) with wheat.

The items contained in this chapter only comprise untreated grain. A single exception has been made for treated rice which has been placed in the same item as the grain itself (Item 70). This item, therefore, includes all goods derived from the production of rice, except rice flour, the residues used for cattle-feeding, and rice starch, which come under the respective items in the following chapter. Many Customs tariffs follow another method and separate husked rice and glazed rice from untreated rice grains and place them with the other products of milling and husking (flour, meal, etc.). The advantage of placing with the raw material the finished product of rice mills was duly considered in the draft and, therefore, one single item has been created in this chapter ; this item is divided into two sub-items. The first contains only crude rice—*i.e.*, rice in the straw or not, but still having its own pellicle (pericarp), the elimination of which between the husking stones produces husked rice on the one hand and the residues used as forage on the other. Husked rice and glazed rice form the second sub-item, which also comprises the broken rice employed notably for the manufacture of starch.

Chapter II.

MILLING PRODUCTS ; MALT ; STARCH AND FECULA.

The placing of the products covered by this chapter in a section which otherwise only contains raw materials of vegetable origin does not, of course, answer to the practice of many present Customs tariffs. These classify flour, malt and extracts of malt as finished products with the products of the alimentary industry, and starch and fecula in the group of chemical products, as, it is true, the manufacture of starch and fecula is based on a chemical process, very simple though it be. In the draft, it was thought better to place this chapter, which comprises all these products, immediately after that for cereals, because, as a rule, the Customs treatment of flour is closely bound up with that of cereals, and because milling and the manufacture of starch and fecula may, in several countries, be regarded as complementary branches of agricultural undertakings.

Item 75.

At the head of this chapter has been placed the most important item, that of cereal flours. It is subdivided into several sub-items for the different kinds of cereals. All these different flours are not, of course, of equal importance, but the sub-items are explained by the necessity for creating a certain relationship between the duties on the different cereals and those on the flours of these cereals. Hence, the draft provides special sub-items for the flours of wheat, rye, rice, barley, oats, maize and, lastly, for the flours of other cereals.

Item 76.

A second basic item comprises all other milling products—*i.e.*, groats, semolina and husked and pearled cereal grains, with the exception of husked rice. This item also comprises flakes and crushed or pounded grain from cereals but not broken rice, which has already been placed in the previous chapter. Sub-items are also provided for the most important products, one for wheat semolina, another for barley groats and husked or pearled barley, a third for oat groats and oat flakes, including husked, pearled or rolled oats, a fourth for maize groats and semolina, and a last sub-item for similar products derived from other cereals (millet groats, etc.).

Item 77.

This item includes residues from the screening, milling and husking of grain, such as bran, sharps and other residues, all of which are used for feeding animals.

Item 78.

A basic item, although of minor importance, comprises leguminous and fruit flours not elsewhere specified. This includes the flours of haricots, peas, chestnuts, etc., which are utilised mainly in the manufacture of pastry.

Item 79.

A more important item is Item 79, which comprises potato flour, semolina and flakes, which in some countries are very largely used for human consumption or animal fodder.

Item 80.

This item applies to malt of all kinds, including roasted malt for the colouring of beer and malt flour.

Item 81.

This item comprises malt extracts which are used directly for consumption and for various purposes in the alimentary and other industries. On the other hand, the item does not include malt extracts prepared as children's food or for dietetic or culinary purposes, even with the admixture of cocoa or chocolate, provided that the cocoa or chocolate contained does not exceed fifty per cent. If it does, such malt extracts come under Item 132. Malt extracts which have the character of pharmaceutical preparations come under Item 292 and include malt extracts with an admixture of cod liver oil or substances containing iron, calcium, phosphorus, iodine, etc.

Item 82.

The last basic item of this chapter comprises the different kinds of starch and fecula as well as gluten. The draft does not specify whether these products are used for alimentary or for technical purposes. In view of the importance of these articles, a subdivision for goods commanding a big market cannot be avoided. The draft has, therefore, created five sub-divisions. The first applies to cereal starches, the chief being wheat, maize and rice starch. The second sub-item comprises potato fecula, which deserves a special place in view of the great volume of international trade in this article. The next sub-item contains flour, semolina and fecula derived from roots which are rich in starch, such as manioc and arrowroot. A well-known product of this kind is tapioca. A fourth sub-item comprises starch and fecula not specified elsewhere, such as sago, which is a product of the fruit of certain palm-trees. A last sub-item comprises gluten, a by-product of the manufacture of cereal starch, which is used either as a basis for certain alimentary (dietetic) preparations or as a raw material for the manufacture of dressings (for textiles) and vegetable glues.

Chapter 12.

OIL SEEDS AND OLEAGINOUS FRUITS ; VARIOUS GRAINS, SEEDS AND FRUITS ; INDUSTRIAL AND MEDICINAL PLANTS ; STRAW AND FODDER.

This chapter comprises all grains and fruits used for sowing and—if they have an oleaginous content—as a raw material in the oil industry. It also includes numerous kinds of plants, fruits, grains, etc., used for various industrial purposes, or in perfumery and medicine, or as condiments. Lastly, this chapter comprises residues and portions of plants employed in agriculture as fodder, or in industry for various purposes (such as straw, for example).

Item 83.

At the head of this chapter has been placed the most important group : oil seeds and oleaginous fruits. Whatever the importance of these products, the best solution seems to be to place all these seeds and fruits in a single basic item. As the part played by the different seeds and fruits of this kind naturally varies a great deal in the different national economic systems, their classification in separate sub-items of the same basic item ensures greater elasticity in national tariffs. The most important species for which sub-items should be provided are the following : ground-nuts, copra, palm nuts, soya beans, castor-oil seeds, linseed, seeds of colza, rape, mustard and the like, sunflower seeds, oil poppy and poppy seeds ; and a last sub-item has been created for other oil seeds and oleaginous fruits, which also includes the stones of edible fruits having an oil content, such as apricot, peach and plum stones.

The draft includes in the basic item for oil seeds, not only whole seeds and fruits, but also these in a crushed state and even the flour of oil seeds. A single exception seems indicated : that of soya flour employed for human food, especially in Asia, which must be classed in the previous chapter with other leguminous flours.

Item 84.

This item applies to seeds and fruits for sowing, but it does not include the seeds of cereals or leguminous plants or oil seeds, etc., even if they are intended for sowing, these seeds

remaining classed in their respective items. The most important groups in Item 84 for which sub-items are unquestionably necessary are seeds of sugar-beet or fodder beetroot, seeds of clover, lucerne, grasses and the like for meadows, seeds of fruit trees, forest trees and trees for ornament, and horticultural and other seeds.

Items 85 to 87.

Next in this chapter come three basic items, each of which applies to parts of important industrial plants : the first (85) to sugar-beet, whether cut up and dried or not, the second (86) to chicory roots, green or dried, whether cut up or not but not yet roasted (in this condition, these roots come under Item 145), and the third (87) applies to hops—*i.e.*, hop cones and lupulin.

Item 88.

Another basic item comprises the very varied series of plants, parts of plants, seeds and fruits used in perfumery and medicine, which are not classed in other items. Naturally, there is a certain difficulty in clearly defining the products figuring in this item, the more so as there are plants, parts of plants, etc., which are not used in medicine everywhere but only in certain districts and certain countries. In view of the very numerous and varied species of these plants and in order to overcome the above difficulties, a list of the plants, etc., which are chiefly used in perfumery and medicine has been added to the draft (see Annex 1).

The products covered by Item 88 are plants, parts of plants, seeds and fruits, fresh or dried, even cut up, broken in pieces, husked, grated, ground or powdered.

Nevertheless, mixtures *prepared* with two or more kinds of plants, parts of plants, seeds or fruits, as well as products *not mixed* but placed in packages for retail sale should be classed, according to their nature, in Item 292 (prepared drugs) or in Item 319 (perfumery articles).

Item 89.

Item 89 includes all plants, parts of plants, seeds and fruits not specified or included either in previous items or chapters or in the two following chapters relating to raw materials of vegetable origin for dyeing and tanning, vegetable saps and juices and plaiting or carving materials. In this item, for example, has been placed maté, a product of South America, which it was not desired to place with tea, as is usually done in existing tariffs (see report on Chapter 9). In another sub-item have been placed seeds of anise, badian, fennel, coriander, cumin, caraway and the like, which are used both for the manufacture of volatile oils and as condiments. A third sub-item includes rinds of lemons, oranges, melons and the like, whether or not imported in brine or sulphur water. Another sub-item is reserved for carob beans, fruits of Southern Europe employed as human food and as fodder. Lastly, there is a collective sub-item for other materials susceptible to come under this basic item.

Item 90.

This item comprises cereal straw, which is used for numerous purposes and in which there is a considerable trade between various countries. This item only includes crude straw, whether chopped up or not ; bleached straw, etc., comes under Item 95 (Chapter 14). Bales of cereals, which are sometimes dealt in in frontier traffic are also included in Item 90.

Item 91.

The last item contains the different kinds of fodder such as hay, beetroot, vegetable pods, etc., which, with the exception of hay, are usually dealt in only in frontier traffic. In the case of pressed hay, however, there is a large international trade.

Chapter 13.

RAW MATERIALS FOR DYEING AND TANNING ; GUMS, RESINS AND OTHER VEGETABLE SAPS AND JUICES.

Item 92.

This chapter first of all comprises all products of vegetable origin utilised as dyes or employed for the preparation of dyeing products and extracts for tanning. These products form the contents of the first basic item, which has the following title : " Plants and Parts of Plants, Fruits, Pods, Berries, Nuts and Seeds for Dyeing or Tanning, whether ground or not. " Sub-items have been provided for the two most important categories : wood for

dyeing and tanning (for example, Pernambuco, Jamaica, Campeachy, quebracho, Nicaragua wood, etc.) and dyeing and tanning barks (for example, oak, conifer, mangrove, quebracho barks, etc.). The numerous products of this kind which are neither wood nor bark (for example, roots, berries, fruits, leaves, etc., such as myrobolans, valonia, sumach leaves, turmeric (curcuma), divi-divi, French berry, orchanet, orchil, etc.) come under the last sub-item " Others ".

Item 93.

Item 93 comprises gums, gum resins, resins and natural balsams which are chiefly used for the manufacture of lacs and varnishes, adhesive materials, etc. The best known are the balsams of copaiba, of Peru, of Canada, of Tolu, olibanum (frankincense), myrrh, galbanum, cashew-nut gum, asafœtida, conifer resin (turpentine), copal resin, dammar resin, sandarac resin, gum arabic, etc.

Item 94.

The last basic item of this chapter comprises vegetable extracts of another kind—*i.e.*, in the form of inspissated or solidified saps and juices. This, of course, does not include the most important extract—rubber—which, as the raw material of a special industry, is classed with the products of this industry in the chapter belonging thereto (Chapter 39). Special sub-items have been provided for three kinds of these vegetable saps and juices: the first for liquorice juice, the second for opium, and the third for manna, which more particularly concerns certain countries ; lastly, there is a sub-item for other extracts, notably those for medicinal use (such as extract of aloes, belladonna, jalap, cinchona, tamarind, etc.). This last sub-item also includes natural camphor, to which synthetic camphor is also assimilated.

Chapter 14.

MATERIALS FOR PLAITING AND CARVING, OTHER RAW MATERIALS AND RAW PRODUCTS OF VEGETABLE ORIGIN.

Item 95.

The products grouped in this chapter are first of all those used as raw materials for basket-making and sparterie. They are contained in the first basic item, which is divided into four sub-items. The first applies to osier, raw or peeled, whether stained or not, which is the most important material for ordinary basket-making. The second includes ordinary reeds, whether split or not, which are also used in the manufacture of furniture and other articles of basket-making, and for many other purposes. Another sub-item includes fine reeds, such as bamboo, rattans and the like, raw or peeled, whether or not split, bleached or stained. The last sub-item contains sparterie materials such as bleached, stained or split straw, and certain barks (such as raffia), which are mainly used in horticulture and vine-growing. Raffia is also employed in basket-making and in the manufacture of certain tissues.

Item 96.

A second basic item applies to hard seeds, pips, hulls and nuts for carving. The most important products of this kind are corozo nuts and dum palm nuts, chiefly used in the manufacture of buttons.

Item 97.

The next basic item comprises vegetable materials for stuffing and padding, whether twisted together or not, such as kapok, vegetable hair (sea-wrack and African fibre) and the like.

Item 98.

Another basic item comprises vegetable material for brooms and brushes ; also twisted together and raw, bleached or stained. The best-known products are sorgho, piassava, couch-grass, etc.

Item 99.

The last basic item (99) embraces all other raw products of vegetable origin not elsewhere specified or included ; it is a collective item, which is of obvious utility for every tariff. Here should be classed, for instance, alfa (esparto), which is used for the manufacture of paper and ropes and for various other purposes.

Section III.

FATTY SUBSTANCES, GREASES, OILS AND PRODUCTS OF THEIR DECOMPOSITION ; PREPARED ALIMENTARY FATS ; WAXES OF ANIMAL OR VEGETABLE ORIGIN.

Chapter 15.

FATTY SUBSTANCES, GREASES, OILS AND PRODUCTS OF THEIR DECOMPOSITION ; PREPARED ALIMENTARY FATS : WAXES OF ANIMAL OR VEGETABLE ORIGIN.

Chapter 15 (Section III) comprises all fatty substances of animal or vegetable origin and also waxes. Mineral greases and oils are placed in Chapter 27, and essential (volatile) oils in Chapter 31. Fatty substances are chemical combinations of one or more fatty acids with glycerine ; these two components can be separated by the process of " saponification ", by which fatty acids are obtained on the one hand and glycerine on the other ; these products can, to advantage, be grouped in the same chapter.

Fats of animal origin are found in the body of the animal immediately under the skin, in a thick layer (as in the case of bacon fat), or between the viscera ; they are also found in the head (in whales and other cetaceans), in the liver (in many fishes), or distributed throughout the body.

These fats are rendered by melting, by expression or by various methods of extraction.

Fats and oils of vegetable origin are derived either from oleaginous seeds or from the pulp of certain fruits (olive oil, palm-kernel oil, etc.). Fats and oils are used for the most various purposes : some of them are only fit for technical or industrial uses, while others of special quality are preferred for food preparation ; most of them, however, can be, and are, used both for food and for industrial purposes.

Some fats and oils are used directly for food ; others after refining or special preparation. In industry they are employed in the manufacture of soaps, candles, lubricants for machinery, varnishes, paints, leather-preservers, etc.

In certain tariffs a distinction is drawn between fats and oils used directly or indirectly for food and those used for technical purposes. The possibility and expediency of making such a distinction in the international nomenclature was duly considered. Seeing, however, that the same oils are frequently used for widely varying purposes, and are used for foodstuffs or technical purposes, according to their quality, and that it is, moreover, impracticable to differentiate them according to quality, the draft does not make this distinction, nor are there many tariffs in which it does exist. In a large number of cases, the distinction can only be made if the use to which the oil is put is verified, and it is better to leave it to such Governments as may find it necessary to introduce this distinction into their own tariffs.

In certain tariffs, and sometimes also in technical usage, oils and fats are distinguished according to their consistency, the term " fats " being applied to all products of this nature which are solid or semi-solid at a temperature of 15° C., all products which are fluid at that temperature being described as " oils ". In an international nomenclature, which must be suitable for use in tropical countries as well as in the countries of the North, a distinction based on consistency cannot be sustained. Accordingly, the distinction made is based on the origin (animal or vegetable) of the fatty substances. Fats in the first category are given in Items 100 to 104, while all oils of vegetable origin, crude or refined, are grouped in a single basic item, No. 105, whether they are in a fluid or solid state.

In the case of products which have undergone further treatment (Items 106 to 112), no distinction is made according to whether they have been derived from fats and oils of animal or of vegetable origin. Such a distinction no longer seems necessary, and would in any case often be very difficult to draw in practice.

Item 100.

Crude hog's fat (bacon fat), which might reasonably be expected to appear at the head of this chapter, is classed with meat in Chapter 2, although it is also used as raw material out of

which lard is made. The reason is that bacon fat, especially the fat of streaky bacon, serves, like meat, directly for human consumption, and it was therefore thought that it ought to be left in Chapter 2. For the sake of simplicity, hog's fat situated round the viscera was classified with bacon fat, although it is scarcely used for any other purpose than melting down.

This item in the chapter accordingly comprises hog's fat, melted down or pressed—*i.e.*, lard. To this have been added goose fat and other similar fats, which are of much less importance in trade and do not need a basic item to themselves. As, both in their nature and use, they are akin to lard, there is no difficulty in bringing the two together.

Item 101.

Item 101 comprises first of all crude or melted tallow derived from different kinds of animals, the products derived from the bovine species being the most important. It also contains *premier jus*, which is obtained by the melting of crude tallows (*en rames*) an dit represents a quality of tallow specially suitable for the manufacture of alimentary fats. Fats from bones, offal and the like which, as a rule, are used for industrial purposes have been placed in the same item because it is often difficult to distinguish them from tallows and to determine the limits of their differentiation owing to the chemical or other treatment which they sometimes undergo.

Item 102.

This item includes the products of the industrial treatment of crude or melted tallows.

Oleomargarine is the part of the tallow which flows off under pressure at a high temperature, and which thus separates itself from the oleostearine. It is chiefly utilised for the manufacture of alimentary products of the type of margarine, artificial lard, etc.

Oleostearine, also known as " pressed tallow ", is the solid residue obtained from the pressure at high temperature of the part of the tallow which has solidified after melting—i.e., *premier jus*. It is utilised notably for the manufacture of candles and soap.

Item 103.

Item 103 comprises fish oils, which are mainly used for industrial purposes, and also cod liver oil. It likewise includes medicinal cod liver oil, even made up for retail sale, but not with the admixture of other substances or emulsified. It also comprises oils derived from whales and cachalots, dolphins, seals and other marine animals.

Item 104.

Sub-items *(a)* and *(b)* are reserved for raw yolk grease, and for purified yolk grease generally known as lanoline ; the latter product remains classified here, if it is made up for retail sale but no other substances have been added.

Sub-item *(c)* chiefly comprises oils other than those of fishes and marine animals, such, for example, as neat's-foot oil, bone oil, lard oil, insect oils, turtle-egg oil, turtle oil, etc.

Item 105.

Item 105 concerns goods in which a very considerable trade is carried on. Fixed oils remain in this item even if purified or refined or made up for direct delivery to the consumer. Item 105 has been subdivided into eleven sub-items according to the nature of the oils, taking into account for their classification both their specific character (iodine index) and their economic importance.

Sub-item *(a)* is for linseed oil, which is used chiefly in the manufacture of varnishes, linoleum, etc., but is also largely used in the preparation of food in certain countries.

Sub-item *(b)* is for Chinese wood oil or " abrasin " oil, which is extracted from the seeds of one of the euphorbiaceæ of China and Japan. This oil is used for technical purposes only.

The oils under subitems *(c)* to *(f)* are used for a wide range of purposes—largely in the preparation of food and also for industrial purposes, such as the manufacture of soaps, etc. Among the oils in sub-item *(f)* are included mustard oil and camelina oil.

Olive oil has also a subitem, which will include olive-waste oil (olive-husk oil) extracted by means of carbon bisulphide or of other solvents.

Castor oil also has a separate subitem justified by its importance and the purposes for which it is used. It is used in pharmacy, as a lubricant for aeroplane engines, in the textile industry, etc.

Palm oil, which appears under subitem *(i)*, is obtained by treating the pulp of the fruits of certain species of palm trees, this being done only in regions where those trees grow.

Subitem *(k)* comprises oils of solid consistency (the consistency of butter at the ordinary temperature of 15° to 20° C.). These oils are of great importance as foodstuffs. They include, in addition to palm-kernel and cocoanut oil (copra), oils of tulucima, illipe, shea, mowrah, stillingia, etc.

It has been necessary to make a final collective subitem for all other oils of vegetable origin. This will include walnut oil, hemp-seed oil, poppy-seed oil, beech-nut oil, kapok oil, sweet almond oil, croton oil, grape-seed oil, oil made from the stones of apricots, peaches and plums, etc. Here, too, should be classed nutmeg oil and laurel oil.

Item 106.

Although several tariffs do not deal specially with acid oils, it has been thought necessary to give them a special item in view of their importance in world trade. But as their definition varies in the tariffs of the different countries, it seemed to be necessary to define very clearly these acid oils, first, in relation to the vegetable oils in Item 105, secondly, in relation to animal fats and, thirdly, in relation to the fatty acids of Item 109. For this purpose, the following rules were laid down :

1. Item 105 includes natural vegetable oils whose natural degree of acidity is in general less than 50 per cent.

An exception is made for olive oils of the second pressing and olive-husk oils extracted by means of solvents and also for palm oils, the acidity of which may be greater than 50 per cent.

2. Item 106 includes all fatty materials of vegetable or animal origin with an acidity between 50 and 85 per cent.

An exception is made for palm oils, olive oils of the second pressing and olive-husk oils, as stated above.

Here, too, are classified palm-kernel and cocoanut oils with an acidity between 85 and 90 per cent, which are generally of a yellow or brownish yellow colour, each country being free to fix supplementary criteria for their identification.

3. Item 109 includes all fatty acids of vegetable or animal origin with an acidity of 85 per cent or more in free acids, determined according to the formula :

$$\frac{\text{Index of acidity} \times 100}{\text{Index of saponification.}}$$

A reservation is made for the exceptions stipulated in Items 105 and 106 for olive oils of the second pressing and for olive-husk, palm, palm-kernel and cocoanut oils.

In Item 106 have also been placed lees or dregs of oil—*i.e.*, the fat or mucilaginous residues derived from the purification of oil. Soap-stocks are also placed in this item ; these are the residues of oil-refining by the process of neutralisation with caustic soda. They are chiefly used as raw material for soap-making.

Item 107.

Item 107 includes thickened or oxidised oils and blown oils, as well as linseed oils and similar oils boiled. Among these similar oils are walnut oils and hemp-seed oils, which have the same characteristics as linseed oil and are largely used in the manufacture of varnish. In some tariffs, oxidised, blown or boiled oils are classed as varnishes and consequently fall into the group of chemical products. They are, however, more in the nature of semi-finished products which have not yet become actual varnishes ; it was, therefore, thought better to leave them in the chapter containing oils, provided, of course, they contain no admixture of any siccative, etc.

Item 108.

Natural degras is a waste-product of the chamois leather industry. There are two kinds : one, which is also called " moellon ", is produced by the so-called French process. According to this process, extraction is obtained by the pressing of the leather. By the other process—namely, the English or German process—extraction of the oil is obtained by the treatment of the leather with soda. At present there is no large trade in natural degras, which is being to an increasing extent supplemented by artificial degras made chiefly out of oxidised and emulsified fish oils, etc.

Item 109.

Fatty acids are always produced in an artificial manner, either by the de-acidification or saponification of oils or fats or by other methods. For the definition of fatty acids, reference should be made to the rules laid down in Item 106.

This item has been divided into two sub-items.

The first sub-item includes fatty acids fluid at 20° C., the most important kind being oleic acid (oleine) ; other fatty acids, the most important of which is stearic acid (stearine), are placed in sub-item *(b)*.

Item 110.

Glycerine, which is not a fatty substance but which chemically belongs to the alcohol category, is classified here as a product of the decomposition of fatty substances. This item also includes glycerine obtained by other processes, as well as glycerine lyes. Glycerine is classed here in the crude or purified state, but does not belong to this item if it consists of an admixture of pharmaceutical or odoriferous substances.

Item 111.

Hydrogenated fats and oils are products solidified and deodorised by a special treatment which includes the incorporation of hydrogen. This treatment is applied both to oils of animal origin, especially fish oils, and to oils of vegetable origin. In the hydrogenated state, however, there is no object in drawing a distinction between these two products according to their origin and, in any case, it is often impossible to do so. Hydrogenated fats and oils are delivered for consumption without further treatment or are used in the manufacture of alimentary fats and for technical purposes.

Item 112.

The typical alimentary fats classified under Item 112 are margarine and artificial lard ; margarine has a certain resemblance to butter and artificial lard to natural lard.

All these products are generally constituted by mixtures of animal or vegetable fats or oils, sometimes with the addition of milk, butter, water, colouring matter, etc. This item includes in addition those alimentary fats that have undergone similar treatment, but not those that have simply been refined or hydrogenated and can be used for food without further treatment. These latter products are classed in their respective items even if made up for retail sale, subject, of course, to any subdivisions which Governments may wish to make.

Item 113.

Spermaceti from whales and other cetaceans has the composition of a wax rather than of a fat. It has therefore been placed at the head of the waxes. This item refers to crude or refined spermaceti. Oil derived from the pressing of crude spermaceti comes under Item 103.

Item 114.

Item 114 comprises waxes of animal or vegetable origin and artificial waxes.

Animal waxes are comprised in sub-item *(a)*. This includes, in particular, waxes of bees and of a few other insects, in the form of natural combs, or in the crude state, melted or pressed, even if bleached or coloured.

Among vegetable waxes, the best known is carnauba wax.

In the last sub-item are included all kinds of waxes produced in an artificial manner, such as mixtures with the waxes enumerated in sub-items *(a)* and *(b)*, even with mineral waxes (from Item 209), paraffin, colophony, resin or similar substances. The waxes produced by such mixtures being of great importance to trade must be placed under a special heading irrespective of the proportion of the substances they contain. It should be noted that mixtures of waxes having the character of floor polishes or boot polishes come under Item 324 (Chapter 32).

Item 115.

Among solid residues derived from the preparation of fatty substances should be mentioned graves derived from the transformation of hog's fat into lard, and the brown or black residues of the distillation of various animal or vegetable fats appearing in solid form or in the form of paste ; they are often found in trade under the name of stearine, pitch or stearine tar or grease pitch. This item also includes the husks which are derived from the pressing of olives and which still contain a certain proportion of oil.

Section IV.

PRODUCTS OF THE FOOD-PREPARING INDUSTRIES; BEVERAGES, ALCOHOLIC LIQUORS AND VINEGARS; TOBACCO.

Chapter 16.

PREPARATIONS OF MEAT, OF FISH, OF CRUSTACEANS AND OF MOLLUSCS.

Chapter 16, which groups together the various preparations of meat, of fish, of crustaceans and of molluscs, is subdivided into six basic items.

Item 116.

It was found necessary to create a separate item for sausages and the like, owing to these articles being the products of a special industry.

In order to facilitate Customs clearance, it seemed essential to assimilate to sausages of which liver forms an important part sausages which contain goose liver, although the value of the latter is much higher than that of other sausages.

On the other hand, sausages in hermetically sealed containers are excluded from this item.

Item 117.

All other preparations and preserves of meat which are not simply salted, dried, smoked, cooked, etc., are included in Item 117.

A separate sub-item has been created for liver *pâtés* of all kinds, which constitute a special commodity of great importance to certain countries.

Items 118 and 119.

The distinctive character of meat extracts and of caviare justifies the creation of two basic items for these products.

With regard to meat extracts, it should be explained that preparations known as " broths ", which are frequently sold as meat extracts although they are mainly composed of salt, flour and vegetable extracts, sometimes with a slight addition of real meat extract, have been placed in Item 148, under " Miscellaneous Alimentary Preparations " (Chapter 21).

On the other hand, meat extracts to which a small quantity of vegetable substance has been added to aromatise them are included in Item 118.

Item 120.

Fish prepared or preserved otherwise than by being simply salted, dried or smoked, and salted, dried or smoked fish, when imported in hermetically sealed containers, form an important basic item, which is subdivided according to the kind of container.

Countries which have a special reason for treating different varieties of preserved fish separately (sardines, tunny, mackerel, etc.), or for distinguishing the different methods of preparing these fish (in oil, vinegar, etc.) may employ tertiary items.

Item 121.

This basic item refers to crustaceans and molluscs prepared or preserved in some other way than that mentioned in Item 21 (simply cooked or salted). These preparations and preserves are nearly always placed upon the market in hermetically sealed tins, and it therefore seemed unnecessary to create sub-items.

Chapter 17.

SUGARS AND CONFECTIONERY.

Items 122 and 123.

Sugars undoubtedly represent one of the most important articles in world trade. If, nevertheless, the draft Customs Nomenclature has treated them in a summary fashion, there were special reasons for doing so.

The Customs treatment of sugar is so intimately associated with the internal regime governing the taxation of this commodity that difficulties would arise were the Customs items to go into too great detail. Countries must be left perfectly free to adapt the details of the nomenclature to their own sugar fiscal system.

Accordingly, the draft provides for only two basic items. One (122) is reserved for sugars of the saccharose kind—namely, beet sugar, cane sugar and similar products, even in the form of syrups ; the other (123) contains sugars such as glucose, maltose, lactose, levulose, etc., in the liquid or solid state. This second item also includes artificial honey and all kinds of sugar, inverted, caramelised or denatured for technical use. All these products are unquestionably obtained either from saccharose or glucose, and artificial honey, in particular, frequently consists entirely of cane (or beet) sugar inverted and aromatised ; nevertheless, it was considered expedient to reserve Item 122 exclusively for beet and cane sugars, in view of their preponderant position in world trade. Consequently, the above-mentioned products are assimilated—irrespective of the kind of sugar from which they are obtained—to the item " Other Sugars ". It should be noted that artificial honey classified under this item also includes mixtures of those sugars inverted with natural honey.

Item 124.

A third basic item has been provided for molasses, which constitute the normal waste obtained directly from sugar manufacture or refining. The characteristic feature of these products is that saccharose can no longer be obtained from them simply by crystallisation ; they are of viscous consistency and usually have a reddish brown tint and an unpleasant taste.

Molasses discoloured, refined, etc., and fit for human consumption, are excluded from this item.

Item 125.

Among alimentary sugar preparations it is right to allot a basic item to confectionery, of which the most important forms are bonbons, dragées, pastilles and the like. Confectionery containing cocoa or chocolate in any proportion comes under Item 132.

Item 126.

Item 126 represents a collective item for all other alimentary sugar preparations not elsewhere specified or included, such as sweetened colouring matter for confectionery, sweetened powders for creams, beverages, etc.

Chapter 18.

COCOA AND PREPARATIONS THEREOF.

The six basic items in this chapter represent the successive stages in the preparation of cocoa and chocolate.

Item 127.

Raw cocoa beans, in which there is a large world trade, make up the bulk of the first item. As a sub-item, roasted beans have been added to raw beans. In some countries in which the chocolate industry is partly run by branches of foreign establishments, the beans constituting the raw material are mostly imported, ready roasted, from the head establishment.

Item 128.

Waste arising from the roasting and shelling of cocoa beans—that is to say, the shells, husks and skins—make up the second basic item. An alkaloid known as theobromine is extracted from this waste, which is also used for feeding cattle or, in a ground state, for adulterating cocoa powder, although this practice is prohibited by the laws of some countries.

Item 129.

The crushing and grinding of roasted beans gives what is generally known in commerce as cocoa paste. This paste may contain the whole of the cocoa fat (cacao butter) which makes up the nutritive element in the beans, but often a part of this butter is previously extracted. Cocoa paste is a semi-manufactured product of the chocolate industry ; chocolate is obtained by adding cacao butter, sugar and other substances to the cocoa paste.

Item 130.

The butter extracted from cocoa paste is an important commodity mainly used in the manufacture of chocolate ; it is also used for medicinal and other purposes. It is, therefore, logical to allot to this product a basic item in the international tariff.

Item 131.

The same applies to cocoa powder, a food-stuff which is consumed on a large scale and which accordingly constitutes an important article of trade. This product may still contain quite a substantial quantity of cacao butter, but it also appears on the market with all the fat removed. The item " cocoa powder " further includes cocoa made soluble—that is to say, cocoa powder treated with chemical substances with a view to increasing its solubility.

Item 132.

The last basic item in this chapter refers to chocolate and articles made of chocolate. The latter include all kinds of bonbons, pralines, fondants and other sweetmeats containing cocoa or chocolate.

It was decided that biscuits and all other fancy pastry containing chocolate, as well as alimentary flour and extracts of malt containing up to 50 per cent of cocoa, should be kept under their respective items of Chapter 19.

Various proposals were examined for the creation of sub-items, but chocolate and articles made of chocolate appear in such diverse forms (tablets, pastilles, powder, fancy shapes), and are so differently composed (milk, almond, walnut or hazel nut, fruit, liqueur, cream and like chocolate), that it would be difficult to find a formula which would meet the needs of the different countries. It was accordingly decided not to propose sub-items for these articles.

Chapter 19.

PREPARATIONS WITH A BASIS OF FLOUR OR FECULA.

Item 133.

This chapter is headed by a basic item covering flour, fecula and extracts of malt (liquid or solid) prepared for infants' or invalids' foods. Unprepared flour and fecula are, of course, included in Chapter 11. This also applies to unprepared extracts of malt, which constitute a basic item (No. 81) immediately following the item " Malt ". These malt extracts, like the maltose included in Item 123, are the product of diastase, but saccharification is not complete, since these extracts still contain a considerable quantity of dextrine, whereas in the case of maltose the dextrine content is reduced to a very small percentage.

All these preparations making up the basic Item 133 may contain sugar and even cocoa or chocolate, provided that the cocoa or chocolate content does not exceed 50 per cent. Otherwise, these preparations come under Item 132. Preparations containing medicinal substances belong to Item 292 (chapter relating to chemical and pharmaceutical products).

Item 134.

A basic item has been created for alimentary pastes, including even those enriched with gluten. These commodities are an important article of trade under the names of macaroni, spaghetti, noodles, etc.

Items 135 and 136.

Two special items group together bakers' wares, pastry and biscuits. The first only contains ordinary products without the addition of sugar, honey, fats, eggs, spices or similar substances. These products are for the most part the subject of frontier traffic only.

Fancy products, which include pastry, biscuits, cakes, gingerbread, waffles and similar baked wares, may contain sugar, honey, fruits, cheese, etc.

As regards products of this group containing cocoa or chocolate, some tariffs classify them with chocolate. It was considered, however, that these articles should not be separated from the generality of biscuit products. Accordingly they have been classified under No. 136, no matter what proportion of cocoa or chocolate they contain.

Chapter 20.

PREPARATIONS OF VEGETABLES, POT-HERBS, FRUITS AND OTHER PLANTS OR PARTS OF PLANTS.

The order of Section II has been adopted for this chapter, preserves of vegetables, vegetable-fruits and pot-herbs being dealt with first, and then preparations of fruits.

Items 137 to 139.

Among preserves of vegetables and pot-herbs, two kinds deserve special items owing to their distinctive character. One of these items covers mushrooms and truffles, which are of far greater value than other preserved pot-herbs ; the second relates to tomatoes which, particularly in the form of sauces, are consumed in large quantities. All other preserves of vegetables, pot-herbs and vegetable-fruits (such as cucumbers, eggplants, etc.) are grouped together under a basic item, which is itself subdivided into two sub-items, according to the kind of container.

To classify preparations of fruits proved to be a far more difficult matter.

Items 140 and 142.

As regards the classification of preserved fruits, jams, marmalades and similar preparations, two systems were considered. One had regard mainly to the method of preparation, and drew a distinction between fruits, marmalades, etc., according as they are prepared with sugar, alcohol or otherwise ; the other system disregarded the mode of preparation and, following the solution adopted for preserves of meat, fish and vegetables, classified preserved fruits, etc., according to their packing. Convenient as it is for Customs clearance purposes, this latter system does not prevent the application of a special regime in the case of products containing sugar or alcohol.

The solution adopted in the draft provides for two basic items : one (140) for preserved fruits and the other (142) for jams, jellies, marmalades, etc.

Preserved fruits usually appear on the market in hermetically sealed containers, so that distinctions according to packing are of less importance. A sub-item has been allotted to fruits preserved in alcohol (brandy) and a second sub-item to all other preserved fruits ; in that way no obligation is imposed upon the countries to distinguish between fruits preserved in the natural state and fruits preserved with sugar ; they are free to separate these two kinds of preserved fruits, if they wish to do so.

In the case of jams, marmalades, purées, etc., the question of packing is of minor consideration. On the other hand, it is important to distinguish according to whether these products contain sugar or not.

The principal unsweetened products are the pulp of fruit, unsweetened, but already cooked, which—particularly apricot pulp—plays an important part in the manufacture of jams and pastry.

Item 141.

A special basic item has been created for fruits, fruit peel, plants or parts of plants preserved with sugar (candied).

Items 143 and 144.

Two basic items have been created for fruit juices.

The first (143) includes liquid or concentrated juices without addition of sugar ; these are the pure fruit juices (of lemon, orange, currant, raspberry, cherry etc., and the unfermented juice of apples and pears), except fresh grape juice, which constitutes must and which should only be classified with other fruit juices when in the condensed state. Some unsweetened fruit juices are frequently combined with a certain quantity of alcohol to ensure their better preservation or to allow them to be used in the manufacture of liqueurs or of certain alimentary products ; these juices form a sub-item of fruit juices.

The second basic item (144) relating to fruit juices includes sweetened liquid juices and syrups for beverages, which generally consist of solutions of sugar with the addition of fruit juices. None of these products are, of course, allowed to contain alcohol ; the presence of alcohol would involve their classification as liqueurs (Item 159).

Chapter 21.

MISCELLANEOUS ALIMENTARY PREPARATIONS.

This chapter contains miscellaneous alimentary preparations which, by reason of their nature or composition, cannot be placed in the earlier chapters of Section IV.

Item 145.

Among the most important products of this class are roasted chicory and other coffee substitutes resulting from the roasting of grains (barley and others), or of fruits (figs, acorns, etc.). A basic item has been created for these products ; it also includes artificial coffee-that is to say, coffee substitutes in the form of coffee berries to which real coffee is sometimes added, as well as preparations used as coffee condiments.

Item 146.

A second basic item has been allotted to extracts, essences and other preparations with a basis of real coffee. It is true that these products are of no great importance, but they materially differ in value from those included in the previous item.

Item 147.

Mustard flour prepared for consumption and mustard prepared by the addition of vinegar, spices, etc., come under this item.

Item 148.

The various preparations for soups and broths with a basis of vegetable substances are grouped under a single item containing two sub-items. These broth preparations are often combined with a certain amount of meat extract in order to improve their quality ; this combination does not exclude these preparations from the said item which has been extended so as to cover the various sauces and other similar condiments used for seasoning. For the exact distinction between these " broths " and the real meat extracts of Item 118, see the explanations under that item.

Item 149.

A basic item is attributed to yeasts, and the most important of these—namely, compressed yeasts, used chiefly in baking—are placed in a sub-item ; a second sub-item includes other yeasts, such as liquid yeasts, those with a low fermenting power used in breweries, etc.

This second sub-item also includes yughurt and kefir yeasts in grains, pastilles, powder, etc.—that is to say, products used in the fermentation of milk. Dead yeast, which can only be used for feeding cattle, etc., comes under Item 164 (Chapter 23).

Item 150.

Lastly, this chapter includes a collective item for alimentary preparations not specified elsewhere.

Chapter 22.

BEVERAGES, ALCOHOLIC LIQUORS AND VINEGARS.

The products making up this chapter have been arranged in the following systematic order. The first place has been given to waters, which constitute the most natural product ; then come beverages resulting from fermentation and then the products of distillation. Vinegars are placed at the end of the chapter.

It should be explained that all beverages, including vinegar, to which medicinal substances have been added and which are used for therapeutic purposes, are excluded from this chapter and must be regarded as medicinal preparations (Item 292, Chapter 28).

Item 151.

It is only logical to include ice, even artificial ice, in the basic item referring to waters. This basic item is divided into two sub-items, of which the first comprises all mineral waters, even artificial waters. It is difficult to clearly distinguish between natural waters and artificial waters, since their composition is often identical. Aerated water—that is to say, water with the simple addition of carbonic acid—should also be included in this sub-item.

The second sub-item contains, apart from ice, natural water not having the characteristics of mineral water; in the ordinary course, natural water does not constitute an article of trade, except in the form of distilled water. Sea water is excluded from this item, and, together with salt, comes under Item 178 (Chapter 25).

Item 152.

The need of a basic item for beer is obvious ; the sub-items provided for beer in casks and beer in bottles are also of undeniable practical use.

Items 153 to 155.

To set up a common nomenclature for wines constitutes a truly delicate task, owing to the divergencies in the laws of the various countries.

After careful consideration, it was decided to classify under a single basic item (No. 153) the various kinds of wine (including grape must) which do not belong to the category of sparkling wines or wines prepared with aromatic plants (of the vermouth and similar types). As regards these last two categories, which are comparatively easy to differentiate, they have been classified under Items 154 and 155 respectively.

As a general rule, *wine* is understood to mean the product of the alcoholic fermentation of the juice or must of fresh or slightly dried grapes.

The product resulting from the fermentation of *dried* grapes with water is excluded from Item 153 and comes under Item 156*(b)*.

By grape must (wine must), coming under said Item 153, is understood the juice of fresh grapes not fermented or concentrated. Fermentation is prevented either by sterilisation or the addition of alcohol. In this latter case, musts, of which the fermentation has been checked by alcohol, are known as *mistelles* or *mistels*.

Both *liqueur* wines and ordinary wines come under Item 153. Sub-items have not been introduced for these different types of wine in view of the difficulty of adapting a precise definition of liqueur wines to the legislative provisions of the different countries in regard to wine.

As regards the sub-items provided for in the draft, it should be noted that *(a)* includes not only wine in casks but also wine in receptacles of any kind containing more than two litres.

Item 155 applies solely to tonic wines or appetisers which have been prepared from plants or aromatic substances (such as gentian, absinthe, cinchona, cinnamon, orange peel, etc.), and which retain the character of beverages in the proper sense of the term.

Item 156.

A basic item has been set aside for other fermented beverages—that is to say, the fermented juices of various fruits, such as apples, pears, cherries, various berries, etc. The most important of these beverages are ciders and perries, to which it was thought best to allot a special sub-item. The products resulting from the fermentation of dried grapes with water are also classified under Item 156.

Items 157 and 158.

The classification of spirits and pure alcohol also raises rather serious difficulties. In the first place, the designations " spirits " and " alcohol " have not exactly the same meaning in all countries ; in the second place, the system for the taxation of spirituous liquors is very different as between one country and another.

In order to avoid these difficulties, it was first intended to create a single item to include spirits of all kinds and ethyl alcohol.

It was considered, however, that such important products as ethyl alcohol and spirits should each have a separate place in the international nomenclature.

It was agreed that the expression " spirits " should cover all kinds of alcohol which contain a fairly high proportion of water and which can be consumed as they are or diluted.

The item for spirits has been divided into three headings : one for natural wine brandies (the best known are the French products cognac and armagnac) ; the second for rum and arrack, which are usually products from tropical countries, and the last for potable products resulting from the distillation of certain grains, fruits, potatoes and other substances.

The basic item " ethyl alcohol " refers to distilled products, whether rectified or not, but concentrated—that is to say, containing only a small proportion of water. This item also covers denatured alcohol, including solidified alcohol.

It is understood that various products containing alcohol, such as perfumery, varnishes, medicaments, insecticides, are classified under their respective items, whatever proportion of alcohol they contain.

Item 159.

This item contains all liqueurs, which are sweetened alcoholic products ; the addition of sugar distinguishes liqueurs from spirits. On the other hand, mere aromatisation does not affect the character of spirits.

Item 160.

Lemonade, hydromel (mead) and various compositions and mixtures not fermented or alcoholic constitute this item.

Item 161.

This item includes all kinds of vinegars for consumption. In order to distinguish between vinegars for consumption and acetic acid, it was agreed to regard as for consumption vinegar with an acetic acid content of not more than 10 per cent. Products with a higher acetic acid content are classified with acetic acid (Item 222, Chapter 28).

Chapter 23.

RESIDUES AND WASTE FROM THE FOOD-PREPARING INDUSTRIES.

This chapter comprises residues and waste of very different kinds resulting from the use of raw materials by the various food-preparing industries. Nearly all these residues and waste are used for the same purpose—namely, for feeding animals.

Item 162.

The waste and residues included in this Chapter are, for the most part, of vegetable origin. Only meat-meal and fish-meal are of animal origin; consequently, following the order adopted for classification purposes, they must be placed at the head of this chapter.

Items 163 to 168.

The most important of the residues and waste included in Chapter 23 constitute separate items in the nomenclature. Such are beet pulp—that is, the fragments of beet after extraction of the sugar, and other sugar factory waste. They also include brewing dregs, waste of distilleries, starch factories, etc. (including dead yeast), and oilcake and other residues resulting from the extraction of vegetable oils and used mainly for cattle feeding, but sometimes as fertilisers.

Two special items contain, one the residue of pressed grapes and other fruits, the other, wine lees. As regards the latter, those containing more than 6 per cent of wine come under Item 153. Raw tartar (bitartrate of potassium, unrefined) also comes under wine lees, in view of their common origin.

The collective item of waste of vegetable origin not elsewhere specified does not include bran and sharps derived from cereals, which are classified under Item 77. On the other hand, malt sprits, shelled maize ears, etc., are included in this item.

Item 169.

This basic item includes all fodder preparations treated with molasses, whatever their basic product (bran, chopped straw and hay, oilcake, etc.), and whatever the quantity of molasses added.

Item 170.

Item 170 includes the various foods which are prepared for animals and which usually consist of mixtures of waste of animal origin with bran, sharps and other vegetable products and waste. For instance, dog biscuits come under this item.

Chapter 24.

TOBACCO.

In spite of the importance of tobacco in international trade, it did not prove practicable to deal with this commodity at any great length in the nomenclature. In point of fact, in nearly every country, tobacco is a monopoly or, at any rate, is subject to a special fiscal regime; its Customs treatment is therefore closely bound up with the provisions of internal legislation and, on that account, the taxation of tobacco is generally of greater importance to the monopoly offices or revenue authorities than to the Customs authorities.

Accordingly, the nomenclature in respect of tobacco has been confined to what is strictly necessary to avoid the difficulties which might arise from any attempt to adapt the Customs tariff to the fiscal regime of each country.

Items 171 and 172.

Therefore, only two basic items were proposed—one for raw tobacco and the other for manufactured tobacco.

The term " raw tobacco " includes tobacco leaves, whole or stemmed, dried and fermented, as well as stems and leaf waste ; green tobacco leaves are also included under this item. The item for manufactured tobacco includes every kind of smoking tobacco, snuff and chewing tobacco, cigars and cigarettes, as well as tobacco dust, tobacco extract or sauce *(praiss)*, even when these are mixed with other substances for use in agriculture or horticulture.

Section V.

MINERAL PRODUCTS.

Chapter 25.

EARTHS AND STONES; LIMES AND CEMENTS.

Chapter 25 includes, in the first place, earths and stones—*i.e.*, the mineral raw materials of a large number of industries.

The products concerned are in the natural or unworked state but, generally speaking, they are still classified under this chapter if simply ground or calcined, except when the work performed has changed their character as, for example, in the case of colouring earths. Stones in the state in which they usually come from the quarry are included in this chapter.

This chapter also covers cements, limes and plaster. These are, indeed, manufactured products, but they have been classified here because it is not desirable to separate them from the stones from which they are derived.

Item 173.

This item comprises earths usually employed in agriculture.

Oozes, which are deposited on the beds of rivers and lakes, are rich in organic substances and are used for the improvement of the soil.

Marl is a natural mixture of calcareous matter and clay ; it often contains quartzose sand, mica, etc. Marls rich in lime are chiefly used for the improvement of sandy and clayey soils. They are, as a rule, employed in the manufacture of cement and mortars, but as, generally speaking, the soil improvement use is the more important, it has been thought preferable to classify them with earths used in agriculture.

Earths from which rare earths are extracted (such as monazite earth) are included in Item 195*(g)* (Chapter 26).

Item 174.

Consideration was given to the desirability of drawing a distinction between quartzose sand, which is an important raw material in the manufacture of glass, and ordinary sand, employed chiefly in the preparation of mortars and concretes. As, however, such a distinction is difficult to make in certain cases and is of no great advantage, all kinds of sand have been grouped together.

This item also includes coloured sand, but not mica scales, which must be classified under Item 194*(c)*. Auriferous sand comes under Item 195.

Item 175.

This item comprises the raw materials of the ceramic industry (common clay, potters' earth, kaolin, etc.) which also covers the manufacture of refractory products. It likewise covers chamotte earth, which is obtained by baking fireclay, sometimes mixed with dried clay, and also dinas earth, which consists of ground quartzose earths containing clay (Klebsand) or of ground quartz mixed with clay. These earths are used for refractory masonry and do not form binding materials of the nature of cement. Bauxite, which is also a kind of clay, is excluded from this item and included in Chapter 26 among minerals (Item 195*(d)*), because it is primarily used for the manufacture of aluminium.

Many Customs tariffs subdivide this item into kaolin (china clay) and other clays, because of the importance of kaolin in the porcelain industry ; but this subdivision being of no general value, it was not thought necessary to retain it.

Item 176.

Chalk, and the colouring earths used as raw materials for colours, are included here only in the crude state. Clays mixed with white or coloured mineral substances, particularly oxide or hydroxide of iron, are usually known as colouring earths. They are found in the natural state either above ground or in mines. The best known are ochre, Cassel earth, red earths, etc.

If chalk and colouring earths are ground, they at once become colours and hence must be classified in the chapter for colours (Items 304 and 305).

The desirability was also discussed of leaving in this chapter colouring earths, washed and calcined but not ground. Most tariffs treat calcined colouring earths as colours ; it was, therefore, considered advisable to classify washed or calcined colouring earths with ground colouring earths—that is to say, under Item 305. For the same reasons, chalk, washed but not ground, belongs to Item 304.

Item 177.

This item includes artificial as well as natural graphite. It seemed expedient to classify these two products together, so as to avoid difficulties in tariff classification. Graphite is a modified carbon used for many purposes—*e.g.*, the manufacture of pencils, cleaning materials and refractory products ; it is employed on a large scale in the electro-technical industry. Retort carbon or retort graphite (which is also carbon), known also as artificial graphite, is assimilated to graphite.

Item 178.

Rock salt has been classified in Chapter 25 because it is obtained by a mining process. Common salt and sea salt have had to be grouped with rock salt because their composition is the same and so has mother-lye. Sea water is also classified under this item in view of its salt content.

This item covers all kinds of salt, raw, refined, ground, even denatured, or put up for retail sale.

Item 179.

In some Customs tariffs, sulphur is classified in the chemical chapter, but many tariffs include it amongst mineral products. As it is usually a natural product obtained from mines, this latter classification was considered to be more correct ; sulphur has accordingly been classified in Chapter 25.

Item 179, which also covers sulphur obtained by a chemical process, is divided into two sub-items, the first for raw sulphur and the second for purified or refined sulphur in sticks or rolls, and also ground sulphur and sublimated sulphur (sulphur flowers).

Sulphur is used for many purposes (medicine, veterinary medicine, pharmacy, the chemical industry, the textile industry, etc.). Only sulphur not mixed with other substances is included in this item ; mixtures are classified according to kind under the relevant item (disinfectant, anticryptogamic preparations, etc., pharmaceutical preparations, etc.).

Item 180.

Heavy spar, a sulphate of native barium, is used in the colour industry for the manufacture of paper, etc.

Witherite, a carbonate of natural baryta, which, next after heavy spar, is the most important barium ore, is also used in the preparation of permanent white and other barium compounds. Owing to their similarity in nature and use, it was thought that witherite should be mentioned in the same item as heavy spar.

These products are included in this item only when in the raw state. Ground or washed heavy spar is classified with permanent white among colours (Item 304).

For precipitated carbonate of barium, see Item 234*(h)*.

Item 181.

All natural abrasives, rough, granulated or ground, have been grouped under the same item, together with mineral substances used for polishing and cleaning and for the preparation of polishing and cleaning materials. This grouping is justified by the nature of these products and by the similarity of their uses.

Products of this kind are also classified under this item even if imported in packages put up for retail sale.

"Artificial abrasives" have been classified, according to their chemical nature, in Chapter 28 ; for instance, cast aluminium or artificial corundum is included under Item 229*(a)*, carbide of silicon under Item 265*(b)*, etc.

Item 182.

Slates, in view of the importance of the commercial transactions in which they figure, have been given a separate basic item, confined to slates in the unworked state, in blocks, plates or slabs, whether or not cut with the helicoidal saw. Slate powder is assimilated to unworked slates.

Worked slates, including roofing slates, come under the chapter for wares of stone (Chapter 58).

* * *

Owing to their importance, stones have been given four basic items, which cover stones in the state in which they leave the quarry, whether in blocks or slabs, unworked or simply rough hewn or sawn, whatever the thickness of the slabs.

The countries have been left free to introduce sub-items for blocks and slabs according to thickness, etc.

Item 183.

The first item for stones is intended particularly for marble.

Only marble properly so-called—*i.e.*, marble with a crystalline texture—is included under this item, while amorphous limestone, which has more or less the appearance of marble and will take a high polish—*e.g.*, " *écaussines* "—etc., is excluded. The latter are classed under Item 185. Alabaster, which is a crystalline gypsum, and serpentine are assimilated to marble, as they are used for the same purposes and are very nearly of the same value. Pulverised marble is assimilated to unworked marble.

Item 184.

Item 184 includes granite, to which are assimilated porphyry, syenite and similar hard stones (gneiss, trachyte, basalt, lava, etc.) of volcanic origin, the whole forming a group which is clearly defined both as to nature and use.

Item 185.

This item includes other building stones—*i.e.*, more particularly sandstone and limestone. It also covers unworked stones for lithography, and rubble and pebbles of soft stone for road-making and similar purposes. The classification of limestone gave rise to some difficulties, for it is found in nature as chalk, marble and ordinary limestone. The last-named variety is found again in various forms—namely, polishable amorphous limestone, non-polishable limestone (used as building-stone) and small irregular blocks—which are principally used for certain industrial purposes—*e.g.*, the manufacture of lime, cement, etc.—or directly in sugar refineries and blast furnaces.

Owing to its earthy nature, chalk has already been classified with colouring earths under a special item (No. 176). Marble, properly so-called, comes under Item 183. This leaves the other limestones, which are included under Item 185, so far as they are found in the form of freestone or building-stone. A special item, No. 186, has been provided for limestone and other stones of a similar nature used in manufacturing industries.

Item 186.

In addition to limestone used in manufacturing industries and mentioned above in the remarks concerning Item 185, Item 186 also includes limestone intended for the same purposes, even ground, as, for instance, unworked dolomite. Limestone in the calcined state is excluded from this item, because calcination completely changes its character. Calcined limestone is included as lime in Item 190.

Item 187.

Consideration was given to the question whether crushed stone and gravel should be classified with stones of the same nature under Items 183 to 185, or whether they should be given a separate heading. This latter alternative was adopted, as classification according to the nature of the stone would entail complications, and as, in fact, there is no reason for making such a differentiation, these crushed stones and gravels being all used for the same purposes (road metal, ballast, concrete, etc.), whatever be the kind of rock from which they are derived.

Item 188.

Raw magnesite is a carbonate of natural magnesium containing impurities. Calcined magnesia, which is an impure oxide of magnesium, is obtained from this magnesite by calcination. These products play an important part in the manufacture of cements, refractory articles for the facing of blast furnaces and high-temperature furnaces, and also for preparing magnesium compounds. On the other hand, calcined magnesia in the pure state (oxide of magnesium) comes under Item 227 (Chapter 28) and so does also calcined dolomite, whereas unworked dolomite is included under Item 186.

Item 189.

Plaster-stone is a hydrated sulphate of lime, which is dehydrated by baking. Unworked plaster-stone is used not only for the manufacture of plaster but also for that of cement.

Two sub-items have been introduced here, the former for unworked plaster-stone, whether ground or not, and the latter for calcined plaster-stone—*i.e.*, plaster properly so-called.

Item 190.

This item includes quicklime, slaked lime and hydraulic lime. The first-named is obtained by the calcination of limestone and the second by hydrating quicklime with water. Hydraulic lime is a transitional product between lime and cement, and for this reason some tariffs classify

it with cement. It is sometimes known also as meagre lime. In point of fact, it is a meagre lime which hardens in water. It contains from 8 to 25 per cent of clay and forms a grey earthy mass. Mortar made from lime also comes under this item.

Item 191.

This item groups together natural products used in hydraulic mortar and in the manufacture of special cements. They are, in general, products of volcanic origin forming sorts of natural cement.

Puzzolana cements, which are mixtures of these substances with lime, are included in the following item relating to cements (192). Owing to their importance in the cement industry, it seemed advisable to collect together these cement materials properly so-called and give them a special basic item.

Item 192.

This item includes cements of all kinds obtained by the calcination of earths containing, either naturally or by mixing, carbonate of lime, silica, alumina, oxide of iron, etc. The best known are Roman cement and Portland cement.

For the manufacture of Roman cement, natural clayey limestone is baked until the carbonic acid is expelled, but not until it becomes vitrified, so that it still contains free lime. The calcined mass is then ground and placed on the market in the form of a brownish powder.

Portland cement differs from Roman cement in that it is baked until the natural clayey limestone or artificial mixture of clay and limestone becomes vitrified. The product thus obtained is then finely ground and gives a greenish grey powder. By mixing slag (dross) with Portland cement, slag cement is obtained.

Silicates of aluminium of volcanic origin, which by their nature are utilisable in the state in which they are found are sometimes known as " natural cements ". The chief are tuff and trass and puzzolana and santorin earths. These earths are included in the previous item.

Another kind, the quality and value of which are higher than those of ordinary cements, is aluminous cement or bauxite cement, a cement obtained in the electric furnace.

As the subdivision, found in some tariffs, into slow-setting cements and quick-setting cements is not of general importance, no sub-items have been provided for in the nomenclature.

Item 193.

Crushed broken earthenware gives chamotte, used in the refractory products industry, the other raw materials of which are also classified under this chapter.

Item 194.

After basic items had been provided for the most important mineral substances used in the various industries, all other mineral substances were grouped together in a collective item. There is a fairly considerable international trade in some of these substances, though the importance of this trade varies greatly in different countries. It, therefore, seemed sufficient to provide seven sub-items for these products.

This classification is not based upon the chemical composition of the substances, but chiefly on their nature as determining the uses to which they are put.

Although differing in nature, meerschaum, amber and jet have been classified together because, while they must be included in the nomenclature, they are not entitled each to a separate sub-item. Ambroid—that is to say, agglomerated amber—and meerschaum which has undergone similar treatment are also included in this item.

Asbestos, which frequently occurs in trade as fibre, and mica are important raw materials which must be shown separately. Mica comes under this item even when ground (mica scales, undyed or dyed).

Talc and steatite are really the same product, but the one is found in the form of powder or flakes and the other in the form of blocks. The former is extensively used in various industries (in the manufacture of paper, dressings for the textile industry, glass, ceramics, etc.), whilst the latter is becoming increasingly important in the electro-technical industry.

Many tariffs provide a separate classification for infusorial earth or *Kieselguhr*, owing to the extent of the trade in this product. Mixtures of infusorial earth are also included in this item.

The classification of feldspar, fluorspar and cryolite under one sub-item is justified by the similar purposes for which they are employed. Artificial cryolite is assimilated to natural cryolite for the reasons given in the remarks on Item 237 (Chapter 28).

If any individual country thinks it necessary, in view of its own trade, to differentiate still further any other mineral substances not specially mentioned, it will be entitled to subdivide the last sub-item, which covers all other mineral substances not elsewhere specified or included. For instance, the following substances come under this general sub-item :

Natural borax, also known as rasorite or kernite or tinkal, which is chemically a tetraborate of raw soda (see report on Item 233*(a)*) ;

Natural arsenic sulphides, such as red and yellow orpiment and realgar (see report on Item 243*(c)*) ;
Fuller's earth—*i.e.*, bleaching and filtering earths (see report on Item 237*(d)*) ;
Strontianite—*i.e.*, natural strontium carbonate (see report on Item 234*(j)*) ;
Lepidolite, which is a lithium ore ;
Celestine (natural strontium sulphate), etc.

Chapter 26.

ORES, SLAG AND ASH.

This chapter contains primarily raw materials of the metallurgical industries. These products are of considerable importance in international trade, but, as they are usually exempted from duties, they do not deserve to retain much attention from a tariff classification standpoint and their subdivision into secondary items is chiefly of value for statistical purposes.

Item 195.

All the ores of the different metals have been grouped together and subdivided into sub-items for the more important ores. Sub-items have accordingly been created for the ores of iron, copper, aluminium, lead and zinc. The last general sub-item, which groups together all other ores not specified, contains some ores which are relatively important for certain countries where there is a highdly-developed metallurgical industry. This is true, for instance, of the ores of manganese and tin. As, however, they are not of general importance, it was not thought necessary to provide special sub-items for these ores, as countries concerned could always do this for themselves.

In some tariffs, iron pyrites is classified with iron ores, but it was thought preferabie to place it in a special sub-item, as pyrites, which is an iron sulphide—*i.e.*, a compound of iron and sulphur in approximately equal proportions—is chiefly used in the manufacture of sulphuric acid. After the sulphur has been extracted the residues from the calcination of pyrites are used as iron ores ; hence roasted pyrites is classified with iron ores.

Iron oxides for the purification of gas are also included among iron ores.

Some ores when ground are used as colours—*e.g.*, some ores of iron, cobalt, manganese and zinc. For this reason, ores, when ground, are in general not included in Chapter 26, but, in view of the use to which they are put, come under Chapter 30, which is reserved for colours.

Bauxite, which resembles the clays classified under Chapter 25 and is also used in the cement, refractory products and abrasives industries, is included with ores in Chapter 26, because it is used principally in the manufacture of aluminium.

Calcined bauxite, which still contains many impurities the presence of which precludes its direct employment for the purpose of obtaining metal, is also classified in this item. For this latter purpose, it is first necessary to obtain pure (or at all events technically pure) aluminium oxide, formula Al_2O_3. This latter product is classified under Item 229 (Chapter 28).

Ores prepared by crushing, roasting, washing, flotation, etc., for use in the metal industries are classified under Chapter 26.

Item 196.

These slags are generally used as raw materials in the manufacture of cements, bricks, etc. They are the wastes from the production of iron and steel.

Dephosphorisation slag, which is used as a fertiliser, must be classified under Chapter 35, and is therefore not included in the present chapter.

Granulated or ground slag and slag wool also come under this item.

Item 197.

Cinders (ashes) and residue in which metals are still found in the free state or in the form of compounds are included in this item. They are used for the recovery of the metals they contain.

Cinders of pyrites—*i.e.*, the residue from the roasting of pyrites still containing iron—and zinc cinders also come under this item.

The cinders of precious metals from the workshops of goldsmiths or works in precious metals do not come under this item but under Items 684 to 686 (Chapter 61).

Slag and cinders (ashes) which are employed either as they are, or ground, for the manufacture of colours, are not included in Chapter 26 but in the chapter for colours (Chapter 30).

Item 198.

This last item includes particularly the slag and cinders (ashes) from coal, coke, wood, etc.

Chapter 27.

MINERAL FUEL, MINERAL OILS AND BITUMINOUS SUBSTANCES; PRODUCTS OF THE DISTILLATION THEREOF.

Chapter 27 first of all deals with solid mineral fuel—*i.e.*, substances for heating (Items 199 to 202)— natural bituminous substances, such as asphalt (Item 203), and tar obtained from those products (Item 204). There follow, in Item 205, oils obtained from the distillation of non-paraffinic tars, *including their directly isolated constituents*, such as naphthalene, anthracene, etc. Item 206 includes the main group of petroleums and oils obtained from paraffinic tars, the chief being lignite tar. Items 207 and 208 cover respectively vaseline and paraffin wax obtained either from petroleum or from oils of paraffinic tars. Mineral wax and lignite wax are grouped together in a common item (209). Item 210 consists of various resins and pitch of mineral origin, while the last item (211) contains mixtures, etc., of asphalt and other bituminous substances.

Items 199 and 200.

Although it is not always an easy matter to distinguish between coal and lignite and although the same meaning is not given to these terms in every country, it was decided to establish two basic items for coal and lignite, in view of the importance of these two products, especially in Central Europe, and of the fact that a distinction is made in international trade between these two kinds of fuel. The distinguishing criterion employed in Central European trade has been adopted in the draft—that is to say, by " lignite " is meant not only coal of a ligneous structure, but also " brown coal or Braunkohlen " of all kinds.

Carbon in the form of graphite (plumbago) is not a combustible substance and does not come under this chapter but under Chapter 25, which deals with earth and stones (Item 177). This also applies to what is known as retort carbon or retort graphite : it consists of practically pure amorphous carbon, which is usually very hard and is deposited on the upper walls of retorts or gas ovens, comes off in pieces or sheets and is commonly employed in the manufacture of electrodes.

Item 199 covers coal of every kind, such as bituminous coal, close-burning coal (anthracite), and so-called " cannel " coal (a kind of coal with little lustre). The subdivision of this item corresponds to the various commercial types of coal.

Lignites, which come under Item 200, are found in nature in very different forms, such as earthy lignite, lignite in large lumps, lignite with a ligneous structure (lignite proper). Lignites are placed on the market in two forms : crude lignite (sub-item *(a)*) or agglomerates (bricks, briquettes, balls, etc.), with or without the addition of tar, pitch, etc. (sub-item *(b)*).

Item 201.

Coal coke is obtained by heating coal (the air being excluded) either in coke-works or in gas-works. This item also includes coke known as semi-coke, which is a by-product obtained from the manufacture of coal tar at a low temperature or of lignite tar, and which is used for other purposes than coke obtained from ordinary coal. It also covers petroleum coke, a spongy residue obtained from the distillation of petroleum and used for the manufacture of electric carbons, etc.

Item 202.

Peat is included in this item even when it is used, not for heating, but as litter or for the improvement of the soil, on the principle that a product should only appear under one item in the Customs nomenclature for whatever purpose it is used.

Item 203.

Asphalts belong to the groups of natural bitumens, which include mixtures of hydrocarbides formed naturally, such as crude petroleum. Asphalts have a solid or practically solid consistency ; they melt more or less easily, without having a clearly defined melting-point, and they gradually harden in cooling ; they do not crystallise but form amorphous black masses ; sometimes, when broken, they present a conchoidal structure.

Sub-item *(a)* consists of asphaltic rocks, such as calcareous asphaltic rocks from the Val de Travers, Syracuse, Ragusa, Seyssel and Bastennes, and also sandstone in stony or sandy masses impregnated with asphalt.

To asphaltic rocks have been assimilated bituminous schists in the form of rocks, the bitumen content of which is not asphaltic and which are used as fuel or for the extraction of mineral oil. Their bitumen differs from asphaltic bitumen in that it is insoluble in organic solvents, is brown in colour and contains saponifiable substances, whereas asphaltic bitumen is completely soluble and black in colour. As bituminous schists (such as torbanites from

Scotland, schists from Bruxière, Kuckerite from the Baltic countries, Swedish aluminous schists, etc.) do not play an important part in foreign trade, it was not considered necessary to devote a special item to them.

Sub-item *(b)* is reserved for natural asphalts in other forms, particularly in the form of maltha ; they include, *inter alia*, asphalts from Trinidad, the Dead Sea, the Bermudas and Maraçaibo, Santa Barbara in California, and also asphaltites, such as gilsonite from Colorado and Utah, which are chiefly used for the preparation of black varnishes, while asphaltic rocks and other asphalts are mainly used for road-making. Since asphalts found in other forms than asphaltic rocks are often of a very pure type, refined asphalts have been placed with them. The latter mainly differ from crude asphalts in that the water and stony and earthy substances have been extracted.

Item 204.

Lignite- and schist-tars and also coal-tars belong to the group of substances obtained from the distillation of crude bituminous organic substances. The subdivision of Item 204 into one sub-item for non-paraffinic tars and a second sub-item for other tars is justified by the differences in the nature and uses of these two products.

Non-paraffinic tars (sub-item *(a)*) are valuable by-products obtained from the production of coke by the dry distillation of coal at about 1.200° (coal-tar obtained at a high temperature, commercially, often known simply as " coal-tar "). These tars are characterised by the absence of paraffin and the presence of benzol, naphthaline, anthracene and free carbon. They further contain considerable quantities of *phenol* (carbolic acid) and of phenol homologues, also of pyridic bases. By means of the distillation of the above, benzol, toluol and other coal-tar oils (phenol, naphthaline, anthracene and other oils) are obtained.

On the other hand, lignite-tars are obtained from the dry distillation of bituminous lignite, which leaves as a residue lignite coke ; or the lignite is volatilised in gasogens at the lowest possible temperature, yielding as the principal product a tar rich in paraffin (gasogen tar), while combustible gas, but not lignite coke, is also obtained. Lignite-tars have a high paraffin and cresol content. Similarly, coal-tar obtained at a *low temperature* (Urteer) is the principal product from the dry distillation of coal at the lowest possible temperature, semi-coke being in this case merely a by-product. Lignite-tars, coal-tars obtained at a low temperature, schist-tars and peat-tars are very similar in chemical composition ; they all contain paraffin, and, by distillation, oils similar to those obtained from the distillation of crude petroleum (spirit, refined petroleum, gas oils, lubricating oils, etc.) can be extracted therefrom. All these paraffinic tars come under sub-item *(b)*. A country desirous of treating alike paraffinic and non-paraffinic tars can ignore the subdivision provided ; nevertheless, the inclusion of this subdivision in the Customs nomenclature[1] is certainly of value from the point of view of international trade.

It should be noted that tars not obtained from mineral substances do not come under this item. Wood-tar is included in Chapter 28, Item 282*(a)*, and bone-tar in Item 115 (Chapter 15).

Item 205.

This item classifies separately oils obtained from the distillation of high-temperature coal-tar, in view of their composition, physical qualities and technical uses. Benzols and other hydrocarbides of the benzol series are chiefly obtained by the distillation of coal-tar ; the first two fractions (first runnings and light oils) consist mainly of benzol and its homologues.

As regards the subdivision of these oils, the density, which can very easily be verified by Customs officials, cannot be taken as a criterion, because the density of the different coal-tar oils does not differ sufficiently. Consequently, in accordance with various tariffs, a distinction has been made between oils with a low boiling-point and those with a high boiling-point. With a view to classifying benzols together as far as possible and bearing in mind the fact that there are certain heavy benzols of which 90 per cent of the volume boils up to 195° or 200° C., the limit has been fixed in such a way as to include in sub-item *(a)* oils of which 90 per cent of the volume distils up to 200° C. Oils with a low boiling-point should include

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[1] The following is the best method of distinguishing tars obtained at a low temperature from tars obtained at a high temperature (coal-tars) :

(a) A small quantity of tar is placed in a test tube ; petroleum spirit refined by means of highly concentrated sulphuric acid (monohydrate) is then poured on it until the tube is half full. If the tar mixes with the spirit, making it distinctly turbid and staining it immediately, the tar comes under sub-item *(b)*. If, on the other hand, the spirit remains clear or becomes only slightly turbid, the tar is high-temperature wood- or coal-tar.

(b) One gramme of tar is placed in a porcelain bowl and 5 c.c. of aniline added. The mixture is then heated for half an hour in a bath of boiling water, during which time it should be frequently stirred. The mixture is then placed on a porous plate or piece of non-enamelled earthenware. If, after the aniline has been absorbed, a considerable quantity of carbon still remains, the tar is high-temperature tar (coal-tar); otherwise it is a tar coming under sub-item *(b)*.

so-called light oils, to which the following finished products would correspond : benzols, including heavy benzol, solvent naphtha, toluol, xylol, cumene and pseudo-cumene ; the same sub-item covers their directly isolated constituents—*i.e.*, pure carbides : benzine, toluene, xylene, etc. The following should belong to oils with a high boiling-point (sub-item *(b)*) : so-called medium oils, phenol oil, so-called heavy oils, naphthaline oil, anthracene oil, carbolineum, and creosote oil. Sub-item *(b)* also covers the constituents directly isolated from these oils with a high boiling-point, even if they do not possess the character of oils, such as naphthaline and anthracene.

In addition to benzols and other aromatic hydrocarbides of the benzol series obtained from the distillation of-high temperature coal-tar, there are—although in small quantities only—identical products derived from other bituminous substances, such as toluol obtained from petroleum found in Borneo which contains from 40 to 60 per cent of aromatic hydrocarbides. These benzols, toluols, etc., obtained from petroleum are also to be classified under Item 205, the term " oils obtained from the distillation of non-paraffinic tars " indicating the type rather than the origin of the oils therein included.

Item 206.

In composition and physical qualities the oils obtained from lignite-tar, schist-tar and peat-tar, and also oils from low-temperature tars obtained from coal, bear a comparatively close relation with petroleum.

The hydrocarbides of petroleum and the above-mentioned oils consist chiefly of hydrocarbides saturated or unsaturated (with an open chain) with atoms of carbon or naphthene—that is to say, their hydrocarbides are of aliphatic structure, or, at all events, as regards the relations between the carbon and hydrogen, approach it very closely. The aromatic hydrocarbides (benzol, toluol, naphthaline, anthracene), which are the chief constituents of high-temperature coal-tar oils, do not occur or only occur in comparatively small quantities in the above-mentioned oils. Certain petroleums (Borneo oil) which, as already stated in the observations on Item 205, possess a high benzol content are the only exceptions. The specific gravity of lignite-tar oils and of petroleum is, moreover, lower than that of the corresponding oils obtained from coal-tar. Contrary to coal-tar, the main products of distillation are benzine or spirit, paraffin and lubricating oils. In placing these oils together in one basic item, the draft follows various existing tariffs, such as the German, Belgian and French tariffs.

As regards the subdivision of Item 206, it was decided to create a sub-item *(a)* for crude petroleum. Several tariffs, as, for instance, the German tariff, contain no special item for crude petroleum ; certain others, such as the Hungarian tariff, provide an item for crude mineral oils, the treatment of the latter under said item being subject to special control, while uncontrolled crude oils are placed among the products from the transformation of mineral oils. Moreover, tariffs which include a special item for crude petroleum do not always define this in the same manner ; for instance, in one case, the maximum content of oil with a low boiling-point has been fixed at 90 per cent and, in another, oil containing 90 per cent of refined product has been admitted as crude oil. For this reason, petroleum, more or less refined, is often converted by the addition of colouring matter into " black oil ", which is admitted as " crude petroleum ". In the first case, for instance, an artificial oil consisting of a mixture of 15 per cent of benzine distillates, 75 per cent of petroleum distillates and 10 per cent of mazout might be admitted as crude petroleum.

Sub-item *(a)* has not been devised according to either of the above-mentioned systems. It is reserved exclusively for oils in the state in which they are extracted from the soil and having undergone no subsequent transformation, and even irrespective of the purpose for which they are intended ; similarly, oils admitted into some countries under special conditions for refining purposes would not come under this sub-item *(a)* unless they are actually crude oils.

As regards crude schist and lignite-tar oils, these are assimilated to petroleum (sub-item *(a)*).

Sub-item *(b)* includes oils obtained from the distillation or refining of crude petroleum and tar and schist oils. It, therefore, covers benzine, petroleum, gas oils, lubricating oils, fuel oils, etc. It was realised how important it is to subdivide this item—playing, as it does, a prominent part in international trade—in such a definite manner as to take commercial interests into account. Owing to the difficulties inherent in the question, it was not possible to find a workable solution, and all that could be done was to give countries desirous of subdividing sub-item *(b)* certain general indications for their guidance. The criterion which can most easily be verified, usually gives satisfactory results, and corresponds to the characteristics determining the trade classification of oils is the specific gravity or density. However, although a distinction is frequently made in commerce and also in various tariffs between light, medium and heavy oils, no conformity or agreement as to their respective limits exists either in commerce or in tariffs classifying oils according to their density. Moreover, as a result of the exploitation of new mineral-oil deposits and improvements in the methods of extracting and refining these oils, it is becoming more and more impossible to classify oils solely according to their density, since many types of oils which can be put to the same technical

use frequently have such different degrees of density that they would have to be divided among several groups.

In spite of these difficulties, the specific weight or density, owing to the ease with which it can be ascertained, is a particularly important criterion for the subdivision of mineral oils. Whenever this criterion is insufficient to identify mineral oils, other tests should be made, and in the first place their viscosity, flash-point and behaviour on distillation established. However, these tests call for technical knowledge which is not usually possessed by Customs officials.

Bearing these considerations in mind, efforts were made to establish for the subdivision of oils a workable nomenclature which would not be too complicated. To that end, it was proposed to subdivide mineral oils according to their trade names, as follows :

1. Spirit ;
2. Refined petroleum and white spirit ;
3. Gas oils ;
4. Lubricating oils ;
5. Fuel oils ;

and to give the following definitions for each of these subdivisions :

1. " Spirit " is deemed to refer to oils of which the distillation usually begins below 100° C. and is completed at 225° C., with a density commonly below 0.785 and a flash-point (in a closed vessel) below 21°.

2. " Refined petroleum " and " white spirit " are deemed to refer to oils of which 90 per cent of the volume distils up to 300° C., with a density commonly below 0.83 and a flash-point (in a closed vessel) higher than, or equal to, 21°.

3. " Gas oils " are deemed to refer to oils which commonly distil less than 30 per cent of their volume up to 275° C., and more than 90 per cent of their volume up to 350° C., with a density commonly below 0.885, a flash-point (in a closed vessel) between 50° and 125° and with a viscosity at 20° below :

2°,6 Engler,
80° Redwood,
95° Saybolt.

4. " Lubricating oils " are deemed to refer to oils of which the density is usually greater than 0.885, the flash-point (in a closed vessel) greater than 125° and with a viscosity at 20° exceeding :

2°,6 Engler,
80° Redwood,
95° Saybolt.

5. " Fuel oil " or " mazout " are deemed to refer to the residue from the distillation of mineral oils of a blackish colour, with a density commonly greater than 0.885, a flash-point (in a closed vessel) between 50° and 125°, with a viscosity at least equal to :

2°,6 Engler,
80° Redwood,
95° Saybolt,

and containing not less than 25 per cent of substances which can be eliminated by sulphuric acid at 66° Bé.

However, even in the form outlined above, it was impossible to introduce sub-item *(b)* into the draft, because, as regards mineral oils, many countries have adopted in their legislation, on fiscal, technical or other grounds, subdivisions or definitions which differ from each other no less than from the above proposals. Consequently, those countries would not have been able, on certain essential points, to adapt their legislation to the international Customs nomenclature.

It was accordingly decided to dispense with a subdivision and to leave the matter to the various countries. Countries desirous of subdividing this item are, however, recommended to adopt the above-mentioned tertiary items (1) to (5) and to base them on the foregoing definitions.

In accordance with the remarks on the previous item, the definition of Item 206 refers, not to the origin, but rather to the type of oils included. This point is of the utmost importance for the treatment of benzines or spirit. At the present time, this spirit is obtained by various methods :

(a) By the fractional distillation of petroleum. So-called petroleum benzine, known in America as " naphtha ", in England as " spirit " and in France as " *essence* ", is obtained by the fractional distillation of petroleum as the portion boiling at the lowest boiling-point and distilling at a temperature up to about 150 degrees.

(b) By condensation. By means of pressure or cooling or the simultaneous employment of these two processes, the natural gases usually mixed in enormous quantities with petroleum are deprived of the benzinic hydrocarbides which they contain and which can easily be distilled.

(c) By the re-distillation of the crude oils obtained from the distillation of lignite-tar.

(d) By the carbonisation of coal at a low temperature aliphatic benzines with a low boiling-point, but comparatively few aromatic hydrocarbides, are obtained. The quantity of benzinic hydrocarbides obtainable is approximately 1 per cent of the weight of the coal.

(e) By the process of hydrogenation known as " cracking ". This process consists in decomposing, under pressure, into lighter hydrocarbides (benzines) hydrocarbides boiling at a higher boiling point.

(f) By synthetic processes. There is a whole series of processes for the synthesis of benzines, either with or without pressure. By fixing hydrogen on petroleum, on tars or on their distillates, hydrocarbides of the benzine series, which are very similar to petroleum benzines, are obtained.

Notwithstanding the heterogeneous methods of their manufacture, the economic character of benzines and spirit is very similar. It is not possible, even by complicated chemical analysis, to distinguish between them in a reliable manner. In the draft subdivision recommended above, they are accordingly grouped together irrespective of their origin and method of manufacture.

Item 207.

Vaseline is obtained from the residue of the distillation of certain crude petroleums. It has a semi-solid consistency similar to that of butter and is used in perfumery for the production of pomades and in pharmacy for the production of ointments and medicaments for external use. It is included in this item whether in the crude or purified state, or even put up for retail sale. On the other hand, if medicinal or odoriferous substances have been added to it, it comes under Items 292 or 319.

Vaseline oil, which is a more or less thick mineral oil identical in character with paraffin oil, is classified among mineral oils under Item 206*(b)*.

Item 208.

Paraffin wax is a mixture of various hydrocarbides of the fatty series ; in the natural state it is found either in the form of solution in fairly large quantities in crude petroleum, or in the solid state in ozokerite. Paraffin is formed by the dry distillation of bituminous lignites and schists. According to the state in which it occurs, it is known as crude paraffin, which is not put on the market, semi-refined or refined paraffin, paraffin scales and, according to its consistency, as hard or soft paraffin. Paraffin is used in large quantities mixed with stearine for the manufacture of candles, as an insulating substance in the electrical industry, for the finishing of fabrics and for many other industrial purposes. In pharmacy, it is used for the preparation of ointments, emulsions, pomades, etc.

Item 209.

Mineral wax, known chiefly by the name of " ozokerite ", and lignite wax *(Montanwachs)*, which are natural bitumens, are grouped together, as they are used for practically the same purposes ; the only difference is that mineral wax cannot be saponified, whereas lignite wax is in the main saponifiable. Purified mineral wax (sub-item *(b)*) is often known as " ceresine ", but it should be noted that commercial ceresine often consists of a mixture of several substances.

Item 210.

Resins and pitch are the last residues from the distillation of crude petroleum and of lignite, peat, schist and coal-tars ; they are black or brown in colour and either soft, resembling wax or butter, or brittle in consistency. The characteristics of pitch and resins would permit of a distinction being made between petroleum pitch (sometimes known as " petroleum asphalt ") on the one hand, and coal resin on the other hand, and also between pitch derived from lignite, schist and peat-tar. There is no advantage, however, in making such a distinction.

The distinction between tars (204), on the one hand, and resins and pitch (210), on the other, can be made in such a way as to fix the lowest melting point at 50° C., resins and pitch melting at 50° C. or over.

Item 211.

Asphalts, which are chiefly used for road-making, are often placed on the market as mixtures of asphalt with asphaltic rocks or as mixtures of asphalt with pitch, tar, with or without the addition of sand and similar substances (asphalt cement, etc.), or, further, as emulsions. In view of the fact that in many countries it is unnecessary to distinguish between these different kinds, they have been grouped together in a single basic item.

It is understood that these mixtures may be moulded into different shapes (cakes, blocks, etc.), which differ from wares of asphalt (bricks, slabs, etc.) coming under Item 638 in that they are intended to be re-moulded.

Section VI.[1]

CHEMICAL AND PHARMACEUTICAL PRODUCTS ; COLOURS AND VARNISHES ; PERFUMERY ; SOAP, CANDLES AND THE LIKE ; GLUES AND GELATINES ; EXPLOSIVES ; FERTILISERS.

Chapter 28.

CHEMICAL AND PHARMACEUTICAL PRODUCTS.

Chapter 28 comprises " chemical and pharmaceutical products ".

In view of the comparatively large number of products which come within Chapter 28, it appeared indispensable, for the sake of clarity, to divide them up into groups of related products.

The framing of the subdivision on chemical products was based to a certain extent on the fact that a large number of substances playing an important part in international commerce are derived from carbon, and are classed as " organic " compounds, a description based on the old idea that these substances generally evolve in the course of vegetable and animal life. Chemical compounds which do not fulfil this condition are classed as inorganic chemical products. Reference to the tariffs at present in force in several countries shows that, in general, this classification has been retained, although there are numerous exceptions to this method of grouping. Thus in the Italian and Swiss Customs tariffs, organic and inorganic chemical products are expressly separated by means of special headings. In the Belgian, Czechoslovak, French and Hungarian Customs tariffs, on the other hand, there are no special headings, but with certain exceptions chemical products are, in fact, separated into the two groups mentioned above.

When chemical products were being classified in the draft international Customs nomenclature framework, it was deemed advisable on the whole to recommend that this general division should be broadly maintained. It was, nevertheless, recognised that certain exceptions would have to be admitted. Detailed explanations will be given on examination of the items where it has been necessary to depart from this classification.

The inorganic chemical products are, therefore, classified first, in accordance with the majority of the existing tariffs which have been framed on systematic lines.

The simplest chemical substances are the fundamental matters or *elements*, and, accordingly, these are enumerated at the beginning of the chapter on " chemical products " (" Chemical elements ", Items 212 to 216).

A number of elements are gaseous at normal temperatures and are, therefore, reduced in volume for commercial purposes by compression, liquefaction and, of late, even by solidification. The same is true of a number of chemical compounds consisting of several elements. In view of the condition in which these products are marketed, special measures are required for their transport, whereby the above-mentioned elements and compounds have a characteristic in common. For this reason, it is recommended that a special group should be created covering all the gaseous compounds and elements in question (" Compressed, liquefied or solidified gases ", Item 217).

Among compounds formed by the combination of two elements, oxygenated or oxidised compounds must be given a specially important place. In chemical combination with water, they are capable of forming products in the shape of acids or bases which, in reacting upon one another, produce the large group of salts.

[1] For the establishment of the nomenclature of Section VI as well as for the preparation of the commentary thereon, the Sub-Committee of Experts availed itself of the valuable collaboration of two distinguished chemists, M. Fleurent, Professor at the *Conservatoire des Arts et Métiers*, Paris, and Dr. Mulert, *Ministerialrat im Reichwirtschaftsministerium*, Berlin.

When the draft international Customs nomenclature was being framed, the principle of proceeding from the simple to the compound was adopted. It therefore classified in special groups the components of salts—that is, in the first place, acids, and, in the second place, oxides and hydroxides (" Inorganic and aliphatic organic acids ", Items 218 to 223, and "Inorganic oxides and hydrates (hydroxides) ", Items 224 to 232). To these groups were then added the group of products formed by the reaction of acids and bases—that is, salts (" Salts of inorganic acids and of aliphatic organic acids with inorganic bases ", Items 233 to 262).

At the end of the part on inorganic substances, a group of products has been classified which, on account of their structure and the nature of their reactions, cannot logically be grouped with elements, condensed gases, acids, oxides, hydroxides or hydrates and salts (" Other inorganic compounds not elsewhere specified or included ; carbides and carbon sulphide ", Items 263 to 267).

Organic compounds are classified immediately after inorganic compounds.

So numerous are organic compounds that it was deemed necessary to subdivide the division relating to them on the basis of chemical structure.

From the economic point of view, a great number of these compounds are characterised by the fact that they constitute the principal element in the manufacture of other important products of the chemical industry, such as colours derived from coal tar, pharmaceutical products, perfumery and explosives. In view of the importance of their economic position, it is advisable to group them together. From the point of view of chemical structure, they are characterised by the fact that the vast majority of them are derived from benzol and, therefore, contain the benzene ring.

It is for this reason that, in the division on organic chemical products, those which contain a benzene nucleus in their structural formula are grouped together.

The other and equally important class of organic products is characterised by the fact that the constituent formulæ take the form, not of a ring, but of a so-called " aliphatic " open chain.

As the economic importance of these various products is much the same, and in view of their interdependence, they are grouped in a special division.

The two groups mentioned above do not include ethers and esters in the pure state, the latter having been placed in a special common item inserted between those concerning aliphatic products and aromatic products respectively. Though the products in question are quite numerous, they have not been classified in accordance with their chemical structure, as this method would involve the Customs authorities in analytical work which seems to be uncalled for by the present economic importance of these products.

In addition to chemical products with an open chain structural formula, such as those enumerated in Items 268 to 272, those with a benzene nucleus structural formula (Item 274) and those included in Item 273 (ethers and esters), the chemical composition of which has certain analogies with the fatty series or the aromatic series, there are others with a structural formula based on a special nucleus. In the case of the latter, the carbon atoms in closed chain exchange valences with the atoms of sulphur, oxygen and nitrogen, etc.

Such compounds are known under the generic name of heterocyclic organic compounds. They are few in number and less important than those mentioned above, for which reasons they have not been allotted a special item.

They are included in the same item as aromatic organic products, and this classification is justified by the presence of a closed chain in the structural formulæ of the products of both series.

The products and preparations which remain after the formation of the above-mentioned three groups, and which cannot be classed in them, have been brought together in a collective group (" Other chemical products and preparations ", Items 275 to 287).

Then comes the last group of Chapter 28, "Pharmaceutical products" (Items 288 to 292).

* * *

The classification of each of the compounds within the groups based on the above considerations admits of two possible methods :

The first would be to form the elements into two main divisions, based on the fact that a number of them have the characteristic property of forming acids and are termed " metalloids ", whereas the principal property of the other elements—the " metals "—is to form bases. The properties common to metalloids, on the one hand, and to metals, on the other, also frequently correspond to a similar economic importance which may, according to circumstances, make a similar grouping advisable in the Customs tariff as well.

The second method would be, leaving aside precise conceptions, to seek other criteria for the classification of chemical products, and then it might be just as logical to take as basis the series of chemical elements according to the gradation of their atomic weights, the weight being a specific datum in each case.

This method of classification is the basis of the celebrated " periodical system of the elements " formulated by the Russian savant Mendeleeff and the German savant Lothar Meyer.

In this system, the elements may be conceived as being arranged in the individual sections of a table, and they may then be arranged either in horizontal series, with a constant increase

of the atomic weight, or in vertical series corresponding to the analogies of their respective chemical characters. Whatever classification be chosen, there is no doubt in each case as to the place which any given element must occupy in the system, more particularly since no corrections of atomic weights need be feared in the future. A grouping similar to the vertical series is also arrived at if the system of qualitative analysis commonly used in chemistry is adopted. This system is based on the principle that, in order to simplify the determination of the more or less numerous individual elements contained in the substance to be analysed, some of them are eliminated at the outset by the addition of a specific common reagent. Once these elements have been removed, another reagent also specified is added to the solution ; this reagent, in its turn, separates out from those that remain a number of other elements, and so on, the successive processes of elimination leading finally to the isolation of each of the constituent elements of the substance.

In this way, there is obtained a number of groups of elements or compounds having very similar properties and, in consequence, frequently employed for similar purposes. For example, the metals belonging to a given group may sometimes be replaced by others belonging to the same group.

Corresponding analogies are often found in the economic situation of such products, and in most cases these economic analogies constitute the basis of the treatment applied to them in the Customs tariff. For this reason the grouping resulting from the application of the qualitative analysis may also prove particularly suitable for classification for Customs tariff purposes.

The above observations raise a number of considerations, each of which might be taken into account for the purpose of a logical classification of chemical elements. If, however, either of the principles of classification just described is systematically followed, the resultant grouping will be too rigid to be sufficiently adaptable to the variety of conditions that exist in actual practice.

This observation applies equally to the classification of chemical *compounds* consisting of two or more elements. Here, too, a purely systematic procedure might be adopted—*e.g.*, the principle of the " first or last position "—by classing the compounds in question, either according that one of the component elements having the lowest or the highest atomic weight or according to the group of compounds formed by the element in question, the same principle being applied. If, however, such principles of classification are over-rigidly applied, it will mean disregarding economic and other considerations which must be taken into account when products are classified in a Customs tariff.

It is thus clearly preferable, in each case, to choose from among the various possibilities of classification the one which is best adapted to the particular characteristics of the case in question.

This method will, of course, not preclude certain exceptions justified by practical requirements and by the fact that the international Customs nomenclature must be not a purely scientific structure but an instrument designed to facilitate international commercial relations.

* * *

The various methods of classifying chemical products having thus been discussed, it is necessary to indicate the reasons for the subdivisions adopted.

Existing tariffs differ widely as regards the principles on which chemical products are subdivided.

The current French Customs tariff, the items of which amount to nearly 400, is the most completely subdivided, whereas the German Customs tariff contains barely 80 items for chemical products.

The subdivisions required frequently depend on the degree of development of the industry in question, and consequently on the assumed need for protection which it claims. The international nomenclature must take this consideration in to account and also all the varying needs of the different countries for these subdivisions. For countries having a highly developed chemical industry and claiming Customs protection, an international framework similar to the German tariff for products of the chemical industry would be far too little specialised. On the other hand, countries which have either no chemical industry or only a very small one, or which, though they have a large industry, do not claim protection, do not need to cumber their Customs machinery with requirements similar to those of the French tariff.

In order to reconcile these divergent interests, it was thought best to adopt the following procedure : The principal items regarded as obligatory for all countries mention by name the products which are of positive economic importance for all. Products which are of importance, not for all countries, but only for the majority, are mentioned by name in second or in third items. All other products which are of economic importance for certain countries only are grouped in collective sub-items, which may, if necessary, be further subdivided in their turn.

Notwithstanding the elasticity thus provided, it is essential that the principal items should cover the same range in all tariffs.

An individual country might think it a needless complication to observe this fundamental principle if for the sake of simplifying its own Customs procedure it preferred to group in one main item all products not specified by name. The strict application of the principle, however, is essential if the object in view in establishing an international nomenclature is to be attained

—namely, to eliminate any possibility of different tariff classification and to enable genuine comparisons to be made between the various Customs rates and statistics.

* * *

In accordance with the above observations, 81 basic items have first been provided, and these are subdivided into nine groups provided with " subheadings ".

Chemical Elements.

For the classification of chemical elements, it seemed desirable to take up in the first instance the metalloids which are of importance in international commerce, to place them in the order of their respective atomic weights and then to bring into conjunction with them metals which come within the sphere of the chemical industry in the strict sense of the term and which—either in the form of the actual metal or of its derivatives—are dealt in to a large extent.

Item 212.

The first item consists of *phosphorus*. This term covers any quality whatever, whether white or yellow phosphorus or red phosphorus, which takes first place as a commercial commodity. Phosphorus is used mainly for the manufacture of compounds and mixtures, in which it plays an important part, and for pyrotechnical purposes.

Item 213.

The second item comprises the halogens *bromine* and *iodine*. The third halogen, *chlorine*, is gaseous at ordinary temperature and must consequently be placed in the special item for compressed gases, etc. (Item 217).

Bromine is found in the form of compounds, mainly in deposits of potassium salts and rock-salt. It occurs only to a negligible extent as an element unassociated with other salts. Sea-water contains a great deal of bromine, but its extraction is difficult on account of the extent to which its saline compounds are diluted.

The economic importance of bromine is due to its use as the raw material for the manufacture of bromine salts and the preparation of organic bromine compounds, which are of importance, not only in themselves, but also as intermediary products in the formation of synthetic organic substances. Bromine is also employed in the manufacture of certain coal-tar dyes.

Iodine occurs in marketable quantities only in Chile saltpetre. Compared with this source of production, its production from kelp, from ashes of marine plants and from the salts of certain mineralised waters is practically negligible.

Iodine is mainly used in medicine, either in the pure state or in the form of salts.

The economic importance of bromine and iodine is practically the same in the majority of countries ; in a few, however, it is very different. For these reasons it was proposed that a special item should be made for each of the two products. But such a course was not considered necessary for an international nomenclature, and consequently the countries in question may subdivide the item in this way, if they wish to do so.

* * *

It was not considered necessary to set up a special item for other metalloids—such as selenium and boron, for example.

Item 214.

As regards the classification of *metals* in the group of chemical elements, the draft Customs nomenclature contains a special section (XV) for base metals and articles made therefrom, and Chapter 70 also mentions a few, each of the others being placed in a collective item.

In order to decide whether an element should be classified as a metal in the strict sense of the term or as coming under chemical products, various considerations may be taken into account. For example, the decision may be based on whether the metal in question is produced or used mainly in the chemical or in the metallurgical industry ; or, again, the question may be settled by determining whether the products in question are suitable for use in the manufacture of metal derivatives.

These various considerations are open to the objection that the factors concerned are largely subjective, and this objection has particular weight, since the various branches of industry overlap and there are consequently no sharp lines of demarcation between them. On the other hand, there is one great and indisputable advantage—namely, the possibility of taking into account in the arrangement of the Customs tariff the progress made by the various industries. If, for example, a metal is classed among the chemical elements, but, as the result

of an improved method of manufacture, is produced so cheaply that it can be used for the manufacture of metal articles, it may then, according to the above-mentioned principle of classification, be placed in Section XV, and *vice versa*.

In any case, it is not possible to find better characteristics for purposes of differentiation, and, accordingly, as the situation stood, the elements of a metallic character which are treated as chemical products in the majority of Customs tariffs at present in force were placed in the chemical products chapter.

Item 214 is to comprise *alkaline and alkaline-earthy metals.* They include lithium, sodium, potassium, calcium, strontium and barium. Of all these products, sodium takes first place on account of the economic importance either of the metal itself or of its compounds. Compared with sodium, the economic importance of the other metals mentioned is really remote.

Magnesium and beryllium also are sometimes classed among alkaline-earthy metals.

Magnesium, however, must rather be placed in the chapter on metals, because it is used less as a chemical substance than as a raw material in the metallurgical industry ; the same applies to its alloys.

In view of the importance of magnesium, it has been given a special sub-item in Chapter 70.

Beryllium is as yet of little importance ; probably, however, it will acquire increasing importance in the future as a substitute for aluminium, and for that reason it may quite justifiably be placed in the chapter on metals.

Item 215.

The next item comprises *mercury*, which is classified differently in the various *tariffs* at present in force.

Thus, in the Belgian, Czechoslovak, Hungarian and German Customs tariffs, it is classed among chemical products, whereas in the French, Italian and Swiss tariffs it is classed among metals. It may rightly be argued, however, that, mercury being in liquid form—a circumstance that differentiates it from other metals—and being extensively used in the chemical industry, it may logically be classed in the chemistry section.

Item 216.

The collective item, as already explained, does not for the moment include any metal, or any metalloids except boron and selenium. Boron is used principally for the manufacture of metal alloys, while selenium is used, not only for the long-distance transmission of photographs, but also for the colouring of glass.

Sulphur, which is a metalloid of considerable importance, was placed in the chapter on " Earths and Stones " because it occurs in the form of ore and is extracted from the soil by simple mining methods (Item 179).

In order to facilitate, as far as possible, reference to the tariff, even refined or sublimated sulphur is placed under the same item.

Compressed, Liquefied or Solidified Gases.

Item 217.

This term comprises chemical elements or compounds which are in gaseous form at a temperature of 20° C., and at atmospheric pressure, and which have to be specially treated to befit them for commercial purposes. This treatment consists of strong compression, which, according to the nature of each of the gases, may be such as to give them the form of liquids or even of solid aggregations. Solutions of some of these gases under pressure in certain liquids are also marketed in hermetically sealed metal containers. In order to maintain gases in this condition, it is necessary to prevent any contact with the outer air. This is effected by means of steel containers, being the method of transport commonly used in commerce for products coming under this item. The so-called " noble " gases—argon, neon, etc.—which, by fractional distillation, are extracted from liquefied atmospheric air, are alone distinguished from other gases by the fact that they are marketed in much smaller quantities and in differently constructed containers.

As regards the subdivision of Item 217, the following considerations must be taken into account :

(a) and *(b)* In the first place, those elements should be grouped together which resist liquefaction so strongly that they cannot be marketed otherwise than in a compressed state. These are hydrogen, nitrogen and oxygen. The simple body next to come under a separate designation is chlorine, which is marketed in liquefied form.

The other gases—*(c)* to *(g)*—which are of importance for commercial purposes are those compounded of two elements.

If the principle adopted for classification is to take the atomic weight of the element forming the base of the compound, carbon compounds should come first, and more particularly the hydrocarbon compound " acetylene " *(c)*.

Acetylene is highly dangerous to market in compressed form. Accordingly, it is as a rule dissolved in acetone in holders containing a porous mass.

This, however, is not a normal solution—like ammonia water, for example—but a solution under pressure, and for that reason it is classified under this item when put up in this form for commercial purposes.

(d) Carbon dioxide, commercially known as " carbonic acid ", comes next as another compound having a carbon base which is an important item in the category of compressed gases.

(e) Next comes, according to the series based on atomic weight, the nitrogen compound known as ammonia.

(f) A special sub-item must also be provided for the most important liquefied gas having a sulphur basis—sulphur dioxide, commercially known as " sulphurous acid ".

(g) This sub-item comprises methyl chloride, ethyl chloride and methyl bromide.

It should be noted that these three products are *esters* of inorganic acids and of aliphatic alcohols, which come under Item 273.

They may also be regarded, however, as chlorine and bromine derivatives of aliphatic hydrocarbons—namely, methane and ethane ; products of this kind come under Item 268.

These three bodies, however, are classed under Item 217 because their physical characteristics are identical with those of the other bodies coming under that item—namely, they are gaseous at a temperature of 20° C. at atmospheric pressure and are marketed only in sealed metal containers.

(h) This collective sub-item is intended primarily to cover rare gases, while the other condensed gases might include compressed and liquefied air, illuminating gas, nitrogen dioxide and phosgene (oxychloride of carbon), which may also prove to be of no negligible importance.

Inorganic and Aliphatic Organic Acids.

The combination of certain elements, particularly metalloids, with oxygen, produces acid anhydrides, which may react upon water thus forming acids.

Certain elements, particularly the halogens, combine directly with hydrogen and form acids free from oxygen.

On the other hand, the oxides of other elements, particularly metallic oxides, form bases by reacting upon water.

It should be observed in the first place that the aliphatic organic acids are classified with the inorganic acids, notwithstanding the division of products into inorganic and organic which was adopted as the general basis of classification in Chapter 28. The reason for this departure from the system adopted lies in the close technical-industrial connection existing in the manufacture of these acids.

Items 218 to 220.

The three most important inorganic acids—nitric, sulphuric and hydrochloric or muriatic —are given a basic item.

It was agreed that sulpho-nitric acid may be included in the item for nitric acid. Sulphuric acid (Item 219) covers fuming sulphuric acid, which is also marketed under the name " Oleum " and consists of a solution of sulphuric acid and sulphuric anhydride. The same applies to sulphuric anhydride itself.

Item 221.

All the other inorganic acids are placed as a collective group in this basic item :

(a) One subdivision comprises primarily boric acid, followed by its anhydride (boron trioxide).

Boric acid is not only chemically obtained by the decomposition of boron ores, but also occurs in a natural state, more particularly in Italy, either in crystalline form or dissolved in hot springs, or involved in vapour exhaled from the earth. It is obvious that natural boric acid must also be included in this item.

(b) To proceed according to the series of atomic weights of the elements forming the basis of acids, the next sub-item will be hydrofluoric acid, a compound which is of some importance in commerce.

(c) The sub-item which follows immediately after is reserved for phosphoric acid and its anhydride (phosphorus pentoxide). The same item also includes the compounds which can be obtained, besides ordinary phosphoric acid (orthophosphoric acid), by the action of heat—namely, pyrophosphoric acid and metaphosphoric acid.

(d) The final collective sub-item may then cover—as inorganic acids—those which are of importance in commerce ; for example : hydrocyanic acid in a water solution ; hydrofluosilicic acid ; sulphurous acid in a water solution ; arsenic acid ; stannic acid, and others.

Item 222.

It was recognised that acetic acid is a particularly important organic acid and therefore requires a main item to itself. Acetic acid (Item 222), of course, includes pyrolignous acid and synthetic acetic acid.

The differentiation of this item from that comprising alimentary vinegar—Item 167 (Chapter 22)—is based on the content of acetic acid, the content limit being 10 per cent. Further, acetic anhydride comes in the same item as acetic acid.

It should, however, be observed that derivatives used as substitutes for acetic acid will not be included in this item (see Item 223).

Item 223.

All the other aliphatic organic acids are grouped together in a common basic item.

In order to enable a further subdivision to be made, sub-items have been provided.

(a) The simplest acid as regards structure is formic acid, which comes first in the series of sub-items.

(b) It is closely followed by the simplest dibasic acid—namely, oxalic acid.

This arrangement is also warranted on account of the close connection between the processes of manufacture of the two acids.

(c) Next comes tartaric acid—an important organic acid—which, besides the technical use to which it is put, is also employed in the food industry.

(d) This property of being put to the same two-fold use also belongs to citric acid.

(e) A special sub-item comprises lactic acid, important for its technical uses, which have become more numerous since the development of its manufacture by fermentation.

(f) The final collective sub-item covers certain other organic acids which are of much less economic importance, though they may sometimes be required for commercial purposes.

Among these mention may be made of butyric acid, valerianic acid, and also of substitutes for acetic acid (monochloracetic acid, etc.).

Inorganic Oxides and Hydrates (Hydroxides).

Item 224.

First comes sodium hydrate.

For commercial purposes, this product is mainly employed in its solid form, known as " solid caustic soda ".

As compared with this commercial form, sodium hydroxide in solution or " soda lye ", commonly known as " liquid caustic soda ", takes second place. As, however, this liquid caustic soda may become of increased importance—for example, in frontier trade—it should be noted that sodium hydroxide in solution will also be placed in this item.

Besides pure soda lyes, there are also impure lyes containing soda, the latter being residues from the manufacture of paper pulp, artificial silk, etc.

In view of the small importance of alkaline oxides in commerce, it did not seem necessary to mention them specifically in the text of the item. If, however, it should eventually prove necessary to mention them specifically for Customs tariff purposes, it is agreed that they too will belong to this item.

Item 225.

The observations regarding Item 224 apply similarly to potassium hydroxide (caustic potash).

Item 226.

Item 226 comprises all kinds of solutions of ammonia in water.

The following are met with in trade : ammoniacal liquors as produced from the purification of gas and from coke-making, having a degree of concentration of about 2 per cent or even, after a certain degree of concentration, as much as 12 per cent ; further ammoniacal solutions, the ammonia of which is obtained by synthetic means based on the fixing of atmospheric nitrogen at a degree of concentration of about 20 per cent ; lastly, the solutions known as " volatile alkali ", which in commerce usually have a concentration of about 25 per cent of ammonia, but which, particularly when they are chemically pure, may have a higher degree of concentration.

Liquid anhydrous ammonia, being a liquefied gas, comes under Item 217*(e)*.

Item 227.

Magnesium forms only one oxide which is of commercial importance. It is obtained by calcining natural magnesia or artificially produced magnesium carbonate.

Magnesium oxide is used in the manufacture of fire-proof materials, of agglomerates, or for " xylolith " flooring, in the rubber and cable industry, in the manufacture of colours and

varnishes, for enamelling and for medical purposes. Magnesium oxide obtained by calcining natural magnesia (magnesite), which is an oxide of impure magnesium, comes under Item 188.

Magnesium hydroxide is of much less importance than magnesium oxide. For the sake of completeness, however, it seemed desirable to also specify it in the item.

Item 228.

Of the compounds of barium and oxygen, the most important for technical purposes is barium hydroxide.

Item 229.

Aluminium oxide—also called alumina—is known in commerce in two different forms :

(a) The so-called calcined kind, which is of technical importance mainly through its use in the manufacture of aluminium. This kind differs from calcined bauxite, which should be classified in Chapter 26 as aluminium ore on account of its much greater purity.

(b) Melted aluminium oxide is employed mainly under the name of *artificial corundum* as an abrasive, either in powder form or agglomerated in the form of millstones, grindstones, files, or otherwise, or applied as a coating upon a suitable ground.

Apart from this use, it is employed to an increasing extent in the fireproof material industry, in building and in the electrical industry.

In view of the circumstances just referred to in paragraph *(b)*, it is recommended that melted alumina should be classed, not according to one of its uses, among substances employed as abrasives, but in the neutral chapter of chemical products.

Two sub-items indicate these two kinds of aluminium oxide, which are of very different economic importance. Further, the text of sub-item *(a)* : " Melted alumina " has been completed by the addition of the commercial term for this product (" artificial corundum ").

Melted alumina occurs in commerce under the most varied commercial terms, such as " abrasite ", " alundum ", " electrite ", " dynamidon ", " electrorubin " and " aloxite ", to mention only a few.

Aluminium hydroxide plays an important technical part as a raw material for the oxide and other compounds of aluminium, among which mention should be made of sodium aluminate.

Item 230.

Lead forms various oxides according to the degree of oxidation.

Among lead oxides, the compound which has the formula Pb_3O_4 (minium) is used as a pigment, and for that reason will be specifically mentioned among mineral colours with the other colours having a lead base (Item 306*(f)*).

The compound having the formula PbO, which comes under Item 230, occurs in commerce under the name " litharge ", also called " massicot ".

There are two different methods of manufacturing litharge :

(a) Litharge in the form of flakes, lamels or grains is a residuary product of certain metallurgical works. It is formed when silver is separated from argentiferous lead by cupellation. The amount of litharge produced in this form is relatively very small. It is used almost exclusively in the ceramic industry.

(b) On the other hand, by far the greatest proportion of litharge produced is that commonly known as litharge powder, obtained at litharge and minium works by melting lead by a special process. It is used in the accumulator industry for filling the plate frames ; in the ceramic industry, for enamels having a lead base ; in the rubber industry, for accelerating vulcanisation ; in the colour industry, as a raw material for chrome yellow, chrome green, chrome orange, Naples yellow and white lead ; in the chemical industry, as a raw material for the production of lead acetate ; in the varnish and lacquer industry, for the manufacture of siccatives and varnishes.

As the use of litharge is not confined to the preparation of colours, it seems quite justifiable to class it in the chapter on chemical products.

Two sub-items have been set up to make allowance for the different economic situation of the two kinds of litharge.

Moreover, these two kinds are in any case differentiated by their external appearance, since litharge in flakes or lamels forms rhombic crystals, whereas litharge powder takes the form of pulverulent material which appears amorphous, but which, when seen through the microscope, is found to consist of small crystals.

Item 231.

Oxides of tin will be brought under this item, since they are produced artificially.

They are used as polishing materials, but mainly in the glass and ceramic industries for the preparation of enamels and for enamelling.

It should be remembered that the hydrates of tin oxides—in the form of stannic acid and metastannic acid—must be placed in the collective item for inorganic acids not specially mentioned (Item 221).

Item 232.

All the other oxides and hydroxides are brought under the item 232, which is a collective one.

In commerce it is customary, though incorrect, to term acids certain anhydrides which, when considered from a chemical point of view, are simply oxides.

If the products in question are not specified by name, there might, when the tariff is used, be some doubt whether they should be looked for under the collective item for unspecified acids or in the item for unspecified oxides.

For the sake of the clearness which is the aim of the international classification, products which might give rise to such doubts must be specifically mentioned.

It had therefore to be decided whether they should be classified among acids or among oxides.

It may be argued in favour of classification with the acids that such products are anhydrides, and that certain similar products are already classified among the acids ; moreover, a person using the Customs tariff will look under acids for products which he himself describes as such, and which come under that item in a number of tariffs (for example, " arsenious acid " in Item 01 of the French Customs tariff).

Despite these considerations, it was decided that the products in question must be classed among oxides, and this because the conclusive argument was that anything arbitrary must be avoided as far as possible in drawing up a nomenclature. Thus, since these products are regarded from the chemical point of view as oxides, they really belong to the collective item reserved for unspecified oxides.

In order that the existing discrepancy between commercial usage and Customs classification may, to a certain extent, be remedied, the commercial terms have been placed between brackets beside the names of the products.

(a) The first of these products is silicon dioxide, known in commerce as silicic acid or silica.

Special importance is attached to the colloidal variety of this product, which is known in commerce as " silicagel " or " *gel de silice* ", and is extensively used as a decolourising agent and for absorbing vaporised solvents.

(b) An important compound of arsenic and oxygen is arsenic trioxide, known in commerce as arsenious acid, which plays an important part in the preparation of arsenic compounds, in the taxidermy of animals and in particular in the preparation of insecticide products, etc.

Compared with the trioxide, the product of the further oxidation of arsenic—arsenic pentoxide—which is the anhydride of arsenic acid, is of very little importance and may be included under the final collective sub-item.

(c) The next sub-item comprises the oxides of vanadium, molybdenum and tungsten, which are known in commerce as vanadic, molybdic and tungstic acids respectively. These oxides are put to the most varied technical uses.

(d) Of the oxides of chromium, the next sub-item specifies chromium trioxide or chromic acid, which is employed for electro-technical purposes, for the preparation of rust-proof substances, and for a number of other purposes.

Among the other oxides of chromium, mention must be made of chromium sesquioxide (chrome green), which is an important pigment and is also used in the preparation of metallic chromium and for other purposes.

Chromium hydroxide is the raw material for an important mineral colour which, both by itself and combined with other products, occurs in commerce in the most varied forms.

In view of the fact that chromium oxides—except the trioxide known by the trade name of chromic acid—are used mainly as colouring materials, it was decided to exclude them, and also chromium hydroxide, from the present item and to classify them in Item 306*(l)* : " Chrome Colours " (Chapter 30).

The sub-item next contains the oxides of manganese, except manganese dioxide, which is mentioned in Item 263*(c)*.

As regards these products, the position is the same as in the case of the chromium compounds already mentioned, since compounds of manganese and oxygen may also be used as colouring materials.

As, however, they are used in part as ceramic colouring materials, and as these compounds are placed under Item 307 (Chapter 30) only on account of the presence of fluxes, and since, moreover, they are also used for various other purposes—*e.g.*, the preparation of siccatives and also for the requirements of analysis—it was decided to place these products in the present item among the other oxides.

(e) This sub-item covers the oxides of mercury, which are of a marked importance in trade on account of the various uses to which they are put : in pharmacy, in the preparation of other mercury compounds, in porcelain painting, and, more particularly, in the technique of anticryptogamic colours, in the preparation of rot-proof, sea-water paint, and in stopping ships' timbers.

(f) Among the other unspecified oxides, there exist as being of importance from the technical point of view the oxides of rare earths—*i.e.*, the oxygen compounds of a specific group of metals—which are excluded from this item and belong to Item 262 : " Salts and other combinations of rare earths."

However, strontium oxide and hydroxide, which are used in the extraction of sugar from molasses, are included under this item.

Bismuth oxide is used principally in the manufacture of glass and for the preparation of enamels and ceramic colours. Bismuth hydroxide is used to obtain bismuth salts and other preparations.

Antimony oxide is used as a raw material for preparations having an antimony base, such as emetic, and also, though only to a small extent, as a substitute for white lead.

The oxides of cobalt, nickel and copper are widely used as ceramic colours and for the manufacture of ceramic products.

The above-mentioned oxides, in the pure state or mixed, which may be used as raw materials for ceramic colours, will nevertheless be placed under Item 232*(f)*, and will be regarded as chemical products *when they are not combined with a flux.*

On the other hand, the presence of a flux in any one of these metallic oxides or mixtures thereof will show that they are intended for use solely in the ceramic industry. Consequently, such products, being " ceramic colours " (vitrifiable compounds), will be placed in Item 307*(b)* (Chapter 30).

Salts of Inorganic Acids and of Aliphatic Organic Acids with Inorganic Bases.

The next group comprises the products known as " salts " which are formed when the oxides or hydroxides specified in the previous two groups (when they constitute bases) combine with oxides or hydroxides constituting acids.

Salts may also be produced by the reaction of an organic base on an inorganic acid. As, in virtue of the general system of division adopted, they must be classed with organic products, they will be excluded from the inorganic salts group, in accordance with the corresponding formula given in the title above.

In view of the actual manner in which salts are produced (the process mentioned above), they all possess the property of combining in themselves two constituent elements—*i.e.*, the base, also called the " cation " on account of the direction in which it travels in the process of electrolysis, and the acid, known as the " anion " for the same reason.

For example, the potassium salt of nitric acid—potassium nitrate—is produced by the reaction of potassium hydroxide (KOH) on nitric acid (HNO_3), water (H_2O) being simultaneously released.

In the same way, potassium hydroxide can combine, in theory at least, not only with nitric acid, but also with any other acid ; and, generally speaking, the same is true of other bases, and *vice versa*.

It will be seen from this observation that, in order to establish a classification comprising all salts, the starting-point chosen may be either the base—*i.e.*, the cation (this classification to include all salts formed, for example, by potassium hydroxide, then those formed by sodium hydroxide, and so on)—or the acid or anion, in which case all salts formed by sulphuric acid would be placed in one group, those formed by hydrochloric acid in another group, and so on.

In establishing the nomenclature, it is therefore necessary to decide whether salts are to be classified according to the base or cation or according to the acid or anion, by examining which of the two constituent elements is the determining factor from the economic point of view and therefore from the point of view of Customs policy.

If the question is examined more closely in this way it will be found that the position differs according to the various salts. For example, in the case of sodium nitrate, the constituent element which forms the predominant factor from an economic point of view is, beyond all doubt, the acid ; whereas, in the case of another salt of nitric acid—*i.e.*, nitrate of silver—it is the base—*i.e.*, the precious metal—which, from the economic point of view, forms the decisive factor.

Yet if it is attempted to classify in a Customs tariff all salts which are of commercial importance by taking as a basis the constituent element which forms the decisive factor from the economic point of view, the result will be a classification without any rule, and one which will therefore be extremely difficult to use.

For that reason it is better to choose the following method of classification, whereby the majority of products may be grouped together in a convenient way and in accordance with the object in view.

In most cases it is the acid or anion which forms the decisive economic factor.

Consequently, it was decided to base the classification of salts, *in principle, on the acid or anion.*

It was then considered whether and how far cases of inconsistency with the practical requirements, necessarily entailed by this method of classification, could be eliminated by classing together a few groups of salts according to the basic constituent element.

The technical obstacle to classification is here the possibility that certain items may overlap as a result of the simultaneous use of the two principles. These difficulties may be avoided if the collective items for anions cover the products in question only in so far as they are not specified or included elsewhere.

If a compound which, in itself, would come under a collective item based on a cation is specifically mentioned elsewhere, it is on that account excluded from the collective item ; on the other hand, if it is merely covered by another collective item, that fact in itself will not debar the product in question from classification under the collective items based on the cations. "

Nevertheless, where products are grouped under special items (as, for example, in Item 292 or 297) on account of their method of packing, more particularly for retail sale, it is recommended that they should be left in such items, even if they are not specifically mentioned therein.

These principles are set forth in the observations to Items 260 and 262.

A comparison of Customs tariffs at present in force shows that, in point of fact, a number of tariffs already provide collective items for anions as well as for cations.

For example :

Collective items for anions		Collective items for cations	
(a) *France :*			
Item 047.	Perchlorates.	Item 094.	Silver salts.
Item 050.	Hypochlorites.	Item 095.	Gold and platinum salts.
Item 052.	Fluorides.	Item 0104.	Bismuth salts.
		Item 0146.	Mercury salts.
(b) *Belgium :*			
Item 315.	Chlorides.	Item 341.	Silver salts.
Item 316.	Chlorates.	Item 342.	Cobalt salts.
Item 321.	Sulphates.	Item 344.	Lead salts.
(c) *Italy :*			
Item 686.	Chlorides.	Item 711 *(b)*.	Silver salts.
Item 689.	Nitrates.	Item 711 *(c)*.	Bismuth salts.
Item 692.	Sulphates.	Item 711 *(e)*.	Mercury salts.

It is evident that, with such items arranged by a method which constitutes a departure from the principle already defined, a tariff loses much of its clarity, and in consequence becomes more difficult to apply. In order, therefore, to eliminate these imperfections from the international Customs nomenclature, it is necessary to confine oneself to salts the classification of which by cations most removes cases of inconsistency with practical requirements, which would arise if a general system were rigidly applied.

With this object in view, it was proposed, on the one hand, to group together salts of precious metals, of rare earths metals, of mercury and of bismuth, pointing out at the same time that these metals differ considerably from the rest through their value, and that such a relatively high value is, from the economic point of view, a decisive factor, not only as regards inorganic compounds, but also as regards the organic compounds which are of commercial importance.

Besides the compounds of the metals already named, it was also suggested that derivatives of chromium and manganese should be grouped in items which would comprise all compounds of those elements, no matter whether the metal acts as a cation or is a component of the anion. It was argued in favour of the proposal that these compounds of chromium and manganese can pass from one category to the other with extraordinary facility and that their economic value is actually based in part on this capacity, and that therefore it seemed hardly possible to safeguard economic interests unless all these compounds were grouped in one and the same item.

Nevertheless, it was decided not to accede to these proposals, except only as regards compounds of precious metals and of rare earths, for the reason that it was not felt to be necessary to grant similar treatment to the other compounds mentioned, and that it was desired to avoid, as far as possible, creating exceptions to the basic method of classification whereby salts are classed according to the anion.

As regards compounds of mercury and bismuth, however, whose classification might equally well have been considered on the cation basis, it was agreed that the commercial importance of these compounds was taken sufficiently into account by including them by name in a special sub-item.

As regards the order to be followed, the salts are arranged by the atomic weight of the basic element of the acid, beginning with the lowest atomic weight.

Item 233.

By far the most important of the salts forming boric acid is that commonly known as :

(a) Borax, which is a tetraborate of sodium, having the chemical formula $Na_2B_4O_7$.

There are two kinds—" ordinary borax ", containing ten molecules of water of crystallisation, and " jewellers' borax ", containing only five molecules.

Borax is employed principally in the enamelling industry, the glass industry, etc.

A crude tetraborate of soda is also found in a natural state and is known as " rasorite " or " kernite " ; accordingly, it comes under Chapter 25, dealing with earths and stones. The differentiation is based on physical properties and on the degree of purity. The same reservation must be made as regards another natural tetraborate of soda, " tinkal ", which is obtained from the water of certain lakes in Central Asia, particularly Tibet. The commercial importance of this substance, however, is negligible.

(b) Of the other borates, manganese, lead and cobalt borates are of technical importanc, as siccatives in the varnish industry, and for that reason come under Item 309 (Chapter 30) which deals with those products.

Among other salts of boric acid which are also of technical importance is zinc borate, which is used for preparing an antiseptic powder.

Item 234.

The acid-forming substance coming immediately after boron is carbon, which, together with oxygen, forms carbonic acid anhydride, being the base of the carbonic acid salts or carbonates, which are of very great economic importance.

(a) In view of their great importance for numerous technical purposes, it is necessary first to provide sub-items for the principal salts.

These comprise, in the first place, sodium carbonate, which is marketed in two forms—crystallised carbonate of soda (hydrated) and calcined carbonate of soda (anhydrous).

The value and uses of these two varieties of sodium carbonate differ so largely that in most Customs tariffs they are subject to different duties, and accordingly a special tertiary item has been allotted to each of them.

According to commercial usage, hydrated sodium carbonate is regarded as crystallised soda when its content of Na_2CO_3 does not exceed 38 per cent.

The term " calcination " implies that complete dehydration is effected by heating, the soda content then being, as a rule, 90 to 99 per cent.

The term " calcined soda " comprises both soda obtained, first, in the hydrated state and deprived of its water by subsequent calcination, and soda directly obtained in the anhydrous state. However, the latter, alone, is almost exclusively manufactured.

In order to enable soda which contains more than 38 per cent of sodium carbonate, but cannot be regarded as calcined soda, to be included in the tertiary Item *a*.2., the words " or otherwise dehydrated " have been added to the latter.

Should the natural product known as " magadi soda " be eventually included in a Customs classification, it, too, will of course be placed in this item.

(b) The potassium salt of carbonic acid may be obtained in different ways.

It used to be obtained from carbonised vegetable residues. Generally speaking, all plants, and, in particular, all species of wood, are suitable for this purpose. Certain natural vegetable products, however, which are very rich in potassium salt, have been and still are used as important raw materials for the manufacture of potassium carbonate ; these are : almond shells (used principally in Spain and Italy), sunflower stalks (used chiefly in Russia), and—the most commonly employed material of all—the residuary product (" saline ") obtained from the calcination of sugar-beet dregs.

Potash of animal origin or wool-yolk potash is extracted from the liquor obtained from washing wool.

Lastly, potassium carbonate is also obtained by chemical means from potassium chloride.

For the most part, potassium carbonate is marketed only in the purified form known as " refined potash ".

In order to purify it, the raw materials already mentioned are subjected to a supplementary process. The most important of these raw materials—the one obtained from the calcination of sugar-beet dregs and known as " beet saline "—is a mixture of several salts. It is characterised by a relatively small content of potassium carbonate and further a more or less high percentage of other alkaline salts ; it also contains certain insoluble elements, such as carbon, which gives it a grey colouring.

Another raw material is wool-yolk potash. It has a much higher content of potassium carbonate than beet saline, and also contains to a greater or lesser degree the same impurities.

Refined potash, having a high content of potassium carbonate, is the most important commercial product, and, accordingly, a special tertiary item has been allotted to it, while another subdivision has been made for the wholly unpurified product.

The purity of the product is thus estimated on the basis of its content of potassium carbonate.

Normally, refined potash has a percentage of potassium carbonate amounting to 80 per cent or even more, and, accordingly, it was originally decided to take 78 per cent as the proportion forming the demarcation between the two items already mentioned, and it was intended, after further verifications, to fix that proportion as the final content limit.

Recently, however, according to certain information, potash has been produced and treated as refined with a potassium percentage amounting to only 75 per cent, 70 per cent, and even as low as 60 per cent.

Thus the application of the limit of 78 per cent would be attended by the drawback that some of the products called " refined potash " would be left outside the item in question, and, as a remedy, it was decided that the content limit between purified and impure products should be reduced to 60 per cent.

It should be noted that, this being so, the item set up for refined products comprises, not only those products themselves, but also wool-yolk potash, which, though in crude form, has a potassium carbonate content of more than 60 per cent. This classification can be justified only if the similarity of the percentages of potassium carbonate in the above-mentioned products is taken into account.

However, if, for the purpose of applying different duties, any country should wish to differentiate between potassium carbonate purified by a subsequent process and wool-yolk potash having a high content of potassium carbonate it will be quite free to do so.

Beet saline, a raw material normally containing 15 to 40 per cent or, in exceptional cases, 55 per cent of potassium carbonate, would thus, on the basis of the 60 per cent limit, be clearly differentiated from the refined product.

(c) and *(d)* These sub-items are reserved for alkaline salts of carbonic acid, in which only *one atom* of hydrogen in the acid is replaced by a metal.

The most important of these compounds is sodium bicarbonate, which is used for technical purposes, in the preparation of beverages and also for pharmaceutical purposes.

The corresponding salt of potassium is of much less importance.

(e) The third important alkaline compound of carbonic acid is ammonium carbonate, which is found in commerce both as a neutral and as an acid salt. There is also found in commerce the product " hartshorn salt ", which, as regards its chemical composition, is a mixture of ammonium carbonate and ammonium carbamate. It was formerly obtained by the dry distillation of animal substances.

Besides numerous other technical uses, an ammoniacal compound of carbonic acid is widely used to-day by bakers as a " mineral yeast ".

(f) Among salts formed by the alkaline-earthy metals with carbonic acid, mention should first be made of calcium carbonate.

This is an artificially precipitated carbonate of calcium—not to be confused with the calcium carbonate found in natural form, as limestone, chalk, etc. The natural product is classified under Chapter 25 : " Earths and Stones ". Natural calcium carbonate is employed in the paper industry as a weighting substance, in the preparation of cosmetics (tooth powder), in the colour industry, in the varnish and lacquer industry and in the rubber-ware industry.

(g) The neutral magnesium compound of carbonic acid occurs in natural form as crude magnesia (see Chapter 25, Item 188). The artificial product is a basic salt widely used in the manufacture of fine paper and cigarette paper, for cosmetic purposes, in the preparation of heatproof insulators, for enamelling, for the rubber and cable industry, for the manufacture of colours and varnishes and for medical purposes.

The magnesium carbonate found in natural form is insoluble and neutral, whereas the artificial carbonate is slightly soluble and shows a faint alkaline reaction.

As regards its economic importance, artificial magnesium carbonate stands nearer to the oxides than the carbonates. Nevertheless, this circumstance was not considered a sufficient ground for classing the product among the oxides as an exception to the classification adopted.

(h) Lastly, of the alkaline-earthy metals, barium forms with carbonic acid barium carbonate, a salt which is of commercial importance ; but the artificially precipitated product is the only one in view in this case.

Natural barium carbonate, known as " Witherite ", comes under Item 180 (Chapter 25).

(i) Another special sub-item is provided for bismuth carbonate as being one of the most important bismuth salts, in order that this relatively dear product, which is used for pharmaceutical purposes, should not come under the collective item and thus, owing to its high value, unduly increase the average value of that item in statistics.

(k) The collective item " other " comprises a whole series of other carbonate, since, without exception, every metal forms a carbonic acid salt.

Of these the principal are artificial strontium carbonate, the natural product known as " Strontianite " being classified in Item 194 *(g)* (Chapter 25).

Lithium carbonate is employed in medicine.

Zinc and manganese carbonates are also of importance, but in that case are natural products.

Item 235.

Besides its combination with oxygen, carbon forms with nitrogen the compound cyanogen, which forms acids whose salts are of widespread commercial importance.

(a) First comes hydrocyanic or prussic acid, the alkaline compounds of which, particularly potassium cyanide and sodium cyanide, play a leading part in technics.

Among the uses to which they are put, mention must be made of electro-plating and photography, the extraction of gold from ores and organic synthesis.

Besides the alkaline cyanides, calcium cyanide is also mentioned. As this substance may readily be transformed into alkaline cyanides, it has been placed in the same sub-item as the latter.

Further, calcium cyanide is of economic importance on its own account, in view of its increasing use for destroying parasites. It is also employed for organic synthesis, and in that respect is differentiated from the other cyanides.

(b) In this sub-item, mention is made of the cyanides and cyanates of mercury. It also includes the oxycyanates of mercury.

These products are employed mainly as disinfectants, and are mentioned in a special sub-item in order to prevent their being incorporated in the collective sub-item and thereby, owing to their relatively high value, contributing to increase to an undue extent the average value of that sub-item in statistics.

(c) The second group of acids formed by the cyanogen radical consists of its compounds with iron. The compound having a lesser degree of oxidation is ferrohydrocyanic acid, while that having a higher degree of oxidation is ferrihydrocyanic acid.

The alkaline salts of these acids (ferrocyanide and ferricyanide of potassium and ferrocyanide of sodium) are of considerable commercial importance.

They are employed mainly in the manufacture of pigments—particularly Prussian blue—for dyeing, for printing tissues, and in analytical chemistry.

In the course of the manufacture of potassium ferrocyanide, after the gas has been driven off, the residuary mass consists of an intermediary product of ferrohydrocyanic acid in which two atoms of hydrogen are replaced by two atoms of potassium and the other two atoms by one atom of calcium. This product is then readily transformed into potassium ferrocyanide.

The double ferrocyanide of potassium and calcium also comes under this sub-item.

Similarly sub-item *(c)* comprises ferrocyanide of calcium, which is marketed as a cheap substitute for expensive alkaline salts, and which, moreover, may readily be converted into such salts.

In the preparation of Prussian blue, an intermediary product is obtained—namely, ferrous ferrocyanide. In Germany, this is commercially termed " Weissteig " (white paste) ; by a process of oxidation it may be transformed into Prussian blue.

Apart from being obtained in Prussian blue works, this product is also manufactured by a new process which has over the old one the advantage of being cheaper.

(d) The collective sub-item *(d)* comprises in the first place the other salts of hydrocyanic acid. Of these, mention should be made of the double salts, cyanide of zinc and potassium and cyanide of copper and potassium, which are employed in electro-plating.

Further, the large group of salts of sulphohydrocyanic acid should be included in this collective sub-item, together with the sulphocyanides of potassium and of other alkaline metals, the sulphocyanides of calcium and barium, and, lastly, sulphocyanide of copper, all of which are quite extensively used for dyeing.

Item 236.

In the series of acid-forming substances, the next after carbon is nitrogen, which, not only in combination with carbon in the form of cyanogen, but primarily by itself, forms acids the salts of which are of commercial importance.

The acids obtained are nitrous acid and nitric acid, according to the degree of oxidation.

(a) Of the nitrous acid salts, the nitrites of potassium and sodium are of importance for the manufacture of coal-tar colours and for the preparation of nitrous ether, which is used in the perfume industry.

The only other nitrite which is of technical importance is barium nitrite, and, for that reason, it was decided to specify it by name, together with the alkaline nitrites, in the first sub-item.

(b) Another sub-item is reserved for potassium nitrate, which, owing to its many technical uses, in pyrotechnics, in the foodstuffs industry and in metallurgy, is one of the most important salts of nitric acid. It is also employed as a fertiliser. The fact that it is used mainly for technical purposes, however, justifies its being placed among chemical products in the strict sense of the term.

If any country wishes to apply to potassium nitrate when intended for use as a fertiliser a Customs treatment different from that applied to it when intended for technical purposes, it may meet this requirement by subdividing sub-item 236*(b)* or by adding a special provision regarding the Customs treatment of potassium nitrate intended for agricultural purposes.

On the other hand, ammonium nitrate, being used chiefly as a fertiliser—particularly, for example, mixed with potassium chloride or ammonium sulphate—has been placed under Chapter 35, Item 343 : " Nitrogenous Mineral or Chemical Fertilisers ", which also includes sodium nitrate and calcium nitrate. Consequently, these nitrates do not come under Item 236.

(c) This sub-item comprises the salts formed by bismuth with nitric acid—bismuth nitrate and bismuth sub-nitrate—which are employed in the manufacture of cosmetics, luminous colours and ceramic colours.

The decisive reason for classifying these products in a special sub-item was their high value as compared with other nitrates.

(d) For the same reason, it was also decided to mention in a special sub-item the salts formed by mercury with nitric acid.

The nitrates of mercury are used mainly for pharmaceutical purposes. Mercurous nitrate (having a lower degree of oxidation) is also used for the removal from hides and skins of hair intended for the manufacture of hats, and mercuric nitrate (having a higher degree of oxidation) for the preparation of fulminate of mercury.

(e) The collective sub-item " Other " covers all the other metallic salts of nitric acid.

One very important salt of nitric acid, sodium nitrate, is placed, not under sub-item *(e)*, but in Chapter 35, since it is used primarily as a fertiliser (Item 343*(a)*).

The same observation applies to the salt formed by calcium with nitric acid (calcium nitrate).

It was decided, indeed, that any product used for different purposes must be placed *in one item only* of the Customs classification, the particular item being determined by the principal use to which the product in question is put.

For this reason the nitrates of sodium and calcium, which are used both as chemical products and as fertilisers, but mainly as fertilisers, are placed in Chapter 35.

Each country will, of course, be quite free to make subdivisions enabling different Customs duties to be applied to these products according to their purpose.

Of the other salts of nitric acid, mention should be made of the nitrates of magnesium, barium and strontium, the last two of which are used mainly in the manufacture of fireworks.

Aluminium nitrate and chromium nitrate are employed in the manufacture of dyeing mordants.

Manganese nitrate is used as a substance to be added to fertilisers and for the preparation of ceramic colours.

Nitrate of iron is also used in the manufacture of ceramic colours.

Uranium nitrate is used for the manufacture of compounds having that metal as their base, for photography and also for the preparation of ceramic colours.

Of the remaining salts which are of importance, there are lead nitrate, used for the preparation of lead pigments, in the match industry, for dyeing and for printing tissues ; copper nitrate, used for colouring metals, in the enamelling industry, for dyeing and for printing tissues ; and, lastly, nitrate of silver, which is placed in Item 261.

The nitrates of rare earths, which are of importance from the technical point of view, notably thorium nitrate and cerium nitrate, are placed, not in this item, but in Item 262.

Item 237.

The next in the series of important metalloids which form acids is fluorine.

Considering that this element, in combination with silicon in the form of hydrofluosilicic acid, forms salts which are of technical importance—namely, the fluosilicates, the economic position of which is similar to that of the fluorides—it is recommended that these salts should be grouped with the fluorides. The same applies to the salts of silicic acid—namely, the silicates.

(a) The first sub-item is reserved for the fluorides.

The alkaline fluorides are of importance for the impregnation of wood, in the enamelling industry and in the glass industry, and also for dyeing and as insecticides.

Of the other fluorides, mention should be made of chromium fluoride, which is used as a dyeing mordant, and zinc fluoride, which is used for the impregnation of wood.

The fluorides of rare earths, which are also of technical importance, are placed, not in this item, but in Item 262.

Particular mention must be made of certain double salts of technical importance, which are formed by fluoride of antimony with the fluorides and also with the chlorides and alkaline sulphates, and which, under the name " salts of antimony ", are used in dyeing and in printing tissues.

The logical course would seem to be to group all these products in the same sub-item as fluoride of antimony, since hydrofluoric acid may certainly be regarded as their determining component.

Another double salt of hydrofluoric acid which is of commercial importance is alumino-sodic fluoride, also known in trade as " artificial cryolith ", because it has the same chemical composition as the cryolith, which occurs as a natural substance, principally in Greenland. Artificial cryolith is employed mainly as a flux in the electrolytic manufacture of aluminium, and is also used as an opacifiant in the enamelling industry.

In view of their similarity of composition, and also of the fact that the two substances are used for the same commercial purposes, the artificial product should be classified in the same item as the natural product—*i.e.*, Item 194*f)* (Chapter 25).

(b) and *(c)* The second and third sub-items are reserved for the most important salts of silicic acid—namely, the alkaline silicates.

These silicates are employed for extraordinarily numerous and varied purposes, among which mention will be made only of the preparation of soaps and other washing products, road-repairing, the manufacture of paper, colours, dressings and facings, glues, enamels and glazes, and, lastly, the preservation of eggs.

Considering the diversity of substances used as raw materials (for soluble glass containing potassium : potash ; and for soluble glass containing sodium : soda), and also their different values, it was decided to place each of these two products in a special sub-item.

(d) The outstanding technical importance of the alkaline silicates for almost all countries justifies their being allotted special sub-items to themselves, whereas the other silicates, together with salts of hydrofluosilicic acid, are grouped under the collective sub-item " Other ".

Of the other artificially-prepared salts of silicic acid there are few which are of special technical importance or employed in commerce.

It should be noted that glass and enamels, though also manufactured from silicates, do not come under this item.

Similarly, earths which absorb colours, or "decolourising earths", and earths which absorb fatty materials and are termed " degreasing earths ", mostly consist of compounds of silicic acid. They are, however, natural crude earths such as fuller's earth ; they are marketed either in their natural form (after having been dried and ground) or in prepared form, and are then given special trade names.

Their preparation consists of a process of washing with dilute hydrochloric acid to remove the impurities which reduce their activity.

These decolourising and degreasing earths are appropriately placed in Item 194*(g)* (Chapter 25).

There are also commercial products which are sold as " artificial decolourising earths ", but which, as regards their chemical composition, are not salts of silicic acid.

These products are classified according to the composition of the substances of which they are composed.

Among the salts of hydrofluosilicic acid, mention may be made of the sodium salt (used for impregnating wood and for the opacification of enamel) ; the potassium salt (an intermediary product in the manufacture of silicon) ; the magnesium salt and the zinc salt (known as fluates and employed to harden cement and concrete and make them waterproof) ; the iron salt ; the nickel salt ; and, lastly, the chromium salt (used in the preparation of dyeing mordants).

Item 238.

The next item comprises all the salts formed by the most important acids having a phosphorus base (salts of hypophosphorous acid, of phosphorous acid and of phosphoric acid, and of their various modifications).

It was proposed that the orthophosphates and the pyrophosphate of sodium should be given special items, together with other salts of phosphoric acid.

(a) The outstanding technical importance of the sodium salt of orthophosphoric acid, in which two atoms of hydrogen are replaced by two atoms of sodium (we only mention here its use in the ceramic, textile and other industries), was recognised, and, accordingly, a specific denomination was given to it in a special sub-item.

(b) There is another specific sub-item for acid pyrophosphate of sodium, which has acquired increasing commercial importance as an agent in the bleaching of textiles and in the preparation of mineral yeasts for baking.

(c) The neutral pyrophosphate of sodium, like all the other salts of phosphoric acid, comes under the collective sub-item " Other ". Similarly, the salts of hypophosphorous and phosphorous acids also come under that sub item.

Of the calcium salts of phosphoric acid, mention need only be made in connection with this item of the monocalcic phosphate, also called calcium biphosphate, which is of technical importance as a substance to be added to mineral yeasts for baking.

The bicalcic phosphate—also called " bone phosphate " or " precipitate "—which is obtained by treating bones or bone-ash, is, *inter alia*, used as a fertiliser, and is therefore specifically named in sub-item *(d)* (dicalcic phosphate) of Item 344 (Chapter 35).

This last item also covers mixtures of monocalcic phosphate and calcium sulphate, which occur in commerce under the name " superphosphate " (sub-item *c)* of the above-mentioned item), and finally the phosphates obtained by treatment otherwise than with sulphuric acid.

Of the ammonium salts of phosphoric acid, the monoammoniac salt is used mainly for technical purposes and is therefore classified in Item 238*(c)*.

Diammoniac phosphate is also employed for technical purposes (as a flux for welding metals, for impregnating wood and for rendering textile and other materials non-inflammable) ; but it is used mainly as a fertiliser and is therefore classified under Chapter 35 : " Fertilisers ".

The salts of hypophosphorous acid—the hypophosphites—are employed mainly for medical purposes, and, subsidiarily and to a smaller extent, for technical purposes (*e.g.*, hypophosphite of lead in the explosive industry).

Of the salts of phosphorous acid, none is as yet of any commercial importance. However, they should also be mentioned in Item 238.

* * *

Items 239 to 243 contain the salts of acids derived from sulphur.

Item 239.

(a) The substances dealt with here are primarily the sulphites and bisulphites of potassium, of sodium and of calcium, which are obtained by passing a current of sulphur dioxide gas through a solution of the corresponding alkali.

If the process is applied under certain specific conditions, the pyrosulphites are obtained, which are given various names in commerce.

Thus they are commonly marketed either as metabisulphites or as metasulphites.

In view of the variation in the commercial terms used, all designations which can possibly come into question here must be shown in the sub-item.

The products grouped under the first sub-item are of very great importance for the printing of tissues and stuffs, for dyeing, bleaching, and photography, and are also used for a large number of other technical purposes.

Particular mention should be made of calcium bisulphite on account of its importance in the manufacture of cellulose pulp.

(b) Of the other salts belonging to this subdivision, mention may be made of magnesium sulphite (used for the preparation of cellulose pulp), chromium sulphite (used as a mordant), zinc sulphite (also used as a mordant), and, in particular, ammonium sulphite, which is used mainly in the manufacture of coal-tar dyes.

Item 240.

The numerous and varied salts of sulphuric acid are placed in Item 240. In view of the manifold applications and uses of sulphates in the most diverse industries, they are necessarily subdivided to a relatively considerable extent here.

(a) Sodium sulphate (Glauber's salts)—whether in its calcined form as employed in commerce or containing water of crystallisation—is put to a number of different technical uses. Mention will only be made of its employment in the manufacture of cellulose pulp, glass, bleaching products and ultramarine.

Glauber's salts are also used as a substance to be added to a large number of other chemical products, and is further employed in medicine. Natural sodium sulphate is also included here.

When a single atom of hydrogen in sulphuric acid is replaced by sodium, the resultant substance is sodium bisulphate. It is obtained in the process of manufacturing nitric acid by the reaction of sulphuric acid on sodium nitrate at a relatively low temperature. Sodium bisulphate being an intermediary product in the manufacture of sodium sulphate, it seemed feasible for that reason, and for the purpose of removing any doubt as to tariff interpretation, to mention it by name in the same sub-item as the sulphate itself.

Potassium sulphate is employed principally as a chemical fertiliser, and is therefore placed in the chapter on fertilisers. The same applies to ammonium sulphate (Items 345*(c)* and 343 *(b)*).

(b) Magnesium sulphate is found in a natural state as " kieserite ", in association with crude potash salts, and as such it belongs to sub-item *(a)* of Item 345 (Chapter 35). When it contains water of crystallisation, it is marketed as Epsom salts, and is employed mainly in the textile industry and in the manufacture of paper ; it is also used as a medicine.

(c) Aluminium sulphate, known also as basic salt, is used for many purposes in connection with the paper industry, dyeing, the purification of water and the manufacture of other compounds of aluminium. For these various purposes, it is to an increasing extent replacing alum.

(d) Chromium sulphate is used mainly as a substitute for chrome alum as a dyeing mordant.

(e) In connection with the specification of aluminium sulphate and chromium sulphate, and possibly iron sulphate, a special sub-item is provided for the double salts of aluminium, of chromium and of iron, formed with the alkaline sulphates and commonly known as " alums ".

1. It was considered that the " alums " sub-item must be subdivided in order to specify the two most important products. For this purpose a sub-item was first provided for alum of potash, or the double sulphate of aluminium and potassium, which is used as a dyeing mordant and is also employed in the manufacture of colours, in tanning and in the manufacture of paper.

2. Next comes alum of chromium or chrome alum, which is also used as a mordant in dyeing and in the printing of textiles, and is as important as alum of potash. It is primarily used for tanning.

3. As the other alums are much less important for technical purposes than the two just mentioned, they are grouped together in the collective sub-item : " Other ".

They include ammonium alum, or the double sulphate of ammonium and aluminium ; sodium alum, or the double sulphate of ammonium and sodium ; and, finally, iron alum, in the form of a sulphate of iron and ammonium.

In the alums, one of the sulphates corresponds to a metallic oxide with a very high degree of oxidation (such as Al_2O_3, Fe_2O_3, Cr_2O_3), whereas the other is derived from an alkaline metallic oxide having only a lesser degree of oxidation (such as Na_2O, K_2O, Am_2O).

(f) Zinc sulphate is put to a large number of technical uses. Of these, mention should be made of the employment of zinc sulphate in the dyeing of textiles and the printing of tissues, the preparation of mineral colours, the zinc galvanising industry and the impregnation of timber ; it is also used in pharmacy.

(g) In accordance with its two degrees of oxidation, iron forms two sulphates, both of which must be placed in this sub-item—namely, ferrous sulphate and ferric sulphate.

Ferrous sulphate is of importance chiefly as a by-product of wire-drawing. It is put to a large number of uses. In particular it is employed in the manufacture of inks and colours, in metallography, as a dyeing mordant, as a wood preserver, etc.

On account of the similar uses to which they are put, the other compounds of sulphuric acid with iron should also be grouped together here—namely, the mixed salt : chloride and sulphate of iron (or chloridised sulphate of iron), used for the manufacture of inks and for photographic purposes.

(h) Nickel sulphate is used either in that form or, more extensively, in the form of the double sulphate of ammonium and nickel, for nickel-plating.

(i) A special sub-item is provided for copper sulphate, which is used as a raw material for the preparation of most other copper compounds. It is also employed for electro-technical purposes and for copper electro-plating. Among its other uses particular mention should be made of the preparation of various insecticides and anti-parasitic products.

The double sulphate of copper and iron, also known as double vitriol or " Admont vitriol " or " Salzburg vitriol ", is used for purposes similar to those to which the simple copper sulphate is put. In view of this similarity of use, " Admont vitriol " should also be classified with copper sulphate.

(k) This sub-item covers the salts of sulphuric acid and mercury, for which a special sub-item was created in view of their great value.

They have not been grouped under the collective sub-item in order to avoid unduly increasing, through their high value, the average statistical value of the sub-item " Other ".

The mercury salts of sulphuric acid are used principally for the preparation of other mercury compounds, such as calomel and sublimate.

They are also used for certain technical purposes—*e.g.*, the recovery of gold and silver, as catalysers, etc.

(l) The collective sub-item *(l)* covers all the other salts of sulphuric acid, among which the following should be mentioned :

Lithium sulphate is used in therapeutics.

Barium sulphate is employed as a mineral pigment so widely that it should be placed exclusively in that chapter (Item 304), although it is also used for other technical purposes, particularly in the paper industry.

Artificial calcium sulphate is also included here, whereas natural calcium sulphate should be classified in Chapter 25 : " Earths and Stones ".

Manganese sulphate is used for the preparation of other compounds having a manganese base, and also in dyeing and in porcelain painting.

Lead sulphate is used in the colour industry and in the printing of tissues, and also in the preparation of other compounds having a lead base.

Cadmium sulphate is used in the preparation of cadmium sulphide—cadmium yellow—which is a mineral pigment, and also for the manufacture of certain inks.

Item 241.

This item groups together the salts of hydrosulphurous acid ($H_2S_2O_4$)—namely, the hydrosulphites.

The commercial products are generally compounds of the hydrosulphites already mentioned and of formaldehyde (formic aldehyde) or compounds of the hydrosulphites with acetone.

In point of fact, this composition is mentioned in the heading of the item.

(a) Among hydrosulphites, the most important salts are the sodium salt and the zinc salt, which, either in their simple form or, on a larger scale, in combination with formaldehyde or with acetone, are marketed under the most diverse names, such as " rongalite ", " blankite ", " burmol ", " decroline " and " palatinite ", " redol ", etc.

They are very widely employed, more particularly on account of their strong reducing action, both for bleaching and vat dyeing, and in printing tissues and stuffs.

The potassium and calcium salts are also included under this sub-item and are mentioned by name.

(b) No other salts of hydrosulphurous acid are known to be at present of commercial importance comparable to that of those already mentioned. For the sake of completeness, however, it is necessary to create a collective sub-item.

Item 242.

This item comprises salts of thiosulphuric acid ($H_2S_2O_3$) or hyposulphurous acid. These are commercially known as " thiosulphates " or " hyposulphites ".

(a) A special sub-item is provided for the thiosulphates or hyposulphites of sodium, potassium and calcium.

The sodium salt is used more particularly as an antichlorine agent, in the manufacture of paper and the bleaching of tissues and other materials, in the production of chromed leather, etc. Its use as a fixing salt in photography is also to be mentioned.

Calcium thiosulphate or hyposulphite is employed in the preparation of other thiosulphates and also of antimony vermilion.

(b) Of the other salts of thiosulphuric acid, mention must also be made of the double salt of copper and ammonium and of the double salt of lead and potassium, which are employed in the explosives industry, in the manufacture of matches and in the vulcanisation of rubber.

Item 243.

As the last group of commercially important salts of an acid derived from sulphur, Item 243 comprises the neutral and acid salts of hydrosulphuric acid, termed sulphides and hydrosulphides. The latter, it is true, are of much smaller commercial importance, but, on account of their resemblance to the sulphides, they must, for the sake of the clearness of the tariff, be classified with them.

(a) Of the alkaline sulphides and hydrosulphides, sulphide of sodium is of real technical importance, both in itself and more particularly in the form of various polysulphides, which are used in the preparation of sulphur colouring materials.

Sodium hydrosulphide was once fairly extensively used in the artificial silk industry, but has recently lost some of its commercial importance.

Potassium sulphide, also known as " liver of sulphur ", is used in the preparation of sulphur baths (dermatology).

(b) Barium sulphide is used as a cosmetic and as a depilatory, and is also employed in photography.

(c) Arsenic sulphides are found in a natural state, under the names of realgar and orpiment, but as such they belong to the group of " Earths and Stones ", Item 194 *(g)* (Chapter 25).

The artificially produced kinds are used in the preparation of fireworks and in the printing of tissues, but more particularly in tanning, for the removal of hair from skins ; they are also used to prepare depilatory pastes and ointments.

(d) The collective sub-item comprises in the first place the other sulphides not specified, which include ammonium sulphide, calcium sulphide, strontium sulphide, lead sulphide and copper sulphide. The sulphides of zinc, mercury, cadmium, antimony and tin are used mainly as mineral pigments, and consequently are placed in Item 306 (Chapter 30).

Item 244.

The salts of acids derived from sulphur are followed, in Items 244, 245 and 246, by salts of acids derived from chlorine, and first of all those of hydrochloric acid.

(a) Of the alkaline chlorides, sodium chloride comes under Item 178 (Chapter 25), as it occurs in natural deposits in the earth, from which it is mined.

Potassium chloride is used principally as a fertiliser, and is accordingly placed in the chapter on fertilisers (Chapter 35, sub-item 345 *(b)*).

Ammonium chloride is, it is true, sometimes used as a fertiliser, but chiefly serves for technical purposes, and may therefore justifiably be specified among chemical products. Mention may be made of the following among its other uses : for welding, tinning and zincking, the manufacture of colours, printing of tissues, etc.

(b) Magnesium chloride is of great economic importance. It is a by-product in the treatment of potash salts.

Magnesium oxychloride is, as is only logical, placed in the same sub-item. It plays an important part in the preparation of agglomerates having a magnesia base, such as the xylolites.

(c) Calcium chloride, which also forms a by-product of numerous processes, is in a somewhat similar economic position to magnesium chloride. Indeed, their complete utilisation with the object of recovering the chlorine they contain has been for long, and still is, an important problem for the chemical industry.

(d) The most important of the other alkaline-earthy chlorides is barium chloride, which is used for the preparation of other barium compounds—in particular, for the preparation of colours having a barium base, and for other technical purposes.

(e) The next sub-item comprises zinc chloride, which is of considerable technical importance. In the first place, it is used by itself for the preparation of vulcanised fibre, for

the preservation of wood, and for the preservation of decolourising carbon. It is also employed, more particularly in the form of a double compound with ammonium chloride, in the process of welding. This double salt should therefore also be placed in this sub-item.

(f) Tin also forms two important salts with hydrochloric acid. The chlorides of tin are used as reducing agents, as substances for impregnating tissues in the leather industry, in photography and in the textile industry to " load " or weight silk.

Mention should also be made of the double chloride of tin and ammonium, marketed under the name of " pink salt " and used as a mordant and as a corrosive, and also—though it is of less importance—the *sel pour rose* prepared by dissolving tin in a mixture of hydrochloric acid and nitric or sulphuric acid, the main product being either tetrachloride of tin or bichloride of tin.

(g) Of the chlorides of mercury, that which has the higher degree of oxidation (corrosive sublimate) is the more important. It is used on a vast scale for technical purposes. Thus, besides its use in pharmacy and as a disinfectant and an antiseptic, it is mainly employed for the preservation of wood.

The salt having the lesser degree of oxidation (calomel) is employed for electro-technical purposes and also in pharmacy.

(h) Of the other salts of commercial importance which are formed by hydrochloric acid and which, though not mentioned by name, must be included in the collective sub-item " Other ", mention must be made, first, of manganese chloride, which is used mainly in the preparation of colours, and of other compounds having a manganese base.

Chromium forms a neutral salt and a basic salt with hydrochloric acid. Both are used as mordants in dyeing and in printing tissues. Nickel chloride and double chloride of nickel and ammonium are used for nickelling. Cobalt chloride is only of small technical importance.

The iron chlorides are used mainly as mordants, apart from their applications in medicine and for other technical purposes.

Copper forms with hydrochloric acid a series of salts which are employed for technical purposes. They include, besides the copper chloride with the highest degree of oxidation (cupric chloride), which is used as a catalyser and for copper electro-plating, the double salt of copper and ammonia and the oxychloride of copper, which, besides other technical uses, are employed more particularly for the transformation of cellulose into artificial silk.

Of the chlorides of lead, mention must be made first of the neutral chloride ($PbCl_2$), which is used in the preparation of colours having a lead base and for the preservation of wood. Lead tetrachloride should also be placed in this sub-item.

The oxychlorides of lead form mineral colours, and are therefore placed in the collective sub-item of Item 306 (Colours) (Chapter 30).

Antimony forms two chlorides having different degrees of oxidation—namely, antimony trichloride (used for the purification of glass and in metallochromy) and antimony pentachloride, which is less important technically. There is also antimony oxychloride, which has a certain use as a mineral colour but is more widely employed for the preparation of pure compounds of antimony.

Lastly, mention must be made of arsenic chloride, which belongs to the same group.

Item 245.

This item comprises the salts of the acid formed by chlorine in combination with oxygen and having the lowest degree of oxidation.

This is hypochlorous acid, the salts of which, the hypochlorites, have the property of readily yielding up their oxygen, and on that account are of great importance as bleaching agents.

(a) The hypochlorite of calcium is particularly well known. It is marketed chiefly under the name of " chloride of lime " (a somewhat complex mixture of hypochlorite of lime and calcium chloride).

Calcium hypochlorite has for some time also been marketed in an almost pure state. These two products are placed under this sub-item.

(b) Besides the lime salt, there also exist in commerce other hypochlorites in a solid state or in solution which are used for the same purposes. Among these mention may be made of the following : the alkaline hypochlorites, also known as " Javelle water " and " Labarraque water ", and the hypochlorites of zinc, aluminium and magnesium.

Item 246.

The higher degrees of oxidation of hydrochloric acid are represented by chloric acid and perchloric acid, whose salts—chlorates and perchlorates—are so similar that they are placed in the same item.

(a) Of the alkaline chlorates, potassium chlorate is used mainly for the manufacture of chlorated explosive substances. It is also employed in the match industry and in pyrotechnics (fireworks). Numerous other technical uses to which it is put are also based on its active powers of oxidation.

For some time sodium chlorate has been increasingly employed as a weed-killer.

Of the other salts of chloric acid which are of great technical importance, mention may be made of the following : aluminium chlorate (used for printing tissues), ammonium chlorate and barium chlorate (used in the explosives and match industries), and chromium chlorate (used for dyeing textiles).

(b) Of the salts of perchloric acid, potassium perchlorate is the most frequently used in place of potassium chlorate on account of its greater stability and its higher content of oxygen.

Ammonium perchlorate and the perchlorates of sodium and potassium are used in the explosives industry. The salts produced by perchloric acid in combination with organic bases, such as perchlorate of ethylene-diamine, are placed, not in Item 246, but in the group of corresponding organic chemical products, which in this case are aliphatic-organic.

Item 247.

The other halogens form acids similar to those of chlorine itself, both with and without oxygen.

For example, of the salts of hydrobromic acid, the alkaline bromides are particularly important as medicines, and are also used in photography.

Mention must also be made of iron bromide, which, however, merely constitutes a convenient means of transporting bromine in solid form and in a high degree of concentration.

Item 248.

The observations already made on salts of hydrobromic acid and bromic acid apply to salts of hydriodic acid and iodic acid mentioned in Item 248.

The alkaline iodides, too, are important as medicines, and potassium iodide is also used in photography.

Mention must further be made of iodide of mercury, which, in addition to its use as a medicine, is also employed in a special photographic process, both by itself and in the form of a double compound with iodide of copper, which compound is widely employed as a means of indicating variations of temperature.

Item 249.

This item comprises all the salts formed by arsenious acid and arsenic acid.

Of these, mention must be made of sodium arsenate and potassium arsenate, which are used mainly as fixing substances for mordants in dyeing and in printing tissues. The arsenates of calcium, lead and mercury are of importance for destroying parasites and harmful animals.

The salts of arsenious acid—the arsenites—are used for very much the same purposes, although to a lesser degree.

* * *

The large majority of salts of inorganic acids with inorganic bases having thus been classified under Items 239 to 249, there still remains to be examined, in the division of inorganic salts, a group whose acids are formed by metals and not, as in the case of the salts already considered, by metalloids.

Indeed, a number of metals have the property of forming not only basic oxides but also acid oxides. These oxides have a so-called " amphoteric " reaction.

Item 250.

* * *

First come the salts of chromic acid, among which :

(a) The alkaline salts, more particularly those derived from the highest degrees of oxidation of chromium, are so important that they are allotted a special sub-item.

The chromates are used principally for preparing bichromates, pigments having a chromium base, chromium oxide (chrome green or Guignet's green), and also in dyeing textiles and printing tissues.

The bichromates are used for preparing chrome alum, in the match and tanning industries, and for a number of other purposes in which they are utilised mainly on account of their high power of oxidation.

(b) Among the other chromates, mention must be made of chromium chromate, which is employed in dyeing cotton.

The more important chromates, such as barium chromate, zinc chromate, iron chromate, manganese chromate, cadmium chromate and lead chromate, are placed in sub-item *(l)*, " Chrome Colours ", of Item 306 (Chapter 30), and do not therefore come under this item.

Item 251.

The second important main group of metallic acid salts comprises salts of acids having a manganese base.

Of these, the manganates represent only the intermediate degree of oxidation of manganese, leading to the permanganates, which are incomparably more important, though sodium manganate is employed as an oxidising agent in the extraction of gold.

The most important permanganate is the potassium salt, which is employed for various purposes on account of its active power of oxidation. In particular, it is used as a bleaching and decolourising agent, and is also employed in the manufacture of explosives.

In conclusion, manganese also forms salts with a lower degree of oxidation than that represented by the manganates—namely, the manganites. These, it is true, are of negligible commercial importance, but they may be mentioned in the heading of the item for the sake of completeness.

Item 252.

Next, the other salts of metallic acids are brought under a collective item, which also comprises certain products of more general importance classified under special sub-items.

(a) In the first place come the aluminates, more particularly sodium aluminate, which is used as a mordant in dyeing and in printing tissues, and also in the manufacture of artificial lacquers and of paper.

Barium aluminate is employed as an agent for the purification of water.

(b) Tin forms two isomeric acids—namely, orthostannic acid and metastannic acid. Of their salts, sodium orthostannate is used in dyeing textiles and in impregnating tissues.

Antimony similarly forms various acids, more especially the ortho-, pyro- and meta-antimonic acids. Of their salts, sodium meta-antimonate alone is used as a substitute for oxide of tin for rendering enamel and glass opaque.

Oxyantimonate of lead is a mineral pigment and is therefore placed in sub-item *(m)* of Item 306 (Chapter 30).

(c) A last sub-item is reserved for salts of acids formed by vanadium, molybdenum and tungsten. The vanadates, among which particular mention should be made of ammonium vanadate, are employed more especially as oxygen vehicles in dyeing aniline black.

Of the salts of molybdic acid, the most important is calcium molybdate, which is used in the iron metallurgy together with ferro-molybdenum for the production of molybdenum steel. Other molybdates are used for the preparation of ceramic glazes, for the impregnation of tissues, for weighting silk and, in addition to a large number of other technical uses, as a substance to be added to antiseptic preparations.

Lastly, the tungstates are also employed for technical purposes. The most important tungstate is the sodium salt, used as a raw material in the preparation of most of the other compounds of tungsten—in particular, tungstic acid.

(d) In the final collective sub-item, all the other salts of metallic acids not elsewhere specified or included would be grouped together.

These comprise the zincates, ferrates, titanates and plumbates, of which the only important products are calcium plumbate, used in the match industry, and sodium plumbate, used for dyeing animal hair and horn and for colouring metals. Lead plumbate (minium) is a mineral pigment and therefore does not belong to this sub-item.

* * *

With the salts formed by the combination of inorganic acids with inorganic bases specified in Items 233 to 252, the most important products belonging to this group and playing a leading part in commerce appear to have been properly classified.

Item 253.

All the other similar salts which may possibly become of importance in the future belong to this collective item.

As examples of these salts, mention may be made of those of selenious acid, which are of importance in photography.

Item 254.

The series of salts of aliphatic organic acids begins with the salts of formic acid, which, according to its structure, is the simplest of the monobasic acids.

Of these, mention must be made of the alkaline formates, which are used as mordants in the dyeing of textiles and the printing of tissues. The neutral and basic salts of formic acid and chromium are of similar technical importance and are also used in tanning.

Titanium forms a double formate with ammonium (formate of titanium and ammonia).

Lastly, mention must also be made of aluminium formate, which is used as a surface dressing.

Item 255.

After formic acid comes, in the series of homologous acids, acetic acid, which is of capital importance for technical purposes and also forms a large number of salts that are themselves put to very important uses.

In order to take these facts into account, the item has been subdivided into various sub-items.

(a) Sodium acetate is used as a mordant in dyeing and in printing tissues, as a food preservative and for a large number of other technical purposes.

Potassium acetate is used principally in the soap industry for precipitating soft soaps.

(b) Of the compounds of acetic acid with calcium, only one is of outstanding technical importance—namely, the product resulting from the carbonisation of wood, which is marketed mainly under the name of grey calcium acetate (pyrolignite of lime), and is used for the manufacture of acetic acid. This product has naturally lost much of its importance since the increasing progress made in the synthetic manufacture of acetic acid and acetone.

Pure calcium acetate is of little importance as compared with grey calcium acetate. Nevertheless, it is also placed under sub-item *(b)*.

(c) Aluminium forms various salts with acetic acid, more particularly neutral aluminium acetate and also the basic acetates. Aluminium acetate in a particularly pure form is used mainly as an antiseptic.

As regards their practical uses, aluminium acetates are generally employed in the textile industry in dyeing and in printing tissues. The same also applies to the compounds sulpho-acetate and nitroacetate of aluminium, known in commerce as " mordant for red " and " nitrate mordant ".

(d) The next sub-item comprises both chromium acetate and iron acetate, as both are very important mordants for printing tissues.

(e) Lead forms two kinds of salts with acetic acid. Firstly, neutral acetate of lead—salt of Saturn—is very widely employed (among numerous other uses) in dyeing and in printing tissues, for the preparation of pigments and compounds with a lead base, for the manufacture of varnishes and in medicine.

Next comes basic lead acetate, which, in water solution—sub-acetate of lead—is used mainly for pharmaceutical purposes.

(f) Another sub-item contains the salts formed by copper with acetic acid, such as basic copper acetate and neutral copper acetate.

The copper salts of acetic acid are used as raw materials for preparing Schweinfurt green and verdigris.

They are also used for pharmaceutical purposes. Further, the basic salt is used for preparing electro-plating baths.

(g) The numerous other salts formed by acetic acid with metals are employed—among a number of other uses—mainly in the textile industry for dyeing and printing and also, to a certain extent, in medicine.

Such are the acetates of ammonium, magnesium, barium, zinc and tin.

The salts formed by acetic acid with strontium, manganese, nickel, cobalt, uranium (uranyl) and cadmium are of much less technical importance.

As a double compound with copper arsenite—known as " Schweinfurt green "—copper acetate was formerly used on a vast scale as a mineral pigment. It is much less used nowadays on account of its extremely poisonous character. On the other hand, it is widely used to destroy parasites and harmful insects. It is placed under sub-item *(m)* of Item 306 (Chapter 30). For this reason it is omitted from Item 255.

Item 256.

The simplest dibasic acid—oxalic acid—forms, mainly with the alkaline metals, important salts which, both by themselves and in the form of double salts with antimony, tin and titanium, are employed in dyeing and in printing tissues.

Potassium tetraoxalate is used more especially for removing inkstains. Oxalate of iron is used in the preparation of papers for taking transfers by light, and also in photography.

There are also the oxalates of strontium, aluminium and tin.

Item 257.

Of the salts of tartaric acid, the most important from a technical point of view—bitartrate of potassium—is the crude tartar deposited in vats after the fermentation of grape juice.

After wine lees, crude tartar is the principal material used for obtaining tartaric acid. On account of their common origin and economic importance, these natural products are classified in Item 167 (Chapter 23).

Item 257 includes the other salts of tartaric acid which are of real technical importance :

(a) Of these, mention must be made in the first sub-item, of bitartrate of potash or purified tartar (cream of tartar), whose differentiation from crude tartar for practical purposes presents no difficulty. The purified tartar is employed in the textile industry, in medicine, and in the preparation of mineral yeasts for bread and pastry baking.

(b) It is further necessary to mention, in the second sub-item, potassic tartrate of antimonyl or double tartrate of potash and antimony—called tartar emetic or stibiated tartar —which is used mainly as a mordant in dyeing. It is also employed in medicine as an emetic.

(c) All the other salts of tartaric acid come under the final sub-item.

Mention may be made of calcium tartrate, which represents the intermediate product obtained when tartaric acid is produced from tartar or bitartrate of potash.

The double tartrate of sodium and potassium (Rochette salts or Seignette salts) is used in medicine and in analytical chemistry.

Item 258.

As regards the salts of citric acid, a distinction must be drawn between citrate of lime and the other citrates.

(a) Citric acid, commonly obtained from lemon juice and marketed in the form of citrate of lime, which must be regarded primarily as a raw material.

(b) The other salts of citric acid are used mainly for medicinal purposes, for adding to foodstuffs, and, to a limited extent, for a number of other purposes. They are also used in dyeing and printing.

Unlike citrate of lime, they are finished products.

In view of the above described difference between the economic positions of citrate of calcium and the other salts of citric acid, it was decided to create a special sub-item for citrate of calcium alone, the other salts of citric acid being grouped together in sub-item *(b)* : " Other ".

Item 259.

This item comprises the salts of lactic acid.

Of particular technical importance are the alkaline lactates, which, on account of their viscosity, are employed as substitutes for glycerine, also the lactates of titanium, which are used in tanning.

Lactate of iron and lactate of antimony—the latter as a double compound with an alkaline lactate—are used as mordants in dyeing and printing tissues.

Next comes aluminium lactate, which also possesses a certain technical importance.

The lactates of zinc, calcium, strontium, bismuth, mercury and magnesium are used for therapeutic purposes.

Item 260.

For the salts of the other aliphatic organic acids a collective item has been provided, comprising all the other salts of organic acids with inorganic bases which are not specified or included elsewhere. Here may be classed : the salts of butyric acid, of which the butyrate of calcium and the butyrate of magnesium have acquired a certain importance ; the salts of stearic acid and of palmitic acid, provided they are not included in Item 320, " Soaps " (Chapter 32), as are the alkaline salts, or in Item 309, " Siccatives " (Chapter 30), as are the salts of manganese, lead and cobalt ; the salts of resinic acids, except the salts of manganese, lead and cobalt, also classified as siccatives, and except the salts of zinc and lime, classified under Item 285 as " non-hardenable artificial resins ".

As regards the salts of oleic acid, the same observations apply as those just made regarding the salts of stearic, palmitic and resinic acids, so that sodium oleate comes under the above-mentioned Item 320, " Soaps " (Chapter 32), and the salts of manganese, lead and cobalt in Item 309, " Siccatives " (Chapter 30).

Of the other salts of oleic acid which are of importance from a technical point of view, mention must be made of the barium salt, used as an insecticide, the magnesium salt, used as a bleaching agent, and finally the zinc salt, employed for the impregnation of fibres.

The salts of linoleic acid may also be included here, provided they have a base of metals other than those mentioned in Item 309, " Siccatives " (Chapter 30), as quoted above.

* * *

After the collective items for anions, already dealt with, come the two collective items for cations, comprising combinations of precious metals and combinations of rare earths.

It should here be noted once more that a product cannot be barred from inclusion in these items unless it is expressly classified in another part of the nomenclature or is included elsewhere on account of the particular way in which it is put up.

Consequently, if compounds of precious metals or of metals of rare earths are marketed, either put up in such a way as to be characterised as medicaments in given doses, or as medical products intended for retail sale, they will be placed in Item 292 : " Prepared medicaments, etc.".

Similarly, products which in themselves belong to Items 261 and 262 will be classified, for example, in Item 297 (Chapter 29) : " Chemical products for use in photography, apportioned or put up for retail sale ", if they are marketed in such a way.

Further, it should be noted that Items 261 and 262 comprise, not only inorganic compounds, but also organic compounds containing the metal in question.

Item 261.

(a) A special item is reserved for combinations of silver.

A silver salt of great importance is nitrate of silver, used as a raw material in the preparation of most silver compounds. It is very widely employed in medicine, also in photography and for the preparation of ceramic colours.

Other salts which are of technical importance are chloride and the other halogen compounds of silver, which are principally used in photography—phosphate, sulphocyanide, sulphide and cyanide of silver.

Mention should also be made of the silver salt of hydrazoic acid and also silver oxide.

Of the large number of organic compounds of silver, albuminate of silver should be mentioned.

Lastly, though, strictly speaking, not being an actual silver compound, metallic silver in colloidal solution, playing as it does an important part in medicine, should also be classified here.

In addition to metallic silver in colloidal solution, Item 261 further comprises colloidal preparations of the metals coming under this item.

These preparations will, of course, be included in the same sub-item as the metal from which they are derived.

(b) In the second sub-item come the important combinations of gold.

Of these, the principal is gold chloride, as it has the property of forming with alkalies the alkaline salts of the complex auro-hydrochloric acid, which is widely employed for the preparation of ceramic colours and of colloidal gold and also in photography.

The double salts of gold sulphocyanide with the alkaline sulphocyanides are employed for the same purposes.

Mention should also be made of fulminate of gold.

In pharmacy, a whole series of organic compounds of gold is used.

Similarly, preparations containing colloidal gold must be classified in this item (see observations on colloidal silver).

(c) The last sub-item comprises combinations of platinum and of metals of the platinum group.

Of the platinum compounds, a certain technical importance is attached to platinum chloride, which in the presence of hydrochloric acid acts as a complex chloroplatinic acid, as well as to platinum cyanide, which similarly acts as a cyanoplatinic acid. These products are extensively used in photography, in platinum plating, in the colouring of ceramic glazes, in the preparation of catalysers, etc.

Next comes platinocyanide of barium, which forms the basis for the screens used in radioscopy by X-rays (Röntgen rays).

Of the metals of the platinum group, mention must be made of the so-called " light " metals—ruthenium, rhodium and palladium. Of their compounds, rhodium chloride and palladium chloride have a certain technical importance. On the other hand, the compounds of the " heavy " metals of the platinum group—osmium and iridium—are of much less technical importance.

Item 262.

The second collective item for cations comprises the combinations of rare earths.

Scientifically speaking, the term "rare earths" refers to the oxides of a number of rare metals which show a close chemical similarity to one another.

Mention should be made first of the earths of the cerium group—thorium, lanthanum, cer (cerium), praseodymum and neodymum, samarium and europium, and next the earths of the gadolinium and ytterbium group—scandium, yttrium, ytterbium, gadolinium, terbium, dysprosium, holmium, erbium and thulium.

All these metals are found in the sand known as " monazite ", which occurs as a product of the decomposition of rocks in North and South America, Australia, Arica and India.

Cerium and thorium are alone of real technical importance. Of their compounds cerium oxide or cerium hydroxide is used by itself for weighting silk, as an enamel opacifiant and also as a catalytic substance for a large number of chemical operations and processes.

Thorium oxide is used in the manufacture of fireproof materials and crucibles, as an enamel opacifiant and in the manufacture of incandescent mantles in association with cerium oxide.

Of the other cerium salts which are of technical importance, mention must be made of the fluoride and tungstate (which are added to the carbon of arc lamps), the phosphate (a high-temperature ceramic pigment), the nitrate (used for incandescent mantles and the manufacture of flash-light substances for taking photographs) and chloride (used for the manufacture of pyrophoric alloys).

Among the important salts of thorium are the nitrate, which is also used for the preparation of incandescent mantles, the acetate, the oxalate and the fluoride.

Of the other rare earths, mention should also be made of the salts of didymum (praseodymum and neodymum), which are also used as high-temperature ceramic pigments and as glass decolourising agents ; the salts of lanthanum, which are added to the carbon of arc lamps ; the compounds of scandium used as mordants for colouring and decolourising glass and glazes.

In this item are also grouped the salts of radium, among which mention must be made of the chloride, the bromide and the sulphate.

Lastly, there must also be classed in this group, as " radioactive " substances, mesothorium and radiothorium, which are put to the most varied technical uses, particularly in medicine and for the preparation of luminescent substances.

Other Inorganic Compounds not elsewhere specified or included ; Carbides and Carbon Sulphide.

The next group contains inorganic products which are of commercial importance but which cannot consistently be placed in the previous groups of chemical elements, condensed gases, acids, oxides, hydroxides and salts.

Item 263.

Item 263 comprises all the peroxides which, on account of their property of readily releasing oxygen, play an important part as bleaching and oxidising agents.

(a) The first sub-item comprises the dioxide or peroxide of hydrogen (oxygenated water), which, in addition to numerous technical uses, is employed, more especially in therapeutics, as an antiseptic and as a cosmetic.

This product will also have to be placed in this item even if, in order to facilitate its transport, stabilising substances such as urea are added to it. Preparations having a base of peroxide of hydrogen will not, however, be classified as cosmetics in the corresponding items based on the use to which the article is put, unless they are put up for immediate use as such.

(b) The second sub-item comprises, first of all, the peroxide of sodium. This product is also used for many and varied purposes, more particularly since it reconstitutes a concentrated peroxide of hydrogen, absorbs carbonic acid and at the same time releases oxygen. It is further of importance because it forms the basis for the preparation of most of the other compounds known as peroxides.

The next substance in the same sub-item is barium dioxide or peroxide, which is added to products used for bleaching, cleaning and grease-removing, in aluminothermy, for the preparation of " ignitible tablets " and for the preparation of peroxide of hydrogen.

(c) Another sub-item comprises manganese peroxide, which occurs in nature in the form of pyrolusite (Braunstein), which, however, does not as such belong to this item. Manganese dioxide prepared by chemical means will alone be classed in Item 263. It exists in commerce either by itself or in combination as potassium manganite mixed with lower oxides of manganese, caustic potash and water of hydration. It is then used more especially in the manufacture of the elements of electric batteries.

(d) Another special sub-item covers the dioxide or peroxide of lead, which is used mainly in the match industry and also in the electro-technical industry and for the manufacture of explosives.

(e) All the other peroxides, which also occur in commerce, come under the collective sub-item " other ".

Mention may be made of magnesium peroxide and zinc peroxide, which are used for pharmaceutical purposes.

Item 264.

Next to the peroxides are placed the per-salts, which, with the peroxides, have the property of being oxygen vehicles and are thus differentiated from other salts, so that they may justifiably be placed in this special position.

(a) The first sub-item comprises the perborate group, the most important of which, sodium perborate, besides being used as a bleaching material, is employed mainly for the manufacture

of washing substances and cosmetics and medicinal preparations. Besides sodium perborate, the formula for which is $NaBO_3 . 4 H_2O$, there is another sodium per-salt of boric acid, perborax, the formula for which is $Na_2B_4O_8$, and which also occurs in commerce and is used principally for medicinal purposes.

Potassium and ammonium perborates are of less importance.

The alkaline-earth perborates, as well as the magnesium and zinc perborates, are also used in bleaching and in dermatology, and further for the manufacture of tooth powders and pastes and of polishes.

(b) The next sub-item comprises the percarbonates—*i.e.*, the salts of percarbonic acid, which is unknown in the free state, and whose alkaline salts only are of technical importance, being used but solely to a small extent as bleaching substances.

Mention must also be made of the use of potassium percarbonate as a substance for addition to washing preparations and for removing fixing salts in photography.

Further, besides the percarbonates, there are solid products composed of sodium carbonate and hydrogen peroxide, which, however, should be classified together with sodium percarbonate, on account of their great analogy with the latter, from an economic point of view.

(c) Next, the salts of persulphuric acid are of primary importance. Of these, the alkaline salts are used for the preparation of hydrogen peroxide (oxygenated water), for bleaching flour and for a large number of other technical purposes.

(d) The expression " Per-salts, other " does not include the perchlorates and the permanganates, which belong to Items 246 and 251, where they are specifically mentioned.

At present there are not other per-salts known to be of commercial importance ; the collective sub-item is thus only intended, at all events for the time being, as a reserve item.

Item 265.

The next item comprises the carbides, which really include carbon, but the manufacture of which comes within the scope of the great inorganic chemical industry. Consequently, the carbides are classified among inorganic products.

Of these carbides, the most important from the technical point of view is :

(a) Calcium carbide, which is used in the preparation of acetylene and of calcic cyanamide ;

(b) Another sub-item is provided for silicon carbide, used as an artificial abrasive either in the form of powder or agglomerated into millstones, grindstones, files, or otherwise, or deposited as a thin coating on a suitable ground.

Silicon carbide is also being used increasingly in the fireproof material industry, the building industry and the electrical industry ;

(c) The other carbides, which are grouped together in the collective sub-item, are of much less importance than the preceding carbides.

Of their number, mention may be made of barium carbide, and a mixture of barium carbide, barium oxide and barium cyanide, used in the preparation of acetylene.

Mention may also be made of boron carbide, used on account of its hardness as an abrasive and for the manufacture of the electrodes of arc lamps, etc. Iron carbides are used in iron-working. Titanium carbide is used for the manufacture of the electrodes of arc lamps. Molybdenum carbide is of much less importance.

Item 266.

The observations on the manufacture and classification of the carbides also apply to sulphide of carbon.

It is used primarily in the manufacture of artificial silk having a viscose base ; next come its uses for the destruction of insects and other harmful organisms, as a dissolvent and as an agent for vulcanising rubber. Lastly, it is used as a raw material in the preparation of a number of inorganic products, such as tetrachloride of carbon, the sulphocyanides and the xanthogenates.

Item 267.

The group closes with a collective item for inorganic compounds not specified elsewhere, some of which are mentioned in sub-items.

(a) Of the chlorides of phosphorus, the principal is the trichloride, used for the preparation of other phosphorus compounds. It is also employed in the manufacture of coal-tar colouring materials and in the ceramic industry for obtaining " lustre effects ".

The pentachloride and the oxychloride of phosphorus play an important part in organic synthesis and also as catalysers.

(b) The sulphides of phosphorus, in the form of trisulphide, pentasulphide and, above all, sesquisulphide of phosphorus, are widely employed for the manufacture of matches.

(c) Chloride of sulphur (formula S_2Cl_2) is employed mainly in the vulcanisation of rubber. It is also used for organic synthesis, for the preparation of sulphide of carbon, in the explosives

industry, the artificial rubber industry, etc. The other compounds of sulphur and chlorine are of no technical importance.

With chloride of sulphur are classed other sulphur compounds of chlorine, such as sulphuryl chloride (SO_2Cl_2) and thyonyl chloride ($SOCl_2$). These compounds of sulphur and chlorine are employed mainly for the chloridisation of organic products.

(d) The term " phosphides ", as used in this sub-item, applies to compounds of phosphorus with metals or metalloids not specified elsewhere—*e.g.*, chlorides and sulphides of phosphorus. Such substances are tariffed under this sub-item if the constituent elements of the compound bear a fixed stoichiometric proportion to each other, as is the case with calcium phosphide—which is fairly extensively employed for filling luminous buoys—and also aluminium phosphide, which, too, is of a certain technical importance.

On the other hand, in the case of substances which are not compounds but alloys—*i.e.*, if the relative proportion of the constituent parts may be changed at will, as in the case of phosphide of iron, phosphide of copper, etc., such products are placed, not in Item 267 *(d)* (Chapter 28), but in the relevant item of the chapter on metals.

(e) Next, the collective sub-item comprises all inorganic products not specified or included in other items.

As examples of such products, mention may be made of the following : the nitrides—*i.e.*, compounds of metals or metalloids with nitrogen, among which mention may be made of aluminium nitride—and the nitrides of iron, titanium and boron ; the hydrides, of which the only one of technical importance is calcium hydride, which may be used as a source for obtaining hydrogen.

* * *

As regards the arrangement of the organic chemical products within the two main groups —organic products the structural formula of which constitutes an open chain and organic products the structural formula of which has a benzene nucleus—the basis that may be taken for further subdivision is the property possessed by organic compounds of allowing an atom of hydrogen to be replaced by another element or group of atoms the presence of which in the compound confers upon it specific chemical properties called functions.

If, for example, in the hydrocarbides an atom of hydrogen is replaced by an atom of a halogen—chlorine, bromine or iodine—halogenated hydrocarbides are obtained which have very specific properties. In view of this fact, it may be recommended that in the nomenclature the halogenated hydrocarbides should be classified in a single group. The halogen in its turn may be replaced by the " oxhydryl " group, and in this way the alcohol group is reached.

Again, if by oxidation two atoms of hydrogen are eliminated from the characteristic functional group of alcohols, the aldehyde and ketone groups are obtained.

The aldehydes in their turn may by further oxidation fix a new atom of oxygen, and in this way the acid group is reached.

If the alcohols react upon each other in the appropriate manner, the group of ether-oxides is reached.

If the alcohols and acids react upon each other, the group of ether-salts or esters is obtained.

All these observations apply both to aliphatic organic compounds (a term which applies to open-chain compounds) and also to the so-called aromatic compounds—*i.e.*, those having a benzene nucleus.

In the classification of aromatic substances, however, for practical reasons which are particularly weighty in view of the economic conditions attending the manufacture and use of these substances, certain departures are made from the rigid observance of the system previously explained of grouping together aromatic bodies according to their functional properties.

Organic Compounds, except the Aliphatic Acids and their Salts.

Items 268 to 274 comprise all aliphatic organic compounds except the acids and salts already grouped with inorganic acids and salts ; and also the ethers and esters, which appear under Item 273.

Item 268.

The simplest organic compounds are the hydrocarbides.

No special item has been provided for the aliphatic hydrocarbides, because they have been placed in Chapter 27 as products of the distillation of mineral oils.

Moreover, when they occur in the form of compressed gases—*e.g.*, methane—they come under Item 217 : " Compressed Gases ".

The chapter on aliphatic organic chemical products therefore begins with the halogenated hydrocarbides.

(a) Of these, a conspicuous position has been given—by the allotment of a special sub-item —to chloroform (trichlormethane), which is used in medicine as an anæsthetic and is also

employed in various other ways for technical purposes, mainly as a dissolvent and as an agent for organic synthesis.

(b) Of the other halogenated hydrocarbides, the chlorine products are sufficiently important to be grouped in a special sub-item.

In the first place, mention must be made of the tetrachloride of carbon, which is a dissolvent and a remarkably efficient extracting agent. It is also employed in the textile industry for washing, as a fire extinguisher and for a large number of other technical purposes.

Carbon tetrachloride is placed in this item, even though in its case all the hydrogen atoms are replaced by chlorine, and for that reason it cannot strictly be described as a derivative of a hydrocarbide.

Another series, though a wholly special one—namely, the hydrocarbides of chlorine—is obtained by the action of chlorine, under special conditions, on acetylene, in the form of the following products : ethane tetrachlorate, ethylene bi- or tri-chlorate, ethane pentachlorate, ethylene perchlorate and, finally, ethane hexachlorate.

Of these products, ethylene trichlorate is the most important, which, on account of its non-inflammability, is extensively used as a dissolvent.

The other products mentioned above are much less important. They are distinguished from ethylene trichlorate more particularly through their boiling-point. In certain cases, they are preferred by consumers to ethylene tri-chlorate, if their boiling-point is more suitable for the particular requirements of the manufacture in question.

Besides these compounds, there are a number of other hydrocarbides of chlorine which are of technical importance.

Ethyl chloride and methyl chloride are gaseous at a temperature of 20° C. and at ordinary atmospheric pressure, and are, therefore, classed in Item 217, where the special sub-item *(g)* has been allotted to them.

As regards the hydrocarbides of bromine and iodine :

(c) Bromoform (tribromomethane) and iodoform (triiodomethane), both of which are used in medicine, correspond to chloroform.

(d) The collective sub-item comprises the other hydrocarbides of bromine and iodine, among which methyl iodide (used in organic synthesis and for the manufacture of coal-tar colouring materials) must be mentioned.

Methyl bromide, which is employed in medicine and for the preparation of glycol, is gaseous at a temperature of 20° C. and at ordinary atmospheric pressure, and therefore comes under Item 217, where it is specified by name in sub-item *(g)*.

All the halogenated hydrocarbides which are solid or liquid at a temperature of 20° C. and at ordinary atmospheric pressure are classified under Item 268, even if from the chemical point of view they are regarded as esters of an alcohol with an inorganic hydracide. For that reason, Item 273 might perhaps have been placed under Item 268, which comprises ethers and esters ; it was decided otherwise, however, in view of the uses to which ethers and esters are put.

Item 269.

Alcohols are derived from hydrocarbides, through the replacement by the oxhydryl group OH of one atom of hydrogen in the case of the monovalent alcohols and of several atoms of hydrogen in the case of polyvalent alcohols.

Besides the primary alcohols (contained in the group CH_2OH), there are also secondary alcohols (CH,OH) and tertiary alcohols (C,OH), which are distinguished according to the degree to which the hydrogen atoms are replaced in the CH_2 group, to which oxhydryl is attached.

(a) The simplest form of alcohol is methyl alcohol or methanol. It used to be obtained solely by the carbonisation of wood. To-day this method of production has been far outdistanced—in Europe at all events—by a synthetic process of manufacture.

Methyl alcohol is put to the most varied uses—in the manufacture of coal-tar colouring materials, for the production of formaldehyde, as a dissolvent and as a preservative for various products.

The homologous alcohol which comes next is ethyl alcohol, which, although manufactured by synthetic means, is also, and mainly, obtained from distilleries. On account of the principal use to which it is put, it is mentioned among alcoholic beverages and liquors in Chapter 22, Item 158.

(b) Of the other monovalent alcohols, the next three in the series—amyl, butyl and propyl alcohol—are in all their isomeric forms characterised by the fact that they are extracted from fusel oil, which is a distillery by-product. They are employed for important technical purposes, in the perfume industry and as dissolvents.

Most of these products are also obtained nowadays by synthetic means.

The other monovalent alcohols are of much less importance. Of these mention may be made of allyl alcohol, which is employed in the manufacture of coal-tar colouring materials.

(c) A special item is next allotted to fusel oils as, in view of their use as a raw material for the extraction of the alcohols mentioned in the previous sub-item, provision had to be made to enable them to be accorded special tariff treatment, if required.

(d) Of the polyvalent alcohols mention must be made first of glycerine, which, however, being produced by the decomposition of fatty matters, belongs, according to the arrangement of the nomenclature, to Chapter 15, where it is placed under Item 110.

On the other hand, mention must be made in the chapter on chemical products of glycol, a bivalent alcohol which has recently acquired great importance as a raw material for the production of dissolvents and also as a substitute for glycerine, in cases where its physical properties are the same and enable it to replace that substance.

(e) As another polyvalent alcohol, mention may also be made of erythrite, which is found in a natural form as ether, and which may perhaps also be used as a substitute for glycerine even in the explosives industry. Provision may further be made, in the series of hexavalent alcohols or hexites, for products some of which may ultimately become of commercial importance in view of obtaining important esters for the manufacture of dissolvents.

Hexavalent alcohol termed " sorbite " is already employed in medicine.

The heptyl and octyl alcohols are used on account of their antiseptic properties as disinfectants and as a means of destroying insects and harmful organisms.

Item 270.

The aldehydes are produced by the oxidation of primary alcohols, though other processes of production are also known.

(a) In the first place, the aldehyde which is of outstanding technical importance is the simplest—formaldehyde—the name of which is derived from its chemical connections with formic acid. It is produced exclusively through the oxidation of methyl alcohol. On account of its extensive capacity for reaction, it is employed for many purposes in organic chemistry and for technical chemical purposes.

It is put to important uses in the preparation of coal-tar colouring materials and of artificial plastic materials, as a disinfectant, as an agent for the destruction of parasites and harmful organisms, and, finally, in the preparation of pharmaceutical products.

Formaldehyde is gaseous at the ordinary temperature, but in commerce is found only in two forms—namely, either in solution in water (content 40 per cent of formaldehyde) or in the solid state, after polymerisation, in the form of paraformaldehyde or trioxymethylene. The aqueous solution is known under various trade names, such as " formol " and " formaline ".

(b) The homologous aldehyde which follows next is of no less technical importance, and on account of its chemical connections with acetic acid is called " acetaldehyde ".

Formerly obtained by means of ethyl alcohol through the action of a suitable oxidising agent, it is to-day produced almost exclusively by synthetic means through the transformation of acetylene.

Acetaldehyde is used mainly as the original substance from which other chemical substances are produced.

It also provides products of polymerisation, such as paraldehyde or metaldehyde, and the latter in solid form has acquired commercial importance as a fuel.

(c) Among other aldehydes, mention may also be made of acrylaldehyde—also called acroleine—which, mixed with formaldehyde, is used specially as a disinfectant.

Mention must also be made of chloral, which is marketed in solution in water or in alcohol or as a solid, in a polymerised state. It is used as a raw material for obtaining other organic substances and is also employed in medicine.

Crotonaldehyde may possibly be regarded as a commercial product also.

Item 271.

If the secondary instead of the primary alcohols are taken as the starting-point for the oxidation of alcohols, the ketones are obtained. Of these the most important is :

(a) Acetone. In the case of this product, too, the old method of preparation by the isolation of the products of the distillation of wood has largely been replaced by synthetic preparation commencing with acetylene.

Quite recently the production of acetone by a process of fermenting maize has come to the fore.

Acetone is used for the preparation of many chemical substances.

It is also of great importance as an agent for expanding nitrocellulose, and in the manufacture of smokeless powder and of celluloid.

(b) At present there are hardly any other aliphatic ketones of commercial importance to be classified in the collective sub-item.

Item 272.

The aliphatic ethers and esters have not yet been mentioned in any of the items of Chapter 28. Nevertheless, they do not come under Item 272, which comprises only " amines, amides and other aliphatic organic compounds not elsewhere specified or included ", except the ethers and esters.

These last are grouped together with aromatic organic ethers and esters in Item 273.

As examples of products belonging to Item 272, mention may be made of ammonia aldehyde, which is used for accelerating vulcanisation ; hexamethylenetetramine, also used for accelerating vulcanisation and for pharmaceutical purposes ; finally, ethanolamine, acetamide, acetonitrile, acetal, etc.

Urea would also belong to this item in view of its chemical structure ; being used mainly as a nitrogenated fertiliser, however, it has been placed in sub-item *(d)* of Item 343 (Chapter 35).

Products of aliphatic and of aromatic constitution are classified as aromatic chemical products under Item 274.

The products obtained by the action of organic acids on certain inorganic derivatives, such as acetyl chloride, belong to Item 272.

Item 273.

The alcohols specified in Item 269 may react either among themselves or with acids, releasing water. In the former case, the ether oxides (ethers properly so-called) are obtained, and in the latter, the ether salts (esters). The reaction of the alcohols and aromatic acids is similar to that of the aliphatic alcohols. The outcome of these conditions of formation is the production of an extraordinarily large number of products coming under the denomination " ethers and esters ".

As the economic position of the ethers and esters, both of the aliphatic and of the aromatic series, is very largely similar, it was thought that it would be requiring too much investigatory and analytic work from the Customs administrations if the products of each category were classed separately, and accordingly they have been grouped together.

Many ethers and esters are used for technical purposes, as dissolvents, for expanding other substances or rendering them plastic, etc., particularly in the varnish, oil, textile, leather and other industries. Many aliphatic and aromatic ethers and esters are also employed in the manufacture of expensive articles of food and in the perfume industry.

In view of the chemical relations of many ethers and esters with ethyl alcohol, and the large number of countries in which ethyl alcohol constitutes a State monopoly or is subject to a special regime, these products are subject to special duties, apart from the question whether, in practice, ethyl alcohol can be recovered from the products or not.

These requirements of fiscal policy have to be co-ordinated with the need in certain countries to avoid taxing too heavily dissolvents which are used as auxiliary material in many industries. In a national tariff, it is possible to co-ordinate these interests by inserting a general clause under which the ethers and esters used as dissolvents receive favourable Customs treatment, subject to verification of their use. However, this solution is inadmissible in the international nomenclature, which cannot lay down rules for Customs treatment, but can only classify the commodities. It was therefore necessary to try to classify separately ethers and esters used as dissolvents on the one hand and ethers and esters used as odoriferous materials on the other.

The success of these attempts was rendered very difficult, primarily because the field covered by the products in question is defined, not by easily recognised physical properties, but rather by the uses and purposes of the products in question, and there is constant difficulty in providing such conclusive evidence of these uses and purposes as will satisfy the requirements even of a Customs tariff. These difficulties have been solved in the following manner :

At first, the aliphatic and aromatic ethers and esters used as artificial odoriferous materials were classified generally in Chapter 31. The other ethers and esters—with certain special exceptions—were classified in Item 273, which was divided into three sub-items.

In view of the special part played by ethyl ether among the other ethers and esters, both in its chemical relations with ethyl alcohol and on account of its economic importance, it has been allotted the first sub-item *(a)*.

The dissolvents have been classified under sub-item *(b)*, while in sub-item *(c)* have been classified all the other aliphatic and aromatic ethers and esters, ethyl ether excepted, which do not come under the Customs tariff definition of " dissolvents " or in the category of " artificial odoriferous materials ". As examples of products which should be placed here, mention may be made of the following : ethyl acetylacetate (a special ester of acetic acid), which, on account of its tendency to form with various substances condensation products having a cyclic chain, forms a valuable auxiliary agent in organic chemistry ; anisol (phenol methylether) and phenetol (phenol ethylether), which are of importance as intermediate products of colouring matters derived from coal tar ; and isobornylester of carbanilic acid used for technical purposes.

The allocation to sub-item *(b)* of ethers and esters—that is to say, of dissolvents as distinct from odoriferous substances—has necessitated the preparation of two lists, a list of dissolvents (Annex II) and a list of synthetic perfumes (Annex III). The list of dissolvents contains only products which have for long proved their value as dissolvents, or which, in all probability, will remain of economic importance in this respect for some time to come. The summary list of items was chosen so as to avoid encumbering the list with too many products. This method of preparing the list is, however, open to the objection that decisions will have subsequently to be taken in regard to various exceptions. Of these, the following may be considered : the

phtalates of glycerine and glycol, which come under the item for artificial non-hardenable resins ; the butyrates of methyl and ethyl, which are placed on the list of odoriferous materials.

It may, of course, be necessary to revise this list of dissolvents from time to time, as, owing to rapid technical progress, some products may no longer be used as dissolvents and other products may prove utilisable as such.

AROMATIC AND HETEROCYCLIC ORGANIC COMPOUNDS NOT ELSEWHERE SPECIFIED OR INCLUDED.

Item 274.

For the classification of aromatic chemical products, a system of division was considered similar to that for aliphatic products.

The aromatic hydrocarbides themselves may at any rate be left out of consideration in this respect, because they are almost exclusively obtained during the distillation of coal tar and therefore come under the group of oils originating from the distillation of coal tar and their directly isolated constituents in Item 203 (Chapter 27).

It was therefore proposed that the first group should consist of halogenated nitrated and sulphonic derivatives, and hydrocarbides of the benzol and naphthalene series.

The second group would comprise derivatives of hydrocarbides of the benzol and naphthalene series, in which one atom of hydrogen is replaced by a hydroxyl group and which constitute the phenol group.

The third group was reserved for the numerous aromatic products in which one atom of hydrogen of the benzol or naphthalene series is replaced by the " amine " group (NH_2) and for derivatives of those products.

Another group would comprise the aldehydes, the quinones and the ketones, not only of the benzol and naphthalene series, but also of the anthracene series, so as to include the important group of " anthraquinone " and its derivatives.

Lastly, there would be a special item for carboxyl acids and their corresponding derivatives, while all the other important aromatic products omitted from the preceding five groups would be placed in a final collective item.

* * *

Objections to such a method of division were, however, raised, on the grounds that, in the case of countries which have no manufacture of aromatic products or which for other reasons are not concerned in possessing an extremely specialised tariff for aromatic chemical products, the working of their Customs system would be complicated if investigations had to be made in order to determine the exact application of each particular product, while probably the Customs treatment would always be the same.

The parties in interest therefore proposed that only a few important aromatic products should be named, such as are used and classified separately by almost all countries ; the remainder of the aromatic chemical products would be included in a wide collective sub-item to be subdivided at the discretion of the countries concerned, they, if the case arises, adopting for the purpose the proposed classification quoted above.

The following products have been mentioned as being particularly representative of the groups çombined in the first proposal :

In the series of chlorated, nitrated and sulphonic substitution derivatives of benzene and naphthalene hydrocarbides : nitrobenzene and nitrotoluene, and, further, monochlorbenzene and chlorodinitrobenzene ; in the series of phenols or their substitution derivatives : resorcine, hydroquinone, pyrogallol, naphthols, pyrocatechin, guaiacol and its salts ; in the series of amines and their substitution derivatives : aniline, toluidines, xylidines, diphenylamine, naphthylamines, nitranilines, anisidines and their salts ; in the series of aldehydes, ketones, etc. : benzaldehyde and anthraquinone ; in the series of aromatic acids : salicylic acid, acetylsalicylic acid and their salts, benzoic acid, anthranilic acid, gallic acid and gallo-tannic acid (tannin) and their salts, phthalic acid and anhydride ; in the remaining group : artificial sweetening substances.

This method certainly has the advantage of taking into consideration the requirements of most countries, while allowing of a more specialised subdivision in the case of countries particularly interested.

On the other hand, in view of the desire of some countries to provide in the International Customs nomenclature for the division into six groups, attempts have been made to combine the different systems by drawing up the following text :

(a) Sub-item *(a)* mentions nitrobenzene and nitrotoluene and also monochlorbenzene and chlorodinitrobenzene as being those representatives of nitrated and halogenated derivatives of benzene and naphthalene hydrocarbides which are the most important types.

(b) The remaining substances proposed for the first group—halogenated, nitrated and sulphonic derivatives of benzene and naphthalene hydrocarbides—are then grouped in the second sub-item.

(c) The third sub-item takes from the group of phenols or their derivatives a few products which are of special importance for trade : resorcine, hydroquinone, pyrocatechin, pyrogallol, naphthols, guaiacol and its salts.

(d) The text proposed for the remainder of the phenol group appears in the fourth sub-item, which also includes nitrated derivatives.

The text is supplemented by alkylated and arylated derivatives.

(e) and *(f)* The third group is treated in a similar manner : derivatives of amines, special mention being made of aniline, toluidines, xylidines, diphenylamine, naphthylamine, nitranilines, anisidines and their salts.

Here, also, the text of the collective sub-item *(f)* is supplemented by " acidylated derivatives ". This item also includes nitrated azoic derivatives, the salts of the preceding derivatives and the acidylated compounds of all the products coming under this category.

(g) and *(h)* The same principle applies to the group of aldehydes, quinones and ketones, of which benzaldehyde and anthraquinone are separately mentioned.

(j) (k) and *(l)* Of the acid group, special mention is made of salicylic and acetylsalicylic acids with their salts on the one hand and benzoic, anthranilic, gallic and gallo-tannic acids and their salts, together with phthalic acid and anhydride, on the other. The remainder of the group also includes the amides, with arylated amides, and the acidylated derivatives of all the above-mentioned acids.

(m) Further, the collective sub-item excludes the artificial sweetening substances of which mention may be made of the sulphimide of benzoic acid and the paraphenetolcarbamide. The sodium salt of aminotriazinsulphonic acid also comes under the same group.

These substances are placed on the market under various names, among which we may mention " saccharine " (sulphimide of benzoic acid) and " dulcin " (paraphenetolcarbamide).

(n) The final collective sub-item includes all the other organic substances the chemical structure of which is not in the form of an open chain and which do not come under Item 273 or the sub-items *(a)* to *(m)* of Item 274.

An important group of chemical products also belonging to this category is that of organic substances the chemical structure of which is neither an open chain nor a benzene nucleus.

As examples of such products, we may mention oxide of ethylene, dioxide of diethylene, and oxide of propylene, which are used for preparing ethers and esters, glycols of ethylene and propylene. Dioxide of diethylene is also used as a dissolvent.

In the same way, the derivatives of pyrrol are classified in this sub-item and also, for countries wishing to include them specially in their tariff, vulcanisation accelerators, in so far as their structure is not exclusively aliphatic (thiourea, diamidodiphenylurea, guanidine, urea substitutes, etc.).

Other Chemical Products and Preparations.

In the collective group which concludes the special part of the chemical compounds are placed both products which undoubtedly come under the items of the chapter referring to those compounds, but which for special reasons require to be included elsewhere, and products which by their nature are classified outside the chapter referring to chemical products, but, in view of their numerous economic connections, should be placed in as neutral an environment as possible.

Item 275.

Active charcoals are extracted from various organic substances. Wood and peat charcoal should be mentioned first. Then come lignite, sawdust, nut shells and other similar materials which are also used as raw materials for the production of active charcoals. Bone black or animal charcoal and all other black of animal origin are also included under " active charcoal ". Substances belonging to this group are either active without requiring further treatment—as in the case of bone black or animal charcoal—or must first undergo chemical or physical treatment in order to become active. For instance, zinc chloride is used in the way indicated for the preparation of these charcoals.

It was proposed that the characteristic justifying the classification of a carbonised substance under " active charcoals " should be held to be the property of discolouring within a certain time a solution to which methylene blue has been added, or of absorbing a specified quantity of benzene contained in a specified volume of air saturated with benzene vapour.

Item 276.

The nitrocelluloses are nitric esters of cellulose, and, as such, in accordance with the nomenclature adopted, belong to the sub-item in which esters are classified. These products vary, however, both in themselves and in the form of solutions which are found in commerce under the name of collodion ; economically, they are of such importance that it was thought fit to make a separate sub-item for them.

The nitrocelluloses themselves are placed in the chapter respecting explosives, to which they really belong.

The solutions of collodion are placed on the market in the most diverse varieties, both in respect of their nitrocellulose content and the nature of the dissolvents. The principal dissolvent formerly used was a mixture of alcohol and ether ; but organic esters, such as butyl-acetate, are now also employed. If a plastifying substance is added to a solution of collodion, collodion pastes are obtained.

All these products have been grouped in Item 276, irrespective of the solvent or the degree of concentration.

Collodions are put to many technical uses, such as, for instance, in the varnish industry, where they are employed to prepare quick-drying solutions and are, therefore, preferable for mass application—as, for instance, in the motor-car industry.

Collodions are also much used in photography and lithography. They are also used in the preparation of transfer pictures, coloured papers, multigraphing appliances, in the incandescent mantle industry, etc. Lastly, collodion is used for manufacturing pharmaceutical products.

Varnishes with a nitrocellulose base belong, not to this item, but to Item 310, sub-item *(c)* (Chapter 30).

Item 277.

If the nitrocellulose solutions of Item 276 are suitably treated and, in particular, if they are mixed with camphor or camphor substitutes, celluloid is obtained ; this is a chemically prepared substance which can be moulded into any shape and from which the most varied objects can be made by blowing, cutting or turning. Celluloid is of great technical importance as a substitute for natural carving and moulding materials, such as ivory, tortoiseshell, mother-of-pearl, etc.

If cellulose is treated under special conditions with acetic acid, it is converted into cellulose acetate or acetylcellulose. Acetylcellulose is distinguished from celluloid by the fact that it is placed on the market, not only in the form of compact products, but also in powder or in clots. In the latter form, acetylcellulose is principally used in the manufacture of varnish.

Lastly, this group contains a third derivative of cellulose in the form of " xanthogenate of cellulose ", known as " viscose ", which is of primary importance from an economic point of view.

It should be noted, however, that Item 277 does not include either viscose threads, which come under the group " artificial silk ", or viscose fibres, which, from the point of view of the nomenclature, are " artificial textile fibres ".

Other esters of cellulose, such as possibly that resulting from treatment by formic acid—*i.e.*, formylcellulose, or, for instance, ethylcellulose and benzylcellulose—are not at present of the same importance as acetylcellulose. There is, however, reason to believe that, in the future, these products will acquire an increasing technical importance.

Sub-items have been provided for the various commercial forms of the derivatives of cellulose belonging to this item ; by means of suitable subdivision, the differences in the economic position of celluloid, acetylcellulose and viscose have been duly taken into account.

(a) The first sub-item includes the derivatives of cellulose in the form of powder or clots. Acetylcellulose in particular is found in this form.

It was proposed to create a special item for acetylcellulose powder. In view, however, of the fact that the nomenclature should be simplified as far as possible, it was not thought necessary to create such a sub-item, the wording of *(a)* allowing any country to make the necessary subdivisions later on.

Acetylcellulose in powder or clots is relatively bulky, and is, therefore, frequently compressed into blocks in order to facilitate transport. These blocks are distinguished from those mentioned in the following sub-item by the fact that the material ceases to cohere as soon as the wrappers are removed. These commercial forms of acetylcellulose should also be included in sub-item *(a)*, and, therefore, the expression " in non-coherent masses " has been introduced into this sub-item.

There is a further article of commerce, dinitrocellulose, which is mixed either with camphor or with plastifying substances (the latter being principally substitutes for camphor), such as tricresylic phosphate or the ester of phthalic acid. These mixtures are marketed in the form of small thin sheets irregularly cut or broken, which can then be treated by dissolution, in a similar manner to acetylcellulose, in order to produce varnishes, compositions for applying to suitable grounds (for instance, in the manufacture of artificial leather, etc.).

Given that these materials cannot be used in the above-described commercial form as carving or moulding substances or materials, they are placed under sub-item *(a)*, where their characteristics are described in the following wording : " In flakes, lamels or small irregular plates ".

(b) Among the forms of these materials after fashioning—in particular, as regards celluloid —mention must be made of the sheets obtained by cutting up blocks of this product. As a result of the drying process which follows cutting, the celluloid sheets have an unequal and undulating surface which is remedied by pressure between iron sheets laid upon one another in heated hydraulic presses. By this process the dull or smooth surface of the iron sheets is communicated to the sheets of celluloid. But this smooth surface must not be mistaken for a polished surface obtained by subsequent working.

Factories producing raw celluloid supply this material, not only in sheets, but in the form of blocks, thick plates, tubes and sticks, which are marketed without having undergone any additional working. The thin sheets of these cellophane-type materials, even when coloured in the mass, are also included in the respective tertiary items if their surfaces are not otherwise worked.

Sheets cut in square or rectangular form not worked on the surface are also included in this item. However, unsensitised bands for films, which come under Item 293*(a)* (Chapter 29), are not included in this item.

(c) The third sub-item is reserved for fragments. In particular, celluloid fragments are a raw material for mastics with a base of celluloid, etc.

Fragments consist of waste of manufacture of irregular shape or old manufactures which can no longer be used as such.

Item 278.

The next items specify the other chemically prepared materials which, like celluloid, are used as carving and moulding materials.

These include, in the first place, substitutes for horn, the production of which is based on the property of casein to harden under the action of formaldehyde. The most important of these varieties of artificial horn is that known commercially as " galalith ".

Gelatine and starch can also be hardened under the influence of certain specific substances and may consequently give similar products.

(a) As the substances in question are placed on the market almost exclusively in a solid form, no special sub-item was provided for them in the form of powder or clots, but only one sub-item for the solid forms, even if they are simply smoothed, unworked ; the products which are polished or otherwise worked on the surface have been included in Chapter 82.

With regard to sheets, see the observations relating to the previous item.

(b) A further sub-item includes the fragments.

Item 279.

A third important category of carving or moulding materials is represented by the condensation products of certain organic materials forming the " artificial resins ". Among them we may mention, in the first place, those with a basis of phenols and of formaldehyde. Other materials may enter into the product instead of phenol, such as urea and phthalic acid.

The condensation products of the phenols and of formaldehyde should be divided into three categories.

I. The variety that is technically and economically analogous to the products just mentioned—*i.e.*, products with a basis of casein and cellulose—consists of resins in solid forms which, after simple physical treatment, become finished articles. This special treatment, which generally consists of heating, is called " hardening ". For this reason, the resins referred to are usually called " artificial resins, hardened ". In this form, they are insoluble in the various organic solvents.

In the same way, this category includes products formed by layers of tissues or paper impregnated with these materials. Tissues and paper merely impregnated with these materials, but not in superimposed layers, come under their respective chapters, and in particular paper or cardboard impregnated with artificial resins, under Item 425*(b)*.

II. Artificial resins of another quality are also found in commerce ; they are distinguished from those mentioned above by the fact that they are in an intermediate state, but they can also be brought to the latter state by " hardening ".

On that account, they are called " hardenable " artificial resins.

So far, they do not, therefore, consist of solid materials for carving, etc., and are placed on the market principally in the form of powder or pieces of irregular shape.

Sometimes they are found in the liquid state and mixed with certain additional substances, such as sawdust or cork waste. Lastly, on account of their solubility in organic solvents, they are also found in a state of dissolution.

They are used principally for manufacturing varnishes and, when combined with other materials (paper, textiles, etc.), insulating substances for electrical purposes.

III. A third category of artificial resins is also distinguished from the above two categories by the fact that these materials are not found as hardened resins (see I above) and are non-hardenable (see II). These are artificial " non-hardenable " resins, which, on

account of the fundamental difference in their use, do not belong to this item but should be placed in Item 285. Consequently, Item 279 includes only the products referred to in I and II.

With regard to the subdivision of the item :

(a) The first sub-item is provided for products in the form of liquids, lumps or powder.

These different physical states mark the first stage of manufacture of artificial hardenable resins, which are placed on the market in these forms.

Moreover, it should be noted that filling materials or colouring matters may be added to artificial hardenable resins possessing the physical characteristics mentioned in the previous paragraph. The mixtures thus obtained also fall under Item 279*(a)*.

(b) Plastic masses, which as regards physical form are solid, and which have only been superficially worked by simple grinding, are included in this sub-item.

For sheets, see the observations under Item 277.

(c) There is a final sub-item, which comprises fragments.

The wording of Item 279, in referring to artificial plastic materials, also covers " others not elsewhere specified or included ".

This item may comprise moulding materials with a basis of fatty acids, paraffin, wax and other similar substances, as found on the market in mass for modelling.

They are, of course, classified according to their commercial form in the corresponding sub-item of the above-mentioned item.

Item 280.

Lyes left over from the manufacture of wood-pulp form a by-product for which provision must also be made. For the chemical industry, the problem of turning it to account is an urgent one, in view of the fact that the utilisation of cellulose ever goes on increasing with the extension of industries employing it as a raw material (the artificial silk industry, etc.).

The composition of cellulose varies according to the manufacturing processes.

Lyes left over from the manufacture of wood-pulp by the soda process are valuable on account of their caustic soda content (up to 17 per cent NaOH) ; they can be concentrated up to a content of 30 to 40 per cent NaOH corresponding to that of commercial caustic soda lyes. As the uses of these left-over lyes (ordinary or concentrated) are practically the same as those of commercial lyes (in the soap, cellulose, paper and other industries), they should rightly be included in Item 224 (sodium hydrate).

Item 280, therefore, only includes lyes left over from the bisulphite (of calcium) process, which, moreover, are of much greater importance from the point of view of the quantities obtained.

Sulphite lyes are already employed for manifold and varied purposes. They are used, for instance, for the manufacture of ethyl alcohol. They are also used to dilute glues and agglutinating materials, as a binding substance for insulating compositions, as an addition to moulding sand in foundries, and, lastly, as cement for finely ground or pulverised materials —coal, ores, road metal, etc. A considerable proportion of the left-over sulphite lyes is also used as a means of diluting tanning extracts.

In view of these numerous uses, the question arises whether lyes left over from the sulphite process should be classified in Chapter 30, with tanning extracts, or in Chapter 33, with glues having a basis of vegetable substances.

In consideration of these facts, it was thought best to place these lyes left over from the manufacture of wood-pulp in the neutral collective group of chemical products.

Item 281.

One field of the chemical industry which has been greatly developed in recent years concerns the means of combating harmful organisms, parasites and other elements. It includes preparations used for combating inferior vegetable fungi attacking plants (mildew, wheat rust, potato blight, rye ergot, etc.) and for combating animal parasites and harmful vegetable organisms which devastate fields, forests, orchards, vineyards and horticultural and agricultural crops.

This does not refer only to insects and caterpillars, but also to slugs and snails, rats, mice, moles and field-mice. This group of substances also includes preparations for destroying harmful organisms in houses (wood-worms, beetles, bugs, moths, flies, mosquitoes) and the parasites of human beings and animals (lice, fleas).

As such harmful organisms may also be carriers of infectious germs, the campaign against them may be a means of checking these diseases, and is thus connected with disinfection, the object of which is to prevent disease in human beings and animals.

In order, therefore, to avoid any doubt as to classification, disinfectants were also included in this item.

The means of combating harmful organisms include a great number of products. Some are found in commerce as simple chemical substances, such as sulphur, hydrocyanic acid, calcium cyanide, arsenate of calcium, arsenate of lead, fluosilicate of soda, hydrofluosilicic

acid, copper sulphate, formaldehyde, sulphide of carbon, Schweinfurt green ; while others are in the form of preparations with a basis or the simple substances mentioned above or similar substances, or are in the form of mixtures composed of the most varied substances.

When the materials in question represent unmixed chemical substances, they will be named in the heading in which they are already included (*e.g.*, formaldehyde : Item 270 *(a)*).

Such products must therefore not be included in Item 281.

If, however, these products are placed on the market put up for retail sale, they come under this item.

It should be noted, however, that the mixtures of these products, which are put to the same uses as the separate preparations, fall under the same item whether they are put up for retail sale or not.

Item 282.

This next item includes a number of products of the distillation of wood.

As this industry constitutes a very clearly defined sphere of work, it was first contemplated to group the products of wood distillation in a special sub-chapter. On the other hand, products formerly manufactured exclusively by the distillation of wood but now principally obtained synthetically would have been placed, not in this special sub-chapter, but among chemical products. Such products are acetic acid, formaldehyde, methyl alcohol, acetaldehyde and acetone.

After excluding these products, however, the sub-chapter proposed for the products of wood distillation would have lost so much of its importance that its existence could hardly be justified.

However, after wood charcoal was excluded from the chapter on chemistry, in view of its method of manufacture and its principal uses, a single item was created for the products of wood distillation remaining after certain other products had been placed in the items to which they properly belong.

Consequently, acetate or pyrolignite of lime, for instance, was placed, as an acetic acid salt, in Item 255 *(b)*, and guaiacol in Item 274 *(c)*.

(a) The other products of wood distillation then remaining to appear in the special item include, in the first place, wood tar, which is given a special sub-item.

This tar is distinguished chiefly by its composition and use from other tars, so that it was not thought that it should be mentioned in Chapter 27, which includes the mineral tars.

Wood-tar oils and wood-tar creosote are extracted from wood tar ; it has other uses — for instance, for disinfection, impregnation of fabrics, etc.

(b) The second sub-item includes oils of acetone, which are by-products in the manufacture of acetone. They consist of ketones, condensation products of acetone, etc. They are used as technical dissolvents and, in particular, for the purifying of anthracene.

(c) The following sub-item includes oils produced during the distillation of wood tar. The light wood-tar oils are used like benzene ; the heavy oils serve as disinfecting washes for the impregnation of wood and from them also creosote is separated.

(d) The creosote is separated from the heavy oils of vegetable tar by treating them with soda lyes and by various other chemical processes ; it forms an oily liquid which is not a homogeneous substance, but contains several components, the most important of which are guaiacol and wood cresol.

Creosote as such and in the form of products of which it is the basis is used principally in medicine to combat lung and throat affections, as a disinfectant, and for other technical purposes.

(e) The so-called wood-tar pitch, which has no special economic value, is a further residue from the distillation of wood tar.

For this reason, this product was finally placed in a special item for the products of wood distillation, although there is no objection to classifying it together with the other pitches.

Item 283.

According to the plan mentioned above in connection with Item 282, that item was to include, together with the products of the distillation of wood, those obtained from the distillation of resin.

But the decision to split up this sub-chapter also involved the classification of these products under some other item.

For this reason, soaps with a basis of resin—alkaline salts of resinic acid, sometimes incorrectly described as resin gum—have been placed in Item 320 (Chapter 32), which refers to soaps.

On the other hand, pine oil should normally be classified with turpentine essence (oil) in a special item (No. 284). The following articles therefore remain in the present item :

(a) Resin oils, which are produced during the distillation of resin—in particular, colophony —and which are put to various technical uses. Some of the resin oils, for instance, are used as fuels or as substitutes for turpentine essence (oil). Others are used for adding to printing ink, for sizing beer barrels, as lubricants and as oils for lubricating machinery, etc.

(b) The second sub-item includes the solid residue of distillation known as resin pitch, which is used as blacksmiths' pitch and is added to shoemakers' pitch.

Item 284.

The most important product of the distillation of resinous raw materials is turpentine essence (oil), which is obtained during the distillation of pine and fir resin, known also as turpentine, by means of steam or direct.

It is principally used in the varnish industry. Large quantities of turpentine essence (oil) are also used for the production of artificial camphor.

On account of its high price, it is frequently replaced by other products, among which pine oil is specially important. The latter is obtained by distilling the roots of the black pine, principally in Poland, Russia and Sweden.

Lastly, this item must also include a kind of turpentine essence obtained, by suitable treatment, from resinous residues produced during the preparation of sodium cellulose. In Germany, this essence is known commercially as " Sulfatterpentinöl ". This variety is also greatly used as a substitute for turpentine essence (oil) and is put to the same uses as the latter.

In view of the similarity of their uses, these three products have been classified in a common item.

This item also includes turpentine essence (oil) from which the pinene intended for the production of synthetic camphor has been extracted, that residue being still extensively used for making cleaning substances, etc.

Item 285.

(a) The solid residue remaining after the distillation of the resin known as turpentine is colophony, which is classified in this item.

The fact that this is not a natural substance but a product resulting from an industrial process justifies its classification outside the chapter for natural resins.

Colophony is put to many technical uses. It is principally used for the manufacture of varnishes, mastics, lubricants, fly-paper, gums, paper, soap, etc.

(b) Colophony finds an important use in the manufacture of non-hardenable artificial resins, which are put to the same uses as natural resins. For this purpose, it is treated in various ways. It is combined with alcohols, such as glycerine, or with metallic oxides, such as those of zinc or calcium, thus producing the esters or salts of resinic acid, which play an important part in the varnish industry.

Of still greater importance are the non-hardenable artificial resins, which appear as combinations of natural resins in the form of mixtures of colophony with artificial resins obtained by the condensation of phenol and formaldehyde. In the same way, the so-called copal resins are used for preparing non-hardenable artificial resins.

All such products, which are used as substitutes for natural resins, are classified in Item 285.

This item should also include the phthalic esters of glycerine and of glycol, the polymerised esters with a basis of the radical vinyl, which are used as non-hardenable artificial resins, and, lastly, artificial resins with a basis of aliphatic aldehydes, which are used as substitutes for gum lac.

This chapter of resin substitutes also includes resin with a basis of coumarone, which is a polymerisation product of the coumarone and indene contained in heavy benzol and is formed by treatment with sulphuric acid.

Resins with a coumarone basis are used principally for the manufacture of varnish and are put to a number of other uses as substitutes for colophony.

Item 286.

An important use of colophony is in breweries, the so-called brewers' pitch being used for caulking beer barrels and other recipients without imparting any taste.

In view of the relatively high price of brewers' pitch when composed of pure colophony, substitutes are sometimes used, consisting of products obtained by the fusion of colophony with resin oil or cheap mixtures of colophony with paraffin, ceresine or other neutral substances.

This category does not include the mastics known as resin mastics, which, according to their price, contain as a basis, not only colophony or pine turpentine, but artificial resins,

copals, gum-lac and balsams and also varnishes or organic dissolvents with or without added natural or artificial rubber, celluloid waste, camphor and similar substances.

Preparations of this kind are included under mastics, Item 311 (Chapter 30).

Item 287.

The final collective item must include all the chemical products and preparations which are not specified or included in other items of the nomenclature.

Pharmaceutical Products.

The creation of a special group for pharmaceutical products takes into account the fact that these are produced by a well-defined special industry forming a part of the chemical industry as a whole. The economic position of these products is therefore practically the same everywhere, particularly as regards those which are retailed to the public put up ready for use. Consequently, the group of pharmaceutical products must include, in the first place, medicaments made up for this purpose.

Other items contain products whose economic position is fixed by their use for pharmaceutical purposes, but the chemical composition of which is not sufficiently explicit to remove all doubt as to their classification on the basis of their intrinsic composition and structure. With a view to obtaining the clearness necessary for all nomenclature, these products are also expressly included among pharmaceutical products.

Item 288.

Item 288 includes alkaloids and their salts.

They are organic bases contained in certain plants which have a powerful effect on the living organism and are therefore of great importance in medicine.

(a) A special sub-item includes the alkaloids of opium and their derivatives and salts. It is subdivided into morphine and its salts, diacetylmorphine and its salts, codeine and its salts, and other derivatives of opium. The derivatives of opium were combined in view of the international opium legislation, the effects of which should be supported by means of a subdivision facilitating the comparison of trade statistics.

Codeine and its salts do not, it is true, come under the opium legislation. Nevertheless these substances are included in this sub-item, in a special tertiary item.

The expression " other derivatives of opium " includes such products as dihydrocodeinone, dihydromorphinone, dihydrohydroxycodeinone, dihydromorphine, benzoylmorphine, etc., which have various commercial names.

(b) In addition to the derivatives of opium, international legislation on stupefying drugs also includes cocaine and its salts, which, for the reasons mentioned above, are placed in another sub-item.

(c) A special sub-item of the products belonging to the alkaloid group is given to the alkaloids of cinchona, extracted from the bark of trees of the cinchona family. The principal product is quinine itself, after which come quinidine and cinchonine.

Quinoidine must also be included here.

The extraction of quinine is regulated exclusively by the Netherlands, which possess the most abundant supply of cinchona bark in their colonies.

(d) Another sub-item has been provided for the following alkaloids : caffeine, theobromine and nicotine, which are characterised by their large consumption, their relatively low price and the use of some of them for technical purposes—for instance, nicotine enters into the preparation of insecticides and fungicides.

(e) All the other alkaloids are placed in a collective sub-item, which can be subsequently subdivided according to requirements.

These other alkaloids include aconitine, atropine, strychnine, arecoline, colchicine, homatropine, pilocarpine, yohimbine, eserine, scopolamine, veratrine, etc.

Sub-item *(e)* also includes the following products : ecgonine, benzoylecgonine and methylecgonine, which are subject in certain countries to the legislative restrictions regarding stupefying drugs. They are, however, not derivatives of opium, nor do they belong to sub-item *(b)*, which only includes cocaine and its salts.

The condition for including a product in this item is that the product itself or the fundamental substance from which it is derived (for instance, diacetylmorphine derived from morphine) should be met with in nature. In this case the product and its derivatives or salts are classified under alkaloids, irrespective of the fact that the product extracted from the plant may also be prepared synthetically.

Further, this item does not include chemically prepared substances producing an effect similar to that of alkaloids, such as novocaine and tutocaine.

If the alkaloids are prepared in such a form as to be included in Item 292 : " Prepared medicaments, preparations in doses, etc. ", they will be treated as coming under that item.

Glucosides have also been classified together with alkaloids. These are products which are met with to a great extent in nature, in the form of compounds of various kinds of sugar—such as, for instance, glucose with alcohols, aldehydes or phenols—and which are to be considered as analogous to ethers ; such are, for instance, digitalin, solanin, arbutin, etc.

Item 289.

With the progress of medicine, increased importance has recently been attached to preparations the effect of which is based on the presence of constituent parts known as " hormones ", the nature of which is not yet quite clear ; they are extracted principally from human or animal glands and occasionally from certain plants.

They are generally used in medicine, but some of them, at any rate, are of importance in manufacture.

(a) The first sub-item refers to rennet, a ferment which causes milk to curdle and which is obtained from the mucous membrane of the stomach of unweaned calves. Rennet is placed on the market either concentrated in a solution of water mixed with alcohol or as a powder. It is used particularly in the manufacture of cheese.

(b) This sub-item includes pepsin, a digestive ferment extracted from the fresh mucous membrane of the stomach of pigs and also from certain vegetables ; it has the property of rapidly dissociating albumen and its homologues. It is principally on account of this action that pepsin is used as a remedy against certain digestive troubles. It is usually added to medicinal wines and nutritive preparations.

Another preparation of great technical and medical importance with a ferment basis is pancreatine, which is extracted from the pancreas of pigs and is used, not only as a remedy, but more particularly in industry for removing the surplus dressing from fabrics and for liquefying starch. It is also used for cleaning linen and in the preparation of artificial steeps for tanning.

(c) The collective sub-item includes a great number of opo-therapeutic preparations used to an increasing extent in medicine, the most important of which are preparations with a basis of thyroid, hypophysis and seminal glands ; among the latter should be mentioned preparations using testicles and ovaries as a basis.

It should, however, be noted that preparations based on organs must be included in Item 292 as " prepared medicaments, preparations in doses, etc. ", if they are imported made up in a manner corresponding to the heading of that item.

Item 290.

Item 290 includes materials constituting for the most part the basis of nutritive or tonic preparations.

First come peptones. These are dissociation products obtained by the hydrolytic disintegration of natural vegetable or animal products rich in albumen, or by the reaction of ferments on such products. According to the manner in which these products are extracted or prepared, a distinction is made between meat peptones, blood peptones, peptones with a basis of yeast, casein peptones, etc.

Peptones are used, not only as nutritive preparations, as additions to special kinds of chocolate or as food for sufferers from diabetes, but also for technical purposes as additions to products used for dressing leather, textiles, etc.

Lecithins are glycerophosphoric acids obtained from cholin or from fatty acids found in the yolk of birds' eggs, in blood corpuscles and in certain parts of vegetables. These products, like their halogenated or hydrogenated derivatives, are used in medicine and as alimentary substances.

Nucleins are organic acids containing nitrogen and phosphorus ; their constitution is not yet known and they are extracted from animal or vegetable substances. Usually, yeast is employed for preparing nucleinic acid. Nucleins are also used as therapeutic agents of the nervous system and as tonics.

Although preparations based on these substances are chemically prepared nutritive substances, they must also be classified in Item 290.

Item 291.

Item 291 comprises sera, vaccines and bacteriological preparations.

The sera include, on the one hand, diagnostic sera—that is to say, substances used in serology for establishing diagnoses ; for instance, for distinguishing human from animal blood, etc.—and, on the other hand, curative sera.

Curative sera are of the greatest economic importance. They are prepared by introducing gradually increasing quantities of pathogenic bacteria or their toxins into the vessels of warm-blooded animals, thus inciting the production of " antitoxins ". If these " antitoxins " are

subsequently injected into a diseased organism, they are capable of killing the pathogenic bacteria in the organism.

Bacterial preparations are obtained by a process which consists essentially in causing cultures of bacteria to grow on a suitable ground (for instance, gelatine, gelose, etc.), and, after the bacteria are killed, in collecting the efficacious substance. If this curative serum is injected into the human organism, it produces antitoxic elements which, after a certain period, are capable of killing the microbes or bacteria which generate diseases (pathogenic microbes).

It should be observed that even if these products are made up in accordance with Item 292, they should still be included in Item 291.

Item 292.

The last item of the group of pharmaceutical products, according to its title, includes prepared medicaments or preparations in doses and other pharmaceutical preparations used in human or veterinary medicine.

It was originally intended to combine in this item all medicaments ready for use.

But the terms " remedies " and " medicaments " express principally the purpose of the particular substance, and are, therefore, hardly suitable for purposes of Customs nomenclature.

It therefore appeared that the classification of most of the products falling under Item 292 should be based on the method of presentation.

Item 292 thus includes, in the first place, medicaments of all kinds in doses—that is to say, medicaments which are uniformly divided up by weight or dimensions into the quantities in which they are to be employed, principally in the form of powders (in paper envelopes), pastilles, pills, grains, small tablets, etc.

In addition, this item includes medicaments put up for retail sale—that is to say, in the packing in which they are delivered direct to the consumer. This refers to small bottles, small pots, glasses, small boxes, etc., in suitable packing, clearly marked as containing "medicaments" by means of inscriptions, envelopes, labels, etc., on the packing and on the container.

This item also refers to medicaments prepared by quite a special pharmaceutical treatment. As an example of such pharmaceutical treatment, we may mention distillation, digestion and maceration.

Pharmaceutical products should also include products for the action of which medicated substances are smeared over or incorporated in substances serving as a substratum for the same. This covers plasters and prepared papers, cotton-wool or bandages, and, further, oils, greases and ointments, regardless whether the substratum itself may also have a therapeutic purpose or only act as a mere supporting material.

The same item applies to nutritive preparations, such as syrups and wines, with the addition of medicated substances in which the supporting materials also have, as a rule, a favourable effect on the organism and thus enhance the curative effect.

The item also includes the salts of mineral waters, whether prepared artificially or extracted from natural waters by evaporation.

It was decided to include the artificial salts of mineral waters in Item 292, because they are also offered for sale as remedies and are used as such by the consumer.

Again, in dental medicine use is made of quite a large number of preparations, such as cements, amalgams, etc., which are certainly not of great importance in commerce, and to which it is doubtful whether the expression " pharmaceutical preparations " can properly apply. In order to remove these doubts, it was decided to classify these products in Item 292.

Curative teas, which are also used for pharmaceutical purposes, are of a certain importance in commerce. Vegetable materials used for the preparation of curative teas are included in Item 292 only if put up for retail sale.

Mixtures of medicaments, remedies prepared by the pharmaceutical industry (medicinal waters, tinctures, elixirs, etc.), then plasters, prepared papers, cotton-wool and bandages, oils, greases and ointments, syrups, wines, nutritive flour, other alimentary preparations containing therapeutic substances, the salts of mineral waters, cements and amalgams, however put up, should be specially included in Item 292, even if placed on the market for the wholesale trade.

All other chemically defined medicaments are included in Item 292, if put up for retail sale or prepared in doses. In the latter case, they need not be put up for retail sale.

If none of the above conditions for including a substance in Item 292 apply to a particular medicament, it is classified, in accordance with its chemical composition and its condition, in the corresponding item of Chapter 28.

Chapter 29.

PREPARED CHEMICAL AND OTHER PRODUCTS FOR USE IN PHOTOGRAPHY.

In combining into one chapter products used in photography on account of their chemical action or used as grounds for products with such action, it was realised that a specialised classification which had not hitherto been made had been adopted.

The reason is that, with the constant growth of cinematography and photography, there is an increasing need that, in a Customs tariff, all the active chemical products necessary for these reproduction processes should be found together.

It is, therefore, important to abolish a practice by which films must be looked for among goods made of carving and moulding materials, photographic plates among glass ware, sensitised papers among paper, and chemical products for photography among chemical products.

* * *

Item 293.

The first item includes cinematographic films of all kinds, including sound films, in the various phases in which they may be of importance in commerce. So-called " amateur " cinematograph films are also included here, although their commercial position differs appreciably from that of other cinematograph films.

(a) The first stage is the ground of the films, consisting of a ribbon without a sensitised coating. This ribbon is usually made of celluloid or—as has been the case for some time past—of acetylcellulose. In future, other derivatives of cellulose will probably be used—for instance, viscose.

Taking into account these possibilities of development, it appears advisable to exclude the film grounds from the item reserved for " derivatives of cellulose "—viz., Item 277 (Chapter 28)—and to place them in a special sub-item of the item " films ", so as to secure the possibility of uniform classification without regard to the nature of the materials.

(b) The following stage is that of the grounds provided with a sensitised coating.

This sub-item includes almost exclusively grounds having coatings with a basis of gelatine and collodion in which a halogenous salt of silver is emulsified. This stage of the film is called in German " *Rohfilm* ", in French " *pellicule vierge* ", in English " raw film ", etc.

(c) These are followed by cinematograph films which have been exposed to the light and, in particular, those which are not yet developed. The latter, it is true, are of little importance from the economic point of view.

(d) On the other hand, exposed and developed films are of great importance. From the economic point of view, their importance varies according as to whether they are " negative " or " positive ".

While the negative has only a purely material value, being the realisation of the film author's idea and the basis of its commercial utilisation, since its utilisation value cannot be exactly calculated, the positive, on the other hand, represents merchandise in the real commercial meaning. It, therefore, appeared necessary to express this difference in the economic position by making the corresponding subdivision in the international nomenclature.

Item 294.

After cinematograph films come photograph films.

They are divided into two categories—namely, "roll films" and "pack films", according as to whether the ground bearing the sensitive coating consists of a ribbon which is unrolled (in order to take several photographs) or of separate sheets.

These photograph films also include radioscopic films (Röntgen films), which are characterised by the fact that both surfaces have a sensitised coating, and, further, films intended for the graphic industry (films for photo-mechanical reproduction and aero-chromatic films intended for measurements, etc.).

Item 295.

The third main group of grounds for the sensitised coating consists of " photographic plates ", which are mostly made of glass. As, however, other substances, such as metal sheets, etc., may also be used, the item should not be exclusively restricted to glass plates.

Item 296.

The negative obtained by means of photographic films or plates is afterwards transformed into a positive by being printed on sensitised paper.

(a) " Photographic paper and cards " are provided with a sensitised coating in which usually a halogenous salt of silver is finely emulsified.

There are also special papers provided with a coating sensitised with platinum salts.

This sub-item also includes so-called carbon photographic papers.

(b) In addition to sensitised papers used for photography, there is a further category of sensitised papers in the form of " tracing papers " (counter-types for the reproduction of tracings of plans).

This printing process, known as " ferro-hydrocyanic " (cyanotype), is based on the rapid reduction in light of ferro-hydrocyanic compounds or of other organic compounds of trivalent iron into compounds of bivalent iron, which are made to react on materials capable of producing strong colorations.

By using this ordinary process, negatives and positives are also obtained according to requirements ; however, papers by means of which a positive can be obtained immediately—that is to say, with a single operation—have recently been placed on the market. These papers must also be classified in this sub-item.

Item 297.

The final collective item of Chapter 29 includes the numerous chemical products used for essential photographic work.

On the other hand, the agglutinants, varnishes and other materials for pasting the phototypes on cards, or preserving the positives and negatives, or used for other accessory photographic work, do not come into this category.

This item, in fact, includes only organic or inorganic substances, either pure or mixed, in the solid state or in solution.

Most of these substances are also used for other purposes. The difficulty of basing a classification on the intended purpose can be overcome only by including these products in Item 297 in cases where they are put up for retail sale and are thus easily recognisable.

If these products are imported put up for wholesale sale but not prepared in doses, they must be classified in the item to which they belong in accordance with their chemical composition.

(a) A special sub-item was provided for developers.

These are principally derivatives of phenols with 1-3 " hydroxyl " groups, and of aminonaphthol sulphacids. Every developer, except diaminophenol sulphate, must be supplemented by an alkaline substance, which may be replaced by salts of organic acids or of organic compounds.

(b) Other chemical photographic products include " fixing baths " containing principally thiosulphate or hyposulphite of sodium, " fixing and toning baths " (thiosulphate of sodium and metallic salts, especially gold salts), intensifiers (bromide of silver and sublimate, together with other inorganic chemical products), reducers (principally persulphate of ammonium), flashlight substances for instantaneous photographs (magnesium powder and aluminium powder with additional substances of various kinds rich in oxygen, such as a permanganate, a perchlorate, etc.), and other products.

Such of these products as contain precious metals are, in virtue of their make-up, placed in this item and not in Item 261 (Chapter 28) : " Salts and combinations of precious metals ".

Chapter 30.

TANNING AND COLOURING EXTRACTS ; COLOURS, LACS, VARNISHES AND MASTICS ; GRAPHITE AND PENCILS.

Chapter 30 is to include all the products of the chemical industry which are of economic importance chiefly on account of their use as colouring matters.

In addition, Chapter 30 includes substances to some extent connected with these products, particularly tanning extracts and synthetic tanning products.

As the effect of colouring is often to afford the fabrics or other articles some protection against deterioration, Chapter 30 also includes varnishes which have a similar effect ; certain accessory products of the varnish industry, such as siccatives, are also mentioned in the same chapter.

As, between lacs and mastics, there are a few intermediary products, mastics were not included in Chapter 33, which comprises principally agglutinants ; these substances were included in Chapter 30, after varnishes.

In order to avoid an interruption between the various natural and synthetic colouring materials, the tanning products are inserted first.

* * *

Item 298.

This item includes natural tanning materials either in the form of extracts of tanning-wood or of other vegetable tanning extracts.

These include, in the first place, extracts of quebracho wood, which grows exclusively in South America, especially in the Argentine.

Extracts of tizerah wood, a tree which grows principally in Morocco, have been increasingly used for some time ; extracts of chestnut wood also play an important part in the tanning extract market.

In addition to the wood, the bark forms a valuable raw material ; in this connection may be mentioned the bark of the pine, mimosa and mangrove ; quebracho bark is also used.

Other raw materials used are the leaves (sumach), the fruits (dividivi, babul, myrobolan), gall-nuts, which are formed by the sting of certain insects, etc.

The extracts are sold in solid or liquid form or as a paste.

In order to avoid difficulties due to the insolubility of tanning extracts, sulphites or bisulphites are frequently added. Such preparations are placed on the market under the most varied commercial names.

It should be noted that sulphite lyes, which are also greatly used in tanning, are included in " Bisulphitic lyes left over from the manufacture of paper pulp ", Item 280 (Chapter 30).

Item 299.

In addition to tanning extracts of vegetable origin, tanneries are using to an increasing extent synthetic products in the form of condensation products extracted from phenols, from cresylsulphuric acids, from naphthasulphuric acids and from formaldehydes, and with the addition of inorganic salts ; these products are placed on the market under the most varied commercial names.

They are used in industry principally for strengthening and accelerating the tanning effect.

Synthetic tanning products are found in commerce, in liquid or solid form or as a paste.

Item 300.

Extracts of tanning-wood are closely connected with extracts of dye-wood and other similar vegetable substances used in the dyeing industry.

These substances are manufactured by various processes.

The colouring matter is most frequently obtained by extraction from the parts of the plants containing it. For instance, the wood is treated in order to obtain extracts of campeachy-wood, fustic-wood, yellow-wood, red-wood, and sandal-wood.

Alcanna, madder and turmeric are extracted from roots.

As to the lo-cao and quercitron, the bark is used. The extracts of safflower and saffron are obtained from certain parts of the flower. The same remark applies to the " Chinese yellow-berries ", while " Persian yellowberries " are fruits.

In order to prepare chlorophyll, natural indigo, litmus and archill, the entire plant is used. It should be noted, however, that natural indigo is classified with synthetic indigo in Item 302 *(c)*.

Annotto is extracted from the fleshy covering of seeds.

Dragon's-blood is a solution of a vegetable resin.

It should be noted that this item does not include parts of plants used as raw materials, but only the colouring material extracted from such plants.

These colouring materials are used more especially, although to a limited extent, in the textile industry and the foodstuffs industry. Logwood extract, for instance, is frequently used for dyeing silk. Annotto is principally used for colouring butter and cheese.

Item 301.

The previous items have included colouring matters obtained directly from the vegetable kingdom and tanning materials connected therewith ; Item 301, on the other hand, contains colouring matters extracted from substances of animal origin.

The most important is cochineal, a colouring matter made of the dried bodies of cochineal insects. This colour is sold in the form either of powder or of cakes. The colour itself is prepared by treating the material with acidulated water, and it is used for manufacturing colour lacs. A preparation obtained by treating powdered cochineal with ammonia is placed on the market under the name of " ammoniacal cochineal ".

Cochineal carmine, which is obtained by precipitating a decoction of cochineal by an acid or an acid salt, is not included in this item, but belongs to Item 307 *(a)*.

The colours included in the present item are used for painting with distemper and oil and for colouring foodstuffs.

Another substance which must be mentioned is kermes, which is also composed of the dried bodies of the cochineal insects ; it is sold in the form of grains of the size of a pea. The colouring matter obtained from it is now only employed to a limited extent ; it is used, for instance, in the East for dyeing fezzes red.

The same category includes lac-dye, which is also a colouring matter obtained from a kind of cochineal. The insects by their stings create a discharge of the milky sap of the plant ; this sap surrounds the insects and, on drying, forms together with them a dark red resin. The resin is extracted with water in order to obtain the colour which is used for dyeing wool.

Sepia is a brown colour extracted from the ink sac of the cuttlefish ; it is used for water-colour painting.

The other colours of animal origin are of much less importance.

We may mention, however, Indian yellow, a colour extracted especially in the East from the urine of cows which have been fed on mangrove leaves. The fodder increases the yellow colouring-matter of the gall in the cows. The substance is used for preparing colour for painting. The purple extracted from the slime of the purple-bearing mollusca is now no longer of any importance.

Item 302.

This item includes dyes derived from coal tar.

As the industry of colouring materials derived from coal tar exists in only a few countries, the international nomenclature regarding these products should be as little detailed as possible. Consequently, four sub-items were created ; each of the first three groups together substances the chemical structure of which is related to a well-defined type and in the case of which the method of dyeing is clearly determined. The fourth sub-item includes all the colouring materials which cannot be classified in the preceding three sub-items.

(a) This sub-item includes all synthetic dyes the raw material of which is benzene or naphthalene and which consequently possess in their chemical structure a benzene or naphthalene nucleus.

(b) This sub-item groups together synthetic dyes derived from anthracene, and includes both dyes for making mordants—such as alizarine—and vat-dyes.

(c) The third sub-item includes natural and synthetic indigo and its only derivatives, which are vat-dyes.

From the schematic point of view, natural indigo should belong to Item 300 : " Vegetable colours ". Its economic value is, however, so small as compared with the synthetic product that natural indigo may justifiably be included with the latter.

(d) As stated above, a final collective sub-item is created for colouring materials derived from coal tar which cannot be classified in the previous three sub-items. But from a practical point of view these three sub-items, *(a)*, *(b)* and *(c)*, will suffice to classify synthetic dyes which are of importance in commerce.

It should also be noted that sub-item *(a)* will only include dyes the chemical structure of which contains *solely* benzene or naphthalene nuclei. Those with a chemical structure containing both an anthracene and a benzene nucleus (pure blue of alizarine B, cyanine green of alizarine C extra ; alizarine astrol B) or an anthracene nucleus and a naphthalene nucleus (indanthrene red BN extra paste) will be classified in sub-item *(b)* as derivatives of anthracene. Those with a chemical constitution similar to that of indigo, and in addition containing benzene or naphthalene nuclei, will be included in sub-item *(c)* as derivatives of indigo.

It is understood that countries wishing to still further subdivide Item 302 will be at liberty to do so.

Item 302 also includes mixtures of colouring materials derived from coal tar and substances intended to " dilute " these colouring materials, such as water, rock-salt, sulphate of soda, soda, sodium sulphide, dextrine, sugar, starch, etc.

When, however, after such mixture or dilution has taken place, the proportion of colouring material derived from coal tar falls to 4 per cent or less, the product no longer comes under Item 302, but under Item 307 of the same chapter.

Mixtures of dyes derived from coal tar with colouring earths or with mineral colours come under Items 305 or 306 respectively, if the proportion of these dyes does not exceed 4 per cent in weight. Mixtures in which the proportion of these dyes exceeds 4 per cent are classified in Item 302.

Item 303.

This item includes all blacks with the exception of bone-black and of other blacks of animal origin, which are classified in Item 275 (Chapter 28).

Among the blacks, in the first place, various kinds of soot should be mentioned. Gas-soot (carbon-black) obtained by the combustion of natural gas is of special importance ; this substance is manufactured in large quantities in America. Lamp-black is extracted from combustion products of oils. Lastly, the name smoke-black is used to designate products obtained by the flameless combustion of detarred wood and bark and by the combustion of pitch, tar, resin and naphthaline.

Soot is principally used as a raw material for the manufacture of printing colours and for a number of other technical colouring purposes, among which the manufacture of motor-car tyres and gramophone records is of special importance.

The other products sold under the name of " blacks " are generally obtained by heating vegetable organic matters without admitting air, such as the residue of pressed grapes and the stones of fruits.

Blacks of inferior quality are manufactured from lignite, earthy coal and bituminous coal, oil-bearing schist and from quite a number of other raw materials of relatively low value.

The best qualities of blacks are used for manufacturing wallpaper and coloured papers —and also colours for painting, etc. ; the cheaper qualities are used as a coating or for the manufacture of printing black, boot polish, leather black, etc.

The materials comprised in this item are classified in two categories. The first is lamp-black and the second all other blacks of mineral or vegetable origin.

Item 304.

This item mentions chalk and barium sulphate, pulverised and levigated, together with artificial barium sulphate, as sold in commerce under the name " *blanc fixe* ".

Ground chalk and ground barium sulphate are sometimes included among colouring earths.

These two products are, however, used to a large extent as a ground in the manufacture of artificial lacs, or as diluting substances in the manufacture of mineral colours.

Ground chalk and barium sulphate were, therefore, placed in a special item apart from the other colouring earths.

In order to simplify clearance, mention is made, together with natural barium sulphate, of artificial barium sulphate or " *blanc fixe* ", which is obtained with natural barium sulphate by means of barium sulphide, or with natural barium carbonate—witherite—by means of barium chloride.

Artificial barium sulphate is usually placed on the market as a paste.

It is used for manufacturing artificial lacs ; it is also mixed with other colours for use in oil painting and as a filling material in the paper and rubber industry.

It also enters into the manufacture of satiny paper, Bristol board, etc., and photographic paper ; lastly, it is used in radiography for rendering visible the various organs of the digestive tube.

Artificial barium sulphate is a mineral colour and, as such, really belongs to Item 306 ; nevertheless, for the reasons mentioned above, it has not been classified in that item.

When chalk and barium sulphate are not pulverised, they fall under Items 176 or 180 (Chapter 25).

Item 305.

The following category is that of the natural colouring earths. This name is used to designate white or coloured mineral substances found in a natural state in the form of deposits mined by open cuts or underground galleries ; these substances subsequently undergo preparation. When they are found in the form of soft earth, the preparation consists of decantation, washing, drying, placing in heaps for a more or less prolonged period, crushing, etc. In many cases, the colouring earths are calcined so as to change the tint or to remove organic substances. In order to revive or change the tint, other colours are sometimes added, even dyes with a tar basis.

The substances in question are classified in the present item or in Item 176, according as the raw colouring earths have been subjected or not to one of the three operations of washing, roasting or crushing.

Ochre is an important colouring earth ; it is sold under a number of other names, such as " Sienna earth ", etc. Other colouring earths, containing iron oxides, such as red chalks, red colcothar—known as Spanish red or Persian red—are also extensively used. Lastly, micaceous iron ore may be mentioned. For the allocation of natural oxides of iron as compared with artificial oxides of iron, see the observations relating to Item 306*(h)*.

Ochres containing a considerable proportion of manganese furnish brown mineral colours, such as umber.

" Cassel brown ", which is the raw material used for making the " walnut husk " mordant *(mordant de brou de noix)*, is a colour with a basis of lignite ; this mordant, however, is included, not in the present item, but in Item 307*(d)*.

Lastly, mention may be made of celadonite, silicate of magnesic aluminium, which is sometimes used as a colour but more frequently as a raw material for the preparation of colour lacs.

Among the black colouring earths, argillaceous schists and amorphous graphite may be mentioned.

Black colours which are not obtained by heating should be classified, not among the colouring earths, but among the blacks in Item 303.

Colouring earths are widely used in the paper, lac and colour industry ; the inferior qualities of rubber and linoleum are also usually coloured with these earths.

(a) On account of the increase in value due to the addition of coal-tar colours to these colouring earths, it was thought fit to provide two different items for them in the Customs nomenclature.

The first item includes natural earths without the addition of coal-tar colours, whether or not these earths have been mixed with other colouring earths or with inert substances (chalk, barium sulphate, calcium sulphate, etc.).

(b) Sub-item *(b)* includes colouring earths mixed with colours derived from coal tar in a proportion not exceeding 4 per cent in weight, without regard to shade of the colour. If the colours derived from coal tar which are added exceed this limit, these mixed colours are classified in Item 302. This distinction is justified because, when a colouring earth is mixed with a small quantity of colouring derived from coal tar—that is to say, generally speaking up to but not exceeding 4 per cent—its character as a colouring earth is not changed.

When a small quantity of mineral colour (3 to 5 per cent) is added to a colouring earth, the character of the latter is not greatly changed. In order, however, to avoid difficulties of analysis, such mixtures have been classified with mineral colours, whatever the percentage (Item 306). For the classification of oxides of iron, see the observations relating to Item 306*(h)*.

Item 306.

The large group of " mineral colours " is classified in Item 306.

This item is so worded as to include first in special sub-items a number of mineral colours the economic position of which is so clearly defined that their separate treatment is fully justified. A sub-item is also reserved for chrome colours, as they are particularly characterised by their constituent element—*i.e.*, chrome. A collective sub-item is provided for all the remaining mineral colours.

In Item 306 mineral colours in the unprepared state are classified, whether they represent a pure product or a product mixed with another mineral colour included in the same item or with " inert substances ".

In like manner, a mixture with colouring materials derived from coal tar up to 4 per cent has no effect on the classification ; but, if the addition of colouring materials derived from tar exceeds 4 per cent, the resulting colours should be regarded as of a new kind. They are then excluded from Item 306 and placed in the collective sub-item *(d)* of Item 302 of this chapter.

Colouring earths mixed with mineral colours are classified in Item 306 without regard to the proportion of the latter.

(a) The first sub-item includes ceruse, which, from the chemical point of view, is a basic carbonate of lead. In commerce, this product is frequently marketed mixed with barium sulphate.

Ceruse is used chiefly as a pigment ground in oil. It is also employed in artistic painting as a water-colour pigment and further is used in the artificial lac industry as a ground, and for preparing mastics, pomades or ointments and glazings.

(b) The second sub-item includes zinc oxide under its commercial designations of " zinc-white " or " zinc grey ".

Various kinds of zinc oxides are marketed :

(1) Oxides with a content of 98 to 99 per cent of ZnO as obtained by the direct oxidation of the metal or, especially in America, by the immediate treatment of zinc-bearing ores.

(2) Zinc oxides with a smaller content of ZnO and consequently with a larger or smaller content of other substances, among which lead compounds predominate. They are prepared by a suitable treatment of ores containing zinc and lead, and of slag, and lastly by the oxidation of alloys containing zinc.

The designation " zinc grey " includes products of very different kinds.

In Central Europe, for instance, the name " zinc grey " is given to a quality of " zinc white " of inferior value and with a slightly less clear shade.

In some countries in Eastern Europe, the term " zinc grey " also includes zinc oxides with a smaller content of ZnO intended for use as colours.

Lastly, the term " zinc grey " includes a mixture of black pigments (soot or smoke-black) and white pigments (zinc white). In these products the zinc white may be replaced by lithopone. In this case they are to be classified in the sub-item " lithopone ".

Zinc white, like ceruse, is a very important colour on account of its great covering power and is used in painting, both in the pure state and mixed with other colours.

In addition, zinc white is used as a filling material in the rubber industry and also for preparing pharmaceutical and cosmetic products.

(c) This sub-item mentions zinc sulphide, which is more frequently found mixed with barium sulphate than in the pure state, and is used as a colour.

When the proportion of zinc sulphide contained in these mixtures is 60 per cent or less, the product is known in commerce under the name " lithopone " and is classified as such in the following sub-item *(d)*.

Consequently sub-item *(c)* only includes pure zinc sulphide and mixtures of zinc sulphide and barium sulphate containing more than 60 per cent of zinc sulphide.

(d) Lithopone is obtained by precipitation from solutions containing mixtures of barium sulphide and zinc sulphate. It is a mixture of barium sulphate and zinc sulphide in various proportions.

The normal type contains about 30 per cent of zinc sulphide and 70 per cent of barium sulphate and is sold under the mark " Red seal ".

As lithopone is rarely found in commerce with a higher concentration of zinc sulphide than 60 per cent, the limit of concentration was fixed at that figure.

Lithopone is also a very important artists' pigment on account of its covering power. It is, however, also used for a number of technical purposes, particularly in the rubber industry.

(e) Titanium white, another very important white colour with a great covering power used for painting, is mentioned in the following sub-item.

Titanium white is a colour with a basis of titanium dioxide, which was obtained first in Scandinavia and North America and is now produced in other places from various ores.

It is used both as it occurs and for the preparation of cheap or special colours for painting. For that purpose it is mixed with another white colour such as *blanc fixe*. Titanium white is also used in the glass industry for making glass opaque.

(f) The following sub-item includes oxides of lead, with the exception of litharge (PbO), which is mentioned in Item 230 (Chapter 28).

This item refers to red lead or " minium " (Pb_3O_4) which, from the chemical point of view, takes the form of the lead salt of a plombic acid (H_4PbO_4).

Special mention is made of ordinary red lead, which is obtained by the direct oxidation of lead : mention is also made of orange lead, which is produced from lead salts.

Red lead is used for preparing oil colours specially designated as anti-rust colours, and is also used to a great extent to " dilute " other colours. It also forms an auxiliary substance for the glass industry, and lastly enters into the production of mastics.

(g) Mercury sulphide is found in nature as cinnabar.

Natural cinnabar is used to a small extent for colouring certain materials, but its principal use is as an ore from which the mercury is extracted for preparing artificial vermilion.

Both kinds are classified in this item.

Cinnabar (or vermilion) is principally used as an artists' colour.

Colours with a basis of mercury oxides are not classified with cinnabar ; the use of these oxides for manufacturing colours is too unimportant to justify such a classification.

(h) This sub-item includes artificial iron-oxide colours, whilst colours with a basis of natural iron oxide are classified under Item 305 as natural colouring earths.

Some tariffs classify these two kinds of colours together in view of the difficulty of distinguishing them clearly. This method of classification has not, however, been followed in the international nomenclature, because it is contrary to the system adopted in Chapter 30. At the same time, it must be recognised that in many cases it is really impossible to decide whether a colour has a basis of artificial iron oxide or of natural iron oxide, although, generally speaking, colours with a basis of artificial iron oxide contain over 70 per cent of iron oxide. In order to avoid difficulties in classification, it appeared necessary to draw a clear distinction between these two varieties of colours. It was, therefore, decided to include in Item 306 colours with a basis of iron oxide containing over 70 per cent of this oxide, and under colouring earths, colours containing 70 per cent or less iron oxide (Item 305).

(i) Ultramarine is obtained by the calcination of a mixture of clay (in particular, kaolin), alkali, sulphur and a carbonated substance. It is a powder of various colours according to the conditions of its preparation. Ultramarine is a mineral colour used in many and various ways. It is employed, too, in many branches of industry, for obtaining pure white, its blue colour neutralising yellow shades (whitening or blueing of fabrics, sugar, etc.).

The term " ultramarines " includes, not only ultramarine of a pure blue, but also ultramarines of all shades such as those with a violet or red tint.

(k) This sub-item includes the group of ferrocyanic colours characterised by the presence of iron cyanide.

The principal representative is Prussian blue or Paris blue.

This is the ferric salt of ferrohydrocyanic acid. It is usually placed on the market in a diluted form under various names as " mineral blue ". By treatment with oxalic acid " Berlin blue " is obtained and by treatment with chromic acid " Milori blue ".

In its pure state, Prussian blue is used as an artists' colour. In its diluted state, it is intended for ordinary painting ; when mixed with starch it forms the blue used for linen and acts in this case as a substitute for ultramarine.

Ferrocyanide of copper also belongs to this sub-item.

(l) The following sub-item includes the group of colours with a basis of chrome.

Lead chromate is very important, whether as a neutral salt (chrome-yellow), or as a mixture of neutral chromate with basic chromate (chrome-orange), or, lastly, as a basic salt (chrome-red).

Lead chromates are used on a large scale as colours for ordinary and artistic painting and as printers' colours.

In addition, this sub-item includes barium chromate, cadmium chromate, iron chromate, manganese chromate, the double chromate of zinc and potassium, mixtures of chromates, between themselves, such as zinc chromate and calcium chromate, or mixtures with other colours, such as the mixture of yellow colours, having a basis of chromate, with Berlin blue, etc.

Another important group is represented by the colours, having a basis of chrome oxide, and particularly chrome-green, which is principally used in printing and lithography and for the preparation of weather-proof and heat-proof paints.

Sub-item *(l)* also includes the hydrate of chrome oxide—Guignet's green—placed on the market as such, or diluted, under the most varied commercial names (parchment green, Victoria green, etc.).

The chrome oxides mentioned and chrome hydroxide are therefore excluded from sub-item *(d)* of Item 232 (Chapter 28).

In addition to the above-mentioned colours, there are a number of other chrome colours known by various names in commerce, obtained by causing various chemical substances to react with chromates or merely by calcining such chromates.

(m) The collective sub-item *(m)* will include all the mineral colours which are not mentioned or included in any of the preceding sub-items.

As examples, we may mention cadmium sulphide, cadmium and selenium sulphide, copper acetate, copper carbonate, copper oxychloride, iron phosphate, manganese pyrophosphate, cobalt albuminate, cobalt phosphate, lead oxychloride, lead antimoniate, tin sulphide, antimony sulphide, etc.

Item 307.

The collective item for unprepared colours includes those which cannot be characterised as vegetable colours, animal colours, colouring derived from coal tar, blacks, colouring earths, or mineral colours.

(a) The first sub-item consists of artificial lacs.

The expression " artificial or colouring lacs " comprises compounds analogous to salts, insoluble in water, obtained by causing readily soluble, difficultly soluble or even insoluble colouring materials to react with suitable substances.

The colouring materials are either separated from their solution or their suspension by means of precipitation agents, as in a chemical combination, or are precipitated on a substance serving as a ground, or, again, they are absorbed by the ground, a phenomenon during which a chemical reaction sometimes takes place between the colouring material and the ground.

The grounds generally used are alumina, barium sulphate, chalk, kaolin, etc.

The colouring substances are generally colours derived from coal tar ; for the most part, they are soluble in water and, for certain specific uses, must be converted into insoluble colours.

The insoluble colouring materials derived from coal tar, however, may also be used for producing colouring lacs.

In the same way, animal and vegetable colouring materials may be used for preparing such lacs.

There are various precipitation agents. For instance, colour lacs are obtained by precipitating soluble substantive colouring materials such as cotton brown GXN with barium chloride ; acid azoic colouring materials with barium chloride or calcium chloride ; or basic colouring materials either with tannin and tartar emetic or with complex acids such as phosphotungstic acid.

This chemical transformation takes place without the use of a ground.

As examples of colouring lacs formed with the use of a ground, we may mention those obtained by the combination of acid colouring materials (such as *ponceau*), substantive colouring materials, eosin colouring materials and acid anthraquinone colouring materials, with metallic

salts such as barium chloride, with the use of alumina hydrate, or those obtained by the precipitation of basic colouring materials, such as methyl violet, with tannin and tartar emetic, with the use of alumina hydrate and *blanc fixe*.

The colouring material dissolved by the ground is absorbed during the transformation of basic colouring materials such as diamond green GH with fixing clays.

It should be again made quite clear that the colouring substance may be insoluble in water ; this is the case with acid colouring materials of the type lithol red R, lac red C, etc., which may enter into combination with metallic salts such as barium chloride or calcium chloride.

In this case also, the transformation may take place either with or without the use of a ground.

The reaction of alizarine colouring materials which are insoluble in water with a ground should also be mentioned ; in this case, a chemical combination takes place at the same time between the colouring material and the ground.

Products which must be included in sub-item *(a)* are distinguished from colouring materials derived from coal tar mentioned in Item 302, whether in the pure or diluted state, by the fact that, on incineration, they leave more than 5 per cent of residue which is insoluble in water.

(b) A second sub-item includes " ceramic colours " which are used for decorating glass, enamel, china, earthenware and other materials with a basis of clay. These substances, possessing a colouring power (colouring materials), are, for the most part, metallic oxides and, less frequently, metallic salts or metals.

All these colouring materials have the common property of dissolving in substances with a basis of clay heated to a temperature at which they fuse or become soft, and of communicating to these substances their respective colours, which remain therein after cooling down.

Most of these colouring materials are also used as sub-enamel colours or high-temperature colours. For this purpose they are sometimes mixed with a glaze enamel in the factory using them, but rarely by the actual manufacturer.

Vitrifiable colours or super-enamel colours are mixtures of colouring materials and bodies (known as fluxes) enabling the latter to fuse at the desired temperature. These fluxes are glasses whose fusing points are determined by the addition of a larger or smaller percentage of silicic acid, borax, alumina, minium, alkali, etc. Vitrifiable colours are used for decorating glass, enamel, etc. All these colouring substances are sold in the form of powders.

In trade, the name " ceramic colours " includes products both with and without fluxes.

Ceramic colours without fluxes are elements or compounds which, apart from their use as ceramic colours, may be employed for other purposes without its being possible to state *prima facie* for what purposes they are intended. Consequently, they cannot be classified with ceramic colours.

On the other hand, the presence of fluxes in the above-mentioned colouring substances makes it quite certain that these products will be used in the ceramic industry. Consequently, only mixtures of colouring substances and fluxes will be included in sub-item *(b)*, the wording of which is : " Ceramic colours (vitrifiable compounds) ".

(c) A further special sub-item is provided for " metallic " colours. Powdered aluminium is expressly left out of this sub-item as it cannot be excluded from the item referring to aluminium its use in the preparation of colours being of lesser importance compared with its other uses, such as the metallurgical and welding process known as " aluminothermy ".

Metallic colours found in commerce, apart from aluminium powder, include ground bronze or bronze powder, which is used in its natural or in oxidised state in order to obtain certain colour effects, or is mixed with colours derived from coal tar.

Bronze colours are used in printing and lithography and for bronzine objects of all kinds.

(d) The collective sub-item for " other colours " includes all the unprepared colours which cannot be included in the preceding items or sub items.

This collective sub-item may include the colour sold under the name " reduced black ", which is used for printing tissues and is obtained by oxidising an extract of campeachy wood with bichromate and by dissolving the resulting hæmatein chromate in a solution of bisulphite of sodium.

This item also comprises " cochineal carmine ", a red colour obtained by precipitating an extract of cochineal with an acid or an acid salt.

The so-called " walnut husk " mordant *(brou de noix)*, prepared from Cassel brown by treatment with soda, also belongs to this item.

* * *

The colours mentioned in the previous items should be included therein, whether they are in solid or powdered form or are made into a paste by the addition of water.

The following are not, however, included in the previous items :

(1) " Prepared " products—that is to say, products diluted with oil (boiled or otherwise) or turpentine essence (oil), or glycerine, glue, mineral oil or any other

binding substances or with spirits of wine. Products of this kind belong to sub item 308*(c)* : " Prepared colours . . . pulverised in oil . . . " ;

(2) Products packed for retail sale—that is to say, in small bottles and other similar containers ready for use. Such products are included in sub-item 308*(d)* : " Prepared colours of all kinds put up for retail sale (in cakes, pastilles, tubes, saucers, small bottles, etc.) ;

(3) Products containing compounds of precious metals or of rare earths, which are included respectively in Item 261 (Chapter 28) : " Salts and other combinations of precious metals " or in Item 262 of the same chapter : " Salts and other combinations of rare earths ".

Item 308.

All " prepared colours " are, on the other hand, included in this item.

In this item, the expression " prepared " signifies the mixture of colours with any binding substance whatever. The most important of these substances are oils. After these, the following may be mentioned as being equally used for binding purposes : greases, glycerine, glue, casein, egg-yolk, wax, ox-gall, soluble glass, etc.

(a) This sub-item includes " reproduction colours " of all kinds, among which the most important are printing colours.

In view of the difference in value between ordinary printing-ink, which is used in large quantities, and printing-inks of other colours, a tertiary sub-item has been provided for black ink, though it was realised that there are also black printing-inks of high value.

The principal constituent elements of printing-inks are boiled linseed oil and mineral colours or artificial lacs.

Ordinary printing-ink, however, does not as a rule contain linseed oil, but does contain mineral oils, colophony, lamp-black, etc.

Frequently, printing-ink also contains small quantities of siccatives.

(b) " Prepared colours " also include ribbons for typewritters and similar machines. The classification of these products in this item is due to the fact that the ribbon as such is a mere ground for the prepared colour in order to make it suitable for use ; from the economic point of view it is the colour which gives the value to the product and thus becomes the determining element for its classification in the Customs nomenclature.

(c) The following sub-item groups together " oil colours ". These are colouring materials ground in siccative oils or in greasy varnish (oil varnish). They are principally used for covering surfaces with a weather-proof paint. The quantity of oil necessary for grinding a colouring material varies according to the nature of the substance.

The principal representatives of oil colours are ceruse ground in oil, which requires 10 to 12 per centof oil to be ground into a paste and 15 to 20 per cent to be suitable for painting, zinc white, which requires 22 to 25 per cent, and lithopone, which requires only 15 per cent. Iron oxides and titanium white are also often ground in oil for ordinary painting.

Owing to its commercial importance, ceruse is mentioned by name in a special tertiary item.

Oil colours are also frequently sold in a diluted form—for instance, with essence (oil) of turpentine or with the addition of siccatives, which will be referred to more explicitly in the following item (309).

(d) A special group of colours is represented by " colours put up for retail sale ".

This item includes in the first place the so-called " artists' colours " in small tubes, and colours for paint-boxes in the form of solid tablets, etc. Lastly, it includes the colours known as " household stuff dyes " or " dyes in sachets " consisting of small quantities of certain kinds of coal-tar dyes put up for sale in the form of small balls or powders contained in sachets or in the form of tablets on cards ready for use with the addition of various substances. This category includes laundry blue—*i.e.*, ultramarine or Prussian blue—put up in small sachets ; these two substances may be mixed with each other or with other materials.

All these substances are classified in this sub-item even if marketed in special receptacles such as paint-boxes.

Generally speaking, colours not put up in cakes, pastilles, tubes, saucers, small bottles, etc., should be considered as intended for retail sale, provided their weight, immediate wrapping included, does not exceed 250 grammes.

(e) The classification of prepared colours also concludes with a collective sub-item. Colours covered by this sub-item include those with glue and the lustres which consist of metallic salts of resinic acid, dissolved in a solution of ethereal lavender essence mixed with sub-nitrate of bismuth as a flux.

If, however, such products contain precious metals, they must be included in Item 261 (Chapter 28) : " Salts and other combinations of precious metals ".

Item 309.

This item contains " siccatives ", which are valuable auxiliary materials in industry and in the application of colours and varnishes. These products are composed of metal salts added to drying oils, in order to accelerate drying. This property is possessed in particular by the lead, manganese and cobalt salts of oleic and resinic acids. The salts of boric acid together with the above-mentioned metals are also of importance in this respect.

The above-mentioned salts of palmitic, stearic, naphthenic and tungstic acids are also siccatives.

Lastly, this item also includes the zinc salts of the same acids, with the exception of zinc resinate, which belongs to the category " Non-hardenable artificial resins " in Item 285 (Chapter 28).

Siccatives are sold either in the solid state or, most commonly, in the form of solutions in turpentine essence (oil) or its substitutes.

This item includes siccatives not only in solid or liquid form but also incorporated in drying oils ; consequently, linseed oils with the addition of siccatives, which are treated in various tariffs as varnishes, are included in this group.

Oxidised, blown and boiled oils without the addition of siccatives are included in Item 107 (Chapter 15). This classification was adopted, because it was considered that the mere boiling of an oil could not transform it into a chemical product. For such a change to be made, a chemical substance, such as a siccative, would have to be added to the oil.

Item 310.

Item 310 includes varnishes of all kinds.

The term " varnish " comprises coloured or uncoloured coatings principally intended to protect or embellish surfaces, but occasionally also used for other purposes. For instance, certain varnishes are used as insulating materials for electro-technical purposes.

The essential characteristics of varnishes, which must be fulfilled by all the products included in Item 310, is the presence of a resin or a resin substitute such as artificial resins, rubber, asphalt, etc.

According to the nature of the basic substances or dissolvents used, various categories are distinguished, for which sub-items have been provided.

(a) The first sub-item includes varnishes prepared by dissolving a resin (or a substitute) in a drying oil ; the dissolution may be very concentrated and thus form a kind of varnish extract.

It should again be noted that a so-called drying oil, uncoloured and without the addition of resin, is included in the previous item—*i.e.*, No. 309—when drying materials are added to it ; otherwise it is included in Chapter 15.

(b) If a varnish is prepared by dissolving a resin in ethyl alcohol, it is classified in sub-item *(b)*.

(c) The third sub-item comprises varnishes with ethers of cellulose, which are of great importance. They are formed by dissolutions of cellulose esters, such as nitrocellulose and acetylcellulose, in organic dissolvents, such as butyl acetate, amyl acetate, etc.

(d) Varnishes which have none of the characteristics of the preceding sub-items are included in the collective sub-item *(d)*. This sub-item may include solutions of resins in dissolvents other than ethyl alcohol and varnishes of asphalt or rubber—that is to say, solutions of these substances in dissolvents other than ethyl alcohol. Rubber solutions are only included when oil or colouring materials have been added to them.

Item 311.

On account of a certain analogy that exists in the composition of varnishes and mastics, it was decided to place mastics immediately after varnishes.

Mastics are used for stopping cracks and for attaching objects or parts of objects to each other. They are manufactured from the most varied materials.

An important class of mastics is represented by resin mastics, the basic substance of which consists of natural or artificial resins ; these, in turn, contain other materials, such as rubber, celluloid waste, camphor, etc., the whole being formed into the consistency of paste by means of varnishes or small quantities of organic dissolvents.

Another important category consists of mineral mastics with a basis of various mineral substances.

Glaziers' putty is a mastic made of chalk, umber, litharge or boiled linseed-oil and sometimes glycerine.

" Cellulose mastic " is a dissolution of celluloid waste in organic dissolvents. It plays an important part as glue for boot-soles.

" Dental mastic " or " dental cement ", however, belong to Item 292 (Chapter 28) as a pharmaceutical preparation.

Item 312.

" Sealing-wax " is a special kind of product similar to mastics ; the finest qualities are used for sealing letters and the more common qualities for sealing bottles.

Sealing-wax consists of gum lac, resin, turpentine essence (oil), colouring materials and filling substances, such as chalk, sulphated barytes, talc, etc.

This item also includes the so-called " cold sealing-waxes ", which consist of solutions of celluloid in suitable dissolvents, with the addition of finely pulverised mineral substances.

Item 313.

Ink is a special kind of colour. The term " ink " includes liquids of black or other colour for writing, composed of solutions or suspensions of colouring materials in water.

The basic substances of inks are of various kinds. For instance, ferro-gallic inks contain iron sulphate and tannin. Other inks contain artificial lacs with a basis of campeachy-wood colouring material. Many ordinary inks are prepared by means of colouring materials derived from coal tar.

There are also many special inks—sympathetic inks, copying inks, reproduction inks, fountain-pen inks, typewriter ribbon inks and pad inks, etc., which, in addition to the actual colouring material, contain other materials varying according to the special uses.

Solid inks are of less importance. They are sold in the form of compressed powder, in cakes or as a paste, and are usually made of colouring materials derived from coal-tar or dye-wood extracts.

A special kind of ink is Indian ink, which consists of a mixture of lamp-black with various binding substances, such as glue, gum arabic and gum tragacanth.

All these products are grouped together in Item 313.

Item 314.

The last item in the chapter on colours includes colouring materials such as pencils, leads and drawing chalks.

(a) This sub-item includes pencils for use in offices as well as those used by craftsmen, in particular, those known as " carpenters' pencils ".

The leads for graphite pencils are made of graphite mixed with a greasy clay ; the finely ground mixture is passed through press-plates, dried and then calcined at various high temperatures.

Copying-pencil leads are made of colouring materials derived from coal tar and kaolin.

(b) The second sub-item includes writing leads similar in composition to those under *(a)*, but sold for use in pencil-cases. It should be noted that pencil-cases or similar articles made of metal, artificial horn, etc., do not come under this item.

Sub-item *(b)* also applies to " pastel crayons ", or " drawing crayons ", with or without a paper covering, whether or not sold in cardboard boxes. They are usually made of a mixture of colouring earths or mineral colours and kaolin. Pastel crayons are also manufactured from a basis of white chalk mixed with colouring materials and binding substances such as, in particular, starch, gum tragacanth, gum arabic, glue, dextrine, etc.

This item also includes coloured crayons made of greasy substances and colours, those used for writing on glass vases, etc. (in laboratories), and for marking cattle. It further includes " oil crayons ", which are made of kaolin and a mixture of greases and colouring materials.

Lastly, charcoal pencils are also included in this sub-item.

(c) The last sub-item contains chalk for writing and drawing. This consists principally of calcium carbonate cut into pieces of various shapes, or in the form of moulded sticks. This sub-item further includes chalks known as " tailors' chalk ", which is made of " steatite ", a natural silicate of magnesium, and the articles known as " coloured chalks ".

Chapter 31.

ESSENTIAL OILS AND ESSENCES, ARTIFICIAL ODORIFEROUS SUBSTANCES ; PERFUMERY ARTICLES.

Chapter 31 includes chemical products the use of which is based on the odoriferous properties of the chemical compounds entering into their composition.

This category comprises finished products and also the raw materials to which the characteristic " odoriferous " is applicable.

* * *

Item 315.

" Raw materials " of this kind occur in nature in the form of essences which are found in various plants and are extracted by pressure, dissolution, distillation, etc.

As examples of such products the following may be mentioned : Essences of pine needles, coriander, rosemary, juniper, bergamot, citronella, geranium, lavender, cloves, mint (peppermint), rose, cinnamon, etc.

Turpentine essence (oil), which, by its nature, belongs to this item, is, for the reason stated above, classified together with pine oil in Item 284 (Chapter 28).

(a) An important category is formed by essential oils extracted from the rind of fruits of the " citrus " species, such as bergamot essence, orange essence and lemon essence.

(b) All the other essential or volatile oils not belonging to this category are included in sub-item *(b)*.

(c) Natural volatile oils consist essentially of mixtures of hydrocarbides of the terpene type, of aliphatic and aromatic alcohols, of aldehydes, of ketones, of esters, etc.

Terpenes oxidise and polymerise easily, and this property results in the more or less rapid resinification of the volatile oil. In order to prevent it, the volatile oils are often separated, by partial distillation or otherwise, from the terpenes which they contain ; in this manner the so-called " deterpened " essences are obtained ; they are more soluble in alcohol and give a better yield because of their finer perfume.

The terpenes themselves are also an article of commerce and are used in the perfumery industry.

As examples of terpenes, we may mention dipentene, terpinolene, terpinene, limonene, camphene, fenchene, pinene, etc.

The volatile oils come under sub-item *(a)* or sub-item *(b)*, whether the terpenes have been extracted or not.

Item 316.

This item includes other odoriferous substances sold, not in the form in which they are extracted from the natural products, or derived from the latter, but obtained chemically by synthesis.

These are principally compounds obtained synthetically with the help of products extracted from coal tar, such as, for instance, benzylic alcohol, phenylic aldehyde, vanilline, etc.

We must also consider here the odoriferous materials extracted from natural essential oils by chemical reactions, such as anisol, borneol, citral, citronellal, citronellol, isoeugenol, terpineol, etc.

This item should also include the definite constituents separated from natural essences, such as anethol, carvol, geraniol, menthol, safrol, santalol, thymol, etc.

The products included in this item are so classified on account of their odoriferous character. This may be more or less pronounced, so that, to remove any doubt, it was thought desirable to draw up a list of the products covered by said item.

In drawing up this list, which is contained in Annex II, consideration was given to the fact that most of the substances belonging to this item are already regarded as artificial perfumes in the majority of the existing tariffs.

In order that the list should always correspond with practical requirements, it should from time to time be checked, supplemented and corrected.

Some of the products classified in Item 316 are, by their chemical composition, ethers or esters. The ethers and esters mentioned in the list of odoriferous substances do not, therefore, come under Item 273 (Chapter 28).

In the lists of dissolvents and the ethers and esters used as synthetic perfumes, however, there will probably be products which may act both as dissolvents and as perfumes. In respect of such products, each country will be free to apply the treatment resulting from official information as to their use, while retaining the classification shown in the lists.

Artificial odoriferous substances or basic ingredients separated from natural essential or volatile oils, which are sold in a solution of alcohol, are classified, not in Item 316, but in Item 317.

Item 317.

In the preceding two items the perfumes in question are considered such as they are—that is to say, without additional substances. Consequently, if the volatile oils, their separate constituents or the artificial perfumes are mixed with each other or are placed on the market in a solution of alcohol, they are no longer included in Item 315 or 316, but in Item 317, which has been specially established for the purpose.

These mixtures constitute products used as raw materials for a number of industries, such as in perfumery, in the manufacture of confectionery, beverages, etc.

The products in question are often already mixed with organic acids and colouring materials.

A special category is sold under the name of " fruit ethers and esters ", such as ethers of apples, pears, raspberries, apricots, peaches, etc. All these articles are mixtures of various products—for instance, the ether of apricots is a mixture of benzaldehyde, amyl butyrate, etc. The ether of peaches is composed of amyl valerianate, amyl butyrate, amyl acetate, benzaldehyde and alcohol.

Item 318.

The products coming under Item 317 represent " semi-finished products " for the industries using them. The position is the same for the natural volatile essences, concentrated in greases and oils, which must be classified in Item 318.

These are commercial products obtained by processes known under the name of " *enfleurage* " and " *macération* ".

In these processes, used in particular in Provence, the most varied flowers (reseda, violet, jasmine, etc.) are brought into contact with fine greases or with oils which absorb their perfume and finally constitute odoriferous pomades wherefrom the essential oils may be extracted by means of concentrated alcohol.

Item 319.

The last item in Chapter 31 includes finished products the uses of which generally depend on the presence of one or more odoriferous agents.

The classification of these products in two items according as to whether they were " perfumery " proper or " cosmetics " or " toilet articles " was considered, in view of the fact that these two groups differ from the economic point of view, " perfumery " being an " article of luxury ", while this is not the case with " toilet articles ".

This separate classification was not considered desirable, because the examination of this question showed that the limits between the two categories were extremely vague.

In order to show that Item 319 includes, not only " perfumery " proper with the character of luxury articles, but also " toilet articles ", the word " cosmetics " was inserted in the text of this item ; in some countries, this word signifies articles of perfumery.

Item 319 will, therefore, include the following products : Perfumes, even in the form of highly concentrated products or as pastes with or without alcohol ; eau de Cologne ; fumigatory substances for purifying the air of rooms ; perfumed sachets ; perfumed envelopes and paper ; salts for perfuming bath-water ; manicure products ; hair-dyes ; depilatory agents ; face rouge ; lip pastes and ointments, eyebrow pencils, etc.

In addition, this item also includes the following articles : hair lotions ; face creams ; toilet vinegar ; face powder ; dental creams ; tooth powders, soaps, pastes and washes ; body powders ; camphorated alcohol, etc.

In view of the numerous alcohol monopolies and the consequent necessity for many Customs Administrations to apply separate treatment to perfumery articles containing alcohol, two sub-items were created, one for products with alcohol and one for products without alcohol.

Products without alcohol are further subdivided according as to whether they are put on the market :

(1) In the form of powder, such as tooth-powder ; in the solid state, such as bath-salts or nail-polishing bricks ; or in the form of paste, such as face creams ;

(2) In a liquid state, such as hair oils.

This subdivision is based on the idea that the different method of presentation (solid, paste, liquid) as a rule involves a difference in the value of the products, so that provision should be made in advance for the possibility of separate treatment.

It should be noted that perfumery and toilet articles are classified in Item 319 whether they are placed on the wholesale market or put up in packages for retail sale.

It should also be noted that perfumed soaps in all forms are included in Item 320 (Chapter 32).

Chapter 32.

SOAP, CANDLES AND OTHER PREPARATIONS WITH A BASIS OF OILS, OF FATS OR WAX AND THE LIKE.

Item 320.

The first item comprises soaps, which include in general mixtures of alkaline salts of best quality fatty acids, either saturated (for instance, stearic acid, palmitic acid) or not saturated (for instance, oleic acid) and also includes resinic acids.

As an exception, the alkaline salts of cholic acid may also be used as soap.

Soap is divided into various categories, the value and economic position of which have led to the formation of special sub-items.

(a) The least valuable kinds are soft soaps, which are obtained by boiling potash lyes and, occasionally, soda lyes, with ordinary oils or fish oil. They are dark green or dark brown in colour and have an oily consistency. The same category includes soaps with a basis of resin prepared by boiling resin and soda lyes ; they are also known as " resin glue " and are used chiefly in the manufacture of paper.

The position is similar as regards the soaps known as " textile soaps " which are used for scouring wool, for removing grease from textile articles, as washing agents for fabrics, etc. ; apart from the substance of the soap itself, which forms the basis, they may contain additional substances of various kinds, such as benzine, turpentine essence (oil), tetrachloride of carbon, etc.

These textile soaps are therefore classified under sub-item *(a)*.

(b) As a rule, the hard soap of commerce has a basis of soda and is manufactured by boiling fatty materials with soda lyes, with a subsequent precipitation with chloride of sodium, or by closely combining fatty acids with soda. It is placed on the market in solid form in blocks, slabs or bars. The same soap, when prepared in cakes, small bricks, balls, etc., for immediate toilet use, comes under sub-item *(d)*.

(c) A further sub-item is provided for soap prepared in thin particles, especially in the form of powder, flakes, scales or chips, even perfumed.

It should be noted that the commercial forms of soaps classified in this item may not contain any other additional foreign matter. Otherwise they are included in Item 321.

Sub-item *(c)* also includes " liquid soaps ", even perfumed, which are used for toilet purposes, but which, on account of their low concentration (in view of their special use), are of less value than solid toilet soaps and are therefore not classified in the same sub-item as the latter.

(d) The last sub-item embraces in the first place the so-called " toilet soaps " which are used for the body.

These are hard soaps of a shape suitable for immediate toilet use. Fine soaps of this kind are made of especially pure, inodorous fats, with or without the addition of odoriferous substances and colouring materials.

After these come shaving soaps and creams with a soap basis. Transparent soaps, prepared with the addition of glycerine, sugar or alcohol, also belong to this item.

In the same sub-item are classified soaps to which medicinal substances are added. These substances include phenols, iodide compounds, mercury salts, boric, salicylic, benzoic and other acids and, in particular, also preparations with a basis of sulphur and tar oil. Account must also be taken of soap preparations conforming to the pharmacopœia, such as *sapo kalinus*, *spiritus saponatus*, and *sapo medicatus*.

Item 321.

Powder preparations for washing cloths, whether or not containing soap, are classed with soaps.

Many tariffs treat preparations containing soap in the same manner as soaps, while preparations without soap are treated separately in accordance with their composition. It was thought that the two kinds of preparations should be grouped together.

Preparations belonging to this item frequently contain soda, soluble alkaline silicate and per-compounds, which give off oxygen. The soap content varies considerably.

Cloths washing preparations consisting only of soap are included in Item 320*(c)*, if they are in the form of powder or flakes.

Item 322.

Sulphoricinates, sulpholeates and sulphoresinates, on account of their connection with soap, are included in the next item. They are obtained by the action of sulphuric acid or

other sulphonation agents on vegetable and animal oils and fats, such as castor oil, olive oil, fish oil, neat's-foot oil, etc., and also on resin.

Sulphoricinates are also sold under the name of " red oil of Andrianople " (Turkey red oil), a name which is also sometimes applied to other products mentioned below. The latter products, however, must be regarded as substitutes, since they possess in only a small degree the properties which make sulphoricinate essentially suitable for its special purpose. These substitutes have, however, other properties which make them suitable for use in industry.

Red oil of Andrianople is a valuable auxiliary material for dyeing with alizarine, rhodomines, and with colouring materials developed on the fibre. It is also much used for dyeing with vat dyes. The substitutes are important for oiling textiles, and as raw materials for the manufacture of textile oils and soaps, and also as nutritive substances (fat liquor) for tanning.

The preparations included in this item are frequently sold with the addition of dissolvents (chlorated hydrocarbides, benzenic hydrocarbides, hydro-aromatic hydrocarbides).

Item 323.

Oils and greases are important raw materials for manufacturing the lubricants classified in Item 323, when the latter are based on those products, without regard to whether other substances are added or not.

As an example, lubricants which are in semi-solid form *(consistants)* may be mentioned, which are soap emulsions having a basis of fatty acids with the addition of mineral oils.

Vehicle greases usually consist of mixtures of resin soaps with resin and pine oil, certain filling materials being added. This item also includes boring oils *(huiles de forage)* used for machine tools.

Mixtures of mineral oils with each other or with asphalt or pitch are included in Chapter 27.

Item 324.

While the lubricants just mentioned are mostly used in industry, Item 324 embraces numerous products which as a rule are sold packed in small quantities and are used in household for cleaning metal ware, floors, etc.

Although such products are usually placed on the market put up for retail sale, this item includes them when they are marketed ready for use in whatever form.

The most important are substances for preserving leather. Boot-blacking made from molasses and bone-black or animal-black, with the addition of certain substances (for instance, sulphuric acid), has now almost fallen out of use. The preparations now employed have mostly a basis of various kinds of wax, such as carnauba wax or lignite wax, which are kept at an oily consistency by means of suitable diluents (turpentine essence (oil) or its substitutes).

Another main category of substances belonging to this item consists of " encaustics " (for polishing floors), which are either mixtures of various kinds of waxes, or their substitutes, with turpentine essence (oil) or its substitutes, or are manufactured products partly saponifying the mixture of wax with the aid of a potash solution.

Substances for polishing metals are mostly sharpening materials reduced to paste by suspension in oils or fats.

Substances for cleaning metals are sold in the form of soaps, pastes, liquids or creams. Cleaning pomades are mixtures of mineral substances with greases, waxes or oils, while waters used for the same purpose are usually solutions of soap with or without the addition of alcohol, benzine or other similar substances.

Preparations with wax for polishing furniture also come under this item. On the other hand, furniture paint (which is a solution in alcohol, etc., of gum lac) or substitutes (such as the esters of cellulose or artificial resins) must be classified as varnishes in Item 310 (Chapter 30).

Item 325.

The last item includes candles and tapers.

The materials used for manufacturing tapers are beeswax and the vegetable waxes, various animal fats (tallow, spermaceti, etc.) and, in particular, stearin and paraffin (the two most important products for manufacturing candles).

Candles are classified in this item whether coloured or not and whether their surface is smooth or ornamented.

The candles known as " *rats de cave* " (ball tapers), as well as night-lights, also come under this item.

Chapter 33.

CASEIN, ALBUMEN, GELATINES, GLUES AND DRESSINGS.

Item 326.

Casein, which occupies the first item, is an albuminoid substance contained in milk to an extent of 3 per cent on an average. After being separated from milk, it takes the form of a clotted substance, and when being ground it has the appearance of semolina and is of a yellowish white colour.

It is prepared by allowing milk to sour or by adding an acid to it. It then forms the so-called " acid-precipitated casein ". After suitable treatment, it is used as a size in the manufacture of paper, as a glue in the proper sense of the term in the manufacture of plywood (sheets of wood glued together with the grain in opposite directions), and in the preparation of agglutinants and of pigments. Acid-precipitated casein is also used for the preparation of pharmaceutical products.

If milk is curdled without any trace of acid by means of the ferment known as rennet, which is taken from calf's stomach, casein is obtained, which is used as a very important raw material in the manufacture of artificial horn (galalith type, etc.).

Item 327.

Other albuminoid substances which are of technical importance consist on the one hand of albumens such as those forming egg white and blood albumen, and on the other hand of vegetable albumens. They are used for many technical purposes, among which mention should be made of the manufacture of different varieties of paper (particularly photographic paper), foodstuffs and tonics, and also of the manufacture of special glues.

Item 328.

The kinds of albuminoid substances which are of chief technical importance are gelatine (328) and animal glue (Item 329).

Both are obtained by the special treatment of bones, cartilage and animal skin parings from the manufacture of leather.

These two kinds of albuminoids are distinguished from each other mainly by the uses to which they are put. Gelatine has to produce a jelly as clear as water, while glue must have the greatest possible agglutinative power. Gelatine is marketed in transparent sheets of varying thickness or in the form of powder.

An important article of commerce is the gelatine sheeting used to cover foodstuffs. If this sheeting is printed or otherwise worked, however, it comes under Item 966 (Chapter 82), which also includes other gelatine articles.

Gelatine is used for a large number of technical purposes. One of its principal uses is in the manufacture of photographic paper on which it is pasted in layers to take the substances which are sensitive to light.

It is also used in the preparation of foodstuffs of all kinds, and forms the basis of the " culture broth " used in bacteriology.

If gelatine is combined with remedies, or if medicaments are wrapped in gelatine capsules, such capsules are classified as " Prepared medicaments, etc. ", in Item 292 (Chapter 28).

Special gelatine capsules are also used for the corking of bottles.

It should be noted that forms of hardened gelatine, particularly sheets of gelatine hardened with formaldehyde, are placed in sub-item 278*(a)* : " Artificial plastic materials, etc." (Chapter 28).

Item 329.

Glues of animal origin are differentiated according to the materials from which they are manufactured.

(a) Fish glue is prepared from various parts of fishes—*e.g.*, their skins, scales, fins, air bladders, etc. It always remains in liquid form. This sub-item also comprises " ichthyocolle ", or " isinglass ", obtained from the air bladders of fishes of the sturgeon family by dissolving them in suitable liquids.

It should be noted that products are often marketed as "fish glue" which are not made from fish at all but are simply ordinary kinds of glue kept in a liquid state by the addition of acetic acid.

(b) Bone glue is extracted from the bones of animals. Hide glue is made from slaughterhouse refuse, such as scraps of hides and skins, calves' and sheep's feet and, more particularly, waste of plucked skins.

The glue thus marketed is usually of little transparency, but recently increasing importance has been attached to glue in " pearl " form.

(c) As regards other glues of animal origin, mention may be made of those having a base of casein or albumen and obtained by treating those products with suitable chemical reagents, among which the commonest are the alkalis.

Item 330.

One particular use to which glue and gelatine are put consists in the preparation of paste for printing-rollers. This paste is made by heating the glue or gelatine with glycerine and adding colouring or weighting substances.

Paste of this kind is also employed for the manufacture of all kinds of multigraphing appliances.

Item 331.

Besides glues of animal origin, those of vegetable origin are also of great importance for technical purposes. They are obtained by the action of heat, of diastase or of acids on hydrates of carbon, particularly starch.

This reaction first provides the intermediate substances marketed as "dextrines", which appear by themselves in Item 331.

For the preparation of these substances, various kinds of starches are used, particularly potato fecula. These are transformed into dextrine either by the action of heat alone, under suitable conditions, or by the preliminary action of an acid, the hydrochloric being that most commonly employed.

Dextrine may also be obtained by treating starch by diastase, but this process is not actually used.

The dextrines are employed mainly as agglutinants and also as thickening or additional substances in the manufacture of pigments, plastic materials, explosives, etc. One particularly important use of starch of dextrine is for transformation into sizes and dressings for the textile industry.

Item 332.

These glues and dressings, which are obtained principally from starch and dextrine, are placed in Item 332.

The glue known as stiffening starch *(empois)*, for example, is obtained by the action of boiling water on ordinary starch, which causes its granules to swell and burst. The treatment of starch by various chemical products furnishes other agglutinants or glues, which are marketed under the most varied names.

Similarly, solutions of dextrine in water to which various particular chemicals are added are used as glues. Agglutinants having a sulphite lye base to which suitable substances are added also come under this item, together with fermented gluten for cobblers' wax.

The above products are used more particularly as raw materials for the preparation of weavers' glazings and textile dressings. The latter improve the textiles to which they are applied by giving them a more pleasing appearance, rendering them waterproof, etc.

The effect obtained by dressings is intended to be lasting, whereas the glazings are used only to facilitate manufacture and are removed from the tissues in the course of manufacture.

These products (glazings and dressings) are applied to the tissues after having, according to kind, been dissolved, inflated, emulsified, etc.

Glues prepared with a basis of gum arabic and other vegetable materials in liquid, paste or solid form are also included in this item.

Item 333.

The last item in the chapter comprises glues of all kinds put up for retail sale—*i.e.*, glues in small bottles, tubes, tins, etc., known in commerce as office mucilage.

Liquid gum arabic in small bottles or tubes, etc., must also be classified here, although in the raw state (in lumps) it belongs to Item 93 (Chapter 13).

Rubber solutions are excluded from this item (see Item 371).

Chapter 34.

EXPLOSIVES, FIREWORKS, MATCHES AND OTHER ARTICLES MADE OF INFLAMMABLE MATERIAL.

Chapter 34 is intended to comprise chemical products the characteristic of which is that they contain in themselves, in chemical combination, the oxygen necessary for their own combustion.

If the combustion of these substances is started by external excitation, such as a shock or friction or heat, it progresses with extreme rapidity, liberating the latent chemical energy

from the products in question. A large quantity of heat is also released, producing very high temperatures which, in their turn, cause enormous expansion on account of the simultaneous release of large volumes of gas. The expansion of these gases causes a more or less extensive mechanical process to take place which may be utilised in various ways.

Besides those of these products, to which the characteristic thus defined primarily applies —*e.g.*, explosives, gunpowder and certain auxiliary materials—the chapter also comprises chemically prepared products for producing light and pyrotechnical effects by transmitting calorific energy, such as matches, fireworks, etc.

* * *

Item 334.

This item relates to nitrocellulose as one of the fundamental materials for the manufacture of gunpowder and explosives.

In the course of the nitration of cellulose, there is produced either " dinitrocellulose " (with a nitrogen content of about 11 per cent) or " trinitrocellulose " (with a higher nitrogen content, of as much as 14 per cent).

Dinitrocellulose is employed for the preparation of solutions used mainly in the varnish industry and also in the photographic and various other industries.

The solutions which are commercially known as " collodions " are excluded from this item and come under Item 276 (Chapter 28).

Trinitrocellulose or " pyroxyline " is hardly ever used by itself, but, after certain " stabilising " substances have been added to it, it is employed on a considerable scale in the manufacture of smokeless gunpowder.

In view of these two uses, which differ totally and are sharply differentiated from each other, due consideration was given to the advisability of separating, for Customs nomenclature purposes, the variety of nitrocellulose employed for technical purposes from that employed for ballistic purposes and placing technical nitrocellulose in Chapter 28, in the group : " Other chemical products and preparations " (Items 265 to 287).

As the characteristic determining its differentiation for Customs purposes, it was proposed to take into account the different reaction of the two varieties to a mixture of alcohol and ethylic ether, which dissolves the dinitrocellulose variety, forming a clear solution, whereas pyroxyline remains insoluble.

It was realised that dinitrocellulose was no less important for technical purposes than gun-cotton for ballistic purposes. It must indeed be recognised that, in order to obtain accurate statistics, it would be of importance to classify the two varieties separately. Nevertheless, taking into account particularly the explosives monopolies existing in several countries, classification under a single item in the chapter on explosives was decided upon.

Item 335.

The second item comprises gunpowder.

(a) First comes the variety termed " black powder ", composed of wood-charcoal, sulphur and potassium nitrate (saltpetre).

Black powder is used in grains of varying coarseness, for firing small arms and cannon. It is also used for blasting.

This sub-item also covers powders containing, besides the above-mentioned components, nitrate of soda and even in some cases certain metallic salts.

(b) Of much greater importance are smokeless powders. These comprise, in the first place, nitrocellulose powders, with or without addition of salts having a high oxygen content, and of organic bodies ; then mixtures of nitrocellulose and nitroglycerine, also with or without the additional bodies above mentioned ; and lastly, mixtures of pyroxyline and picric acid or nitrogen derivatives of aromatic hydrocarbides.

Item 336.

This item includes various explosives. It was proposed to place in a special item the so-called " safety " explosives. But an agreement as to what sort of explosives should come under this heading proved to be almost impossible to reach on account of the different regulations laid down on the subject in the laws of the various countries. For this reason, it was decided not to add the term " safety " to the word " explosives ".

The wording adopted in view of the different economic situation of the various groups of explosives will enable countries, desirous of doing so, to classify them according to the basic substance in each case.

(a) In the first sub-item, which comprises explosives having a basis of nitrate of ammonium, chlorates or perchlorates, the most important groups of " safety " explosives have been brought together.

Explosives containing nitrate of ammonium are dried powdered mixtures of ammonium nitrate with nitronaphthaline, di- or tri-nitrotoluol, to which have been added substances having a high oxygen content. This sub-item also includes mixtures of ammonium nitrate with aluminium powder.

Explosives having a chlorate base are composed of potassium chlorate and variable quantities of nitrated organic bodies, of castor oil or of mineral oil.

Perchlorate explosives, particularly those having a base of perchlorate of potassium or ammonium, are of much less importance.

(b) While sub-item *(a)* includes explosives having an inorganic base, sub-item *(b)* comprises explosives having an organic base and more particularly those having a base of nitroglycerine. Nitroglycerine, an oleaginous liquid, is not suitable in itself to form an explosive, but it is the base of the whole large class of dynamites.

According to the nature of the material by which the nitroglycerine is absorbed in order to reduce its sensibility to shock—that is to say, its explosibility—a distinction is drawn between fossil meal dynamite, containing as an absorbent fossil meal, which is chemically inactive ; explosive dynamite containing gelatine collodion (solution of gun-cotton in nitroglycerine) ; gelatino-dynamite, a product consisting in explosive gelatine impregnated with suitable additional substances ; and, lastly, the types of dynamite which are rendered insensitive to the effect of weather changes by the addition of sulphate of magnesia. Dynamites having a nitrated glycol base must also be grouped here.

Sub-item *(b)* also covers explosives having a base of nitro-aromatic derivatives. These comprise more particularly trinitrophenol or picric acid, and also trinitrotoluol, trinitrophenylmethylnitramine, tetranitroaniline and pentanitrophenylmethylnitramine.

(c) All other explosives come under the last sub-item.

Mention should be made of priming explosives, including fulminate of mercury, which is widely employed, though not so important as the salts of hydrazoic acid, more particularly the lead salt.

These explosives come under this item, except loaded cartridges within the meaning of Chapter 81 (Ammunition).

Item 337.

Fuses are powder charges wrapped in a thin tube of tissue or in tarred jute thread. Sometimes, too, particularly for work in damp places, powder charges are protected by being impregnated with rubber solutions or with glue, or are put up in gutta-percha tubing.

Detonating fuses have a charge of trinitrotoluol or tetryl. As a substitute for fuses, there are also marketed small sticks of nitrocellulose containing wood charcoal and, in some cases, saltpetre, covered with acetylcellulose and, where required, placed in small metal tubes.

Item 338.

Item 338 comprises primers, fulminating capsules and detonators, all of which contain priming explosives ready for use. The primers cause the gunpowder in the cartridge to explode. Similarly, fulminating capsules cause the sudden decomposition of explosives. The introduction of fulminating capsules in this item means that it must also include detonators or detonating primers, which constitute the lighting appliance causing the explosion of the fulminating capsule.

Of these appliances, the only ones which are of technical importance to-day are electrical primers. When they do not contain detonating material, they come under Chapter 73, which deals with electrotechnical articles. On the other hand, if a detonating material is attached to the lighting appliance, the latter comes under Item 338. It was proposed that electrical primers containing a detonating material should be placed in the chapter on electrotechnical articles, but, as Chapter 34 is based on the detonating character of the products it contains, it would be unjustifiable to class an article containing its own detonating material in any chapter other than the present.

Item 339.

The next item comprises all mixtures of inflammable and combustible materials which, on burning or exploding, produce luminous effects, gases, heat or smoke. These mixtures are used for military purposes, for semaphore signals from life-saving stations at sea, and, lastly and mainly, for purposes of amusement (fireworks).

This item comprises, in the first place, coloured lights (Bengal lights). These usually have a potassium chlorate base, to which are added substances of the most varied kinds in the form of colouring metallic salts, more particularly salts of alkaline-earthy elements. The luminous charges are set burning either without being covered with a wrapper or made up as fireworks of the most varied kinds, such as rockets, crackers, luminous balls, Catherine wheels, " suns ", etc. This item also comprises fulminating stoppers, toy ammunition, " fulminating pellets " and percussion caps, whether single or in strips.

Fulminating stoppers consist of detonating charges fixed in real cork stoppers, hollowed out for the purpose, or in similar coverings made of substitutes for cork. They are used for purposes of amusement and also to simulate fire-arm shots for purposes of intimidation.

Toy ammunition are similar articles, but the detonating charges are smaller. They are put up in cardboard covers.

" Fulminating pellets " are small detonating charges which are put up in little balls by means of an agglutinating material and, when thrown, explode on striking any obstacle.

Primers for toy pistols and primers in strips for miners' lamps or for magnesium lamps belong to this group.

" Miracle " candles are also included here. Flashlights used in photography, however, if put up for retail sale, come under Item 297 (Chapter 29) : " Chemical products for use in photography, apportioned or put up for retail sale ".

Bengal matches also belong to this item, as they are intended, not to communicate fire like ordinary matches, but simply to produce coloured lighting effects.

Item 340.

This item comprises matches of all forms and kinds.

" Swedish " matches contain in their inflammable heads a mixture of chlorate of potash and peroxide of lead or dioxide of manganese, together with sand or powdered glass, zinc oxide and similar substances and often pulverised lignite as well.

The special friction surface of the boxes, which is essential for these matches, is prepared from a fine paste consisting of water and red phosphorus, antimony pentasulphide, etc., to which glue is added.

The inflammable heads of matches which can be ignited on any friction surface consist mainly of red phosphorus or compounds of phosphorus and sulphur and substances having a high oxygen content, such as chlorate of potash, barium chlorate, etc.

(a) A special sub-item is provided for wax matches or wax vestas, which are composed of small wicks soaked in melted wax, stearine or paraffin wax, the head being made of a mixture of chlorate, chromate, red phosphorus, cork powder, glass powder, glue, etc.

(b) All matches having other materials as their basis, particularly in the form of small wooden sticks, are grouped next in sub-item *(b)*.

Mention should also be made of the special " headless " matches consisting of small sticks soaked in a solution containing barium chlorate, copper chlorate and potassium chlorate. This kind of matches and other special matches of a similar kind are, however, of much less economic importance.

Item 341.

The collective Item 341 comprises a number of other articles of inflammable materials of secondary importance which it would be difficult to place in any of the previous categories.

This item comprises " sulphured ribbons " and " sulphured wicks ", used for burning in households. Resin torches are also classed here.

Fire kindlers, consisting of shavings soaked in asphalt, powdered carbon agglomerated with resin, pitch, tar and other similar materials mixed with saltpetre, also belong to this collective item.

Chapter 35.

FERTILISERS.

This chapter will comprise all fertilisers of whatever kind.

It, therefore, includes fertilisers of natural origin—animal, vegetable or mineral—and chemical fertilisers.

Certain chemical fertilisers being also employed for technical purposes, it was suggested that these should be differently classified.

It was thought that they might be inserted either in the chapter on chemical products or in that on fertilisers, or simultaneously in both.

In view of the objections to these methods of classification, however, it was decided to class each of these products *according to its principal use* either in Chapter 28 (Chemical products) or in Chapter 35 (Fertilisers).

As already mentioned, each country will be free to effect a division enabling different Customs regimes to be applied to these products according to the use for which they are intended.

* * *

Item 342.

This item will comprise all products of animal or vegetable origin which have not undergone any chemical preparation.

It comprises, in the first place, stable manure. This, it is true, is sometimes, for purposes of preservation, mixed with certain chemical products ; but this simple addition cannot be regarded as a chemical preparation.

This item further includes " compost " fertilisers, prepared by accumulating and mixing animal and vegetable refuse, refuse of meat and fish, and other slaughterhouse refuse, which, after the grease has been extracted, are dried and prepared for use in agriculture.

One particularly important variety of manure is guano in the real sense of the term, as found in nature on the western coasts of South America. It is classified here provided that it has not undergone any chemical process or been mixed with chemical fertilisers.

Bone-meal also comes under this item, because the chemical preparation which for the manufacture of glue, gelatine, etc., the bones have undergone before being ground, was intended not to produce fertilisers but actually to extract the above-mentioned substances.

Further, horn powder also belongs to this item.

Fertilisers of natural mineral origin are classified with chemical fertilisers, there being a very close connection between the two kinds.

The products mentioned by name here are grouped in these items without it being specified whether they are used as manures or for technical purposes.

Item 343.

First come the nitrogenous fertilisers, which are classified according to the atomic weight of the basic element.

The azotised fertilisers were given four sub-items.

(a) The first substance is sodium nitrate, as found in nature under the name " Chile saltpetre ", principally on the coasts of Chile. With it is classed sodium nitrate, obtained by synthetic means.

Calcium nitrate is produced almost wholly by synthetic means, as is also ammonium nitrate.

(b) The second sub-item comprises ammonium sulphate, irrespective of whether it is obtained as a residue from the manufacture of coke or by synthetic means.

Similarly, the mixture of ammonium sulphate and ammonium nitrate known as ammonium sulphonitrate is specifically mentioned in sub-item *(b)*.

(c) A sub-item is also provided for calcium cyanamide.

(d) The collective sub-item contains nitrogenous chemical fertilisers which do not come under other items, such as nitrate of ammonia mixed with calcium nitrate, ammonium chloride mixed with calcium carbonate, urea, etc.

The proposal to place nitrate of potash and ammonium chloride in the chapter on fertilisers was not adopted, because the economic standing of those products is not determined by their use as fertilisers to a degree sufficiently exclusive to justify their classification as such.

Item 344.

This item comprises fertilisers having a base of phosphoric acid, which are used as they occur or after preparation by chemical means.

(a) Contrary to the ordinary practice followed in the nomenclature, the crude phosphates are placed, not in Chapter 26, which comprises " Ores, slag and ash ", but in Chapter 35, this classification being based on the fact that crude phosphates are to-day of importance primarily as fertilisers ; they are simply ground and are used in their original form without any chemical preparation.

(b) Next comes dephosphorisation slag, natural, even ground.

(c) Sub-item *(c)* includes the superphosphates obtained by treating natural phosphates with sulphuric acid (see the remarks relating to Item 238*(c)*).

(d) The collective sub-item should comprise first the dicalcic phosphate also termed " precipitate ", which is extracted direct from raw materials—bones, bone-ash or ground phosphates—treated with hydrochloric acid and afterwards precipitated by means of lime, of the acid liquors so obtained. Precipitated phosphate is also used as a substance to be added to fodder.

This sub-item further includes " calcined " phosphate, a product obtained by the calcination of crude ground phosphates mixed with alkaline salts. It thereby differs from superphosphate, as it does not contain calcium sulphate, though sometimes, according to the conditions under which it is prepared, it shows traces of potash salts.

Despite the presence of the last-named salts, this product does not belong to Item 346, comprising fertilisers having several active constituent elements, for the reason that the potash salts do not really act as fertilisers, as they do in the case of the other mixed fertilisers. Here, the phosphoric acid is the main component and must determine the classification.

Item 345.

Potash fertilisers will include the following :

(a) In the first place, crude potash salts, which contain as their main components, though in very varying degrees, potassium chloride and potassium sulphate, besides sodium

chloride, magnesium sulphate, etc. These salts are marketed under various names—kainite, sylvinite, carnallite, hartsalz, etc. They belong to this sub-item even if their content of K_2O is reinforced by the addition of potassium chloride.

The sub-item further includes subsidiary products containing potash and obtained during the treatment of crude potash salts and the potash salts mentioned in *(b)* and *(c)*. These subsidiary products include that wrongly termed keyserite, which is an impure sulphate of magnesium.

The next sub-items, *(b)* and *(c)*, comprise potassium chloride and potassium sulphate, which are marketed containing varying proportions of potash as potash fertilisers, and are also used for technical purposes. They are included in these sub-items irrespective of the purpose to which they are applied.

The collective sub-item *(d)* comprises chiefly sulphate of magnesium and of potash, a double salt which is used exclusively as a fertiliser ; the same applies to the mixture of potassium sulphate and magnesium sulphate.

To this sub-item also belong ground phonolith and ground leucite.

Item 346.

A special item is provided for fertilisers of natural mineral origin or prepared by chemical means, which contain two or three of the active agents—nitrogen, phosphoric acid and potash.

This item should comprise in the first place products such as dibasic ammonium phosphate (containing nitrogen and phosphoric acid), nitrate of potash and ammonia (containing nitrogen and potash), and the products containing nitrogen, phosphoric acid and potash marketed under names referring to their composition.

Similarly, this item includes mixtures of superphosphate with sulphate of ammonium and with saltpetre and also the products termed " solvophosphates " (soluble phosphates), which are obtained by melting aluminium phosphates with potassium sulphate and carbon, or by treatment with acidulated phosphate of ammonium.

Further are placed in this item, besides these fertilisers, mixtures of fertilisers of mineral origin or produced by chemical treatment with fertilisers of animal or vegetable origin.

Item 347.

The final collective item will include all fertilisers which cannot be placed in the special items.

To this item belong, in the first place, fertilisers of animal or vegetable origin which have undergone chemical treatment, such as disaggregated guano, etc.

Another example that may be quoted is pulverised leather treated with sulphuric acid.

Next come waste from industrial products—often having a high content of lime—such as defecation scum from sugar works, residues from the manufacture of carbonate of potash, of acetylene and of paper.

Lime as a fertiliser, or used for the improvement of land, without any additional substances, is normally placed under Item 190 : " Ordinary and hydraulic lime, also ground " (Chapter 25).

Lastly, this item may also cover fertilisers consisting of manures suitably treated and marketed under the name " poudrettes ", etc.

Section VII.

HIDES, SKINS, LEATHER, FUR SKINS AND MANUFACTURES OF THESE MATERIALS.

This section comprises the raw materials—*i.e.*, raw hides, skins and fur skins, as well as articles made of hides, skins and fur skins, but not certain articles which, for special reasons, are classified in other chapters, such as footwear, hats and caps, walking-sticks, whips and riding whips, toys and articles for sports.

Chapter 36.

HIDES OR SKINS AND LEATHER.

Item 348.

Item 348 comprises raw hides or skins of all kinds for tanning, even if they can be used for fur skins, as in the case of sheepskins. Only skins exclusively used for fur skins are omitted from this item and classified with raw fur skins in Chapter 38.

Raw hides or skins coming under this item may be not only fresh (green), but also dried or salted, or in any other way prepared for transport (limed, pickled, brined) ; in the specification of this item, it has been thought best to mention these different methods of preparing hides or skins for transport.

* * *

The possibility was considered of having a transitional item between raw hides or skins and leather, to include hides or skins tanned in " crust " ; this would cover, *inter alia*, the hides known as " kips " (hides of young cows from India), which are imported tanned, but not completely finished. It was decided, however, not to provide a special item for those hides, but to place them under 350*(a)* assimilating them to leather simply tanned and uncurried.

As the French words " *peaux* " and " *cuirs* " are rather vague and are sometimes used interchangeably, it was decided to use the term " *cuirs* " for sole-leather, vamp-leather and the like, and the term " *peaux* " for all skins prepared otherwise (tawed, chamois-dressed, parchment-dressed, etc.) and for skins not specified.

The classification of prepared hides or skins and leather can be approached either from the point of view of the treatment they have undergone or from that of the origin of the hides or skins. In most tariffs, the two factors are combined.

An endeavour has been made to classify prepared hides, skins and leather in a small number of groups, within which they can, if necessary, be further distinguished according to their origin.

Thus the draft nomenclature provides special items for sole-leather and the like, for soft leather and for tawed and chamois-dressed leather ; soft tanned skins are sub-divided according to origin, and there is a special item for varnished leather.

Skins prepared in any other manner, and skins of animals other than those included in the categories mentioned, fall under the item " Skins not specified ".

Tanned leather may be sub-divided into vegetable-tanned and mineral-tanned ; mixed tanning—*i.e.*, a combination of vegetable and mineral tanning—is treated as mineral tanning.

Skins tanned in the hair, which are not prepared in the same way as fur skins and in which international trade is not argely concerned, are classified in many tariffs together with skins without the hair ; other tariffs make a special item of these skins, whilst in some cases assimilating them to dressed fur skins. In order to simplify the classification of these skins, it has been decided to place them in Chapter 38 (Fur Skins), except the hides and skins of large animals, most of which serve the same purpose as tanned skins without the hair—*e.g.*, sealskins for skis, hides in the hair for transmission-belts, hides in the hair for haversacks and the like.

Item 349.

The first item for tanned hides or skins (349) includes not only sole-leather, but all strong leathers treated in a similar fashion. The expression " sole-leather " does not refer to the purpose to which the leather is put ; it is simply the name given to one type of leathre.

The possibility was considered of introducing a special item for transmission-belt leather, but the difference between the process of manufacture and the price of sole-leather and those of transmission-belt leather is not sufficient to justify the introduction of a separate item for the latter ; it is sufficient that transmission-belt leather should be specially mentioned in the specification of the item.

In Item 349, the distinction according to the method of tanning is secondary to the distinction between methods of preparation or presentation (whole hides or skins, backs and butts, other parts).

Items 350 to 352.

The tanned hides and skins considered in Items 350 to 352 are used chiefly for vamps, but also for morocco wares, clothing, various technical articles, harness, etc. For all such hides and skins, the primary distinction must be between leather simply tanned, uncurried, and leather curried.

Item 350 comprises hides of large animals (excluding sole-leather), such as ox, cow, and horse-hides, etc. ; it also includes hides of foals. Varnished, tawed or chamois-dressed leather and skins do not, of course, come in here, but under separate items.

Item 351 refers exclusively to calf leather. In view of the necessity of drawing a strict line between ox-and cow-hides on the one hand, and calf-hides on the other, a weight-limit of 3 kilogrammes has been decided upon. The weight limit in question is not intended, however, to apply to " kips " (hides of young cows from India), when they are recognisable as such.

" Kips " tanned in crust accordingly come under 350*(a)* as hides, tanned and uncurried.

The curried skins covered by Items 350 and 351 may be subdivided either according to the tanning process or according to the method of preparation ; existing tariffs adopt a variety of schemes applying one or other of those standards, or both. It has been thought best to make the major distinction rest upon the tanning process—in conformity with the modern trend of industry—and to leave the different countries free to introduce into the nomenclature further subdivisions according to the method of preparation (hides or skins not dyed and dyed).

In Items 350 and 351 of the draft, therefore, there are two subdivisions : first, hides or skins simply tanned and uncurried and, secondly, other hides or skins (curried). The distinction according to the tanning process is not necessary in the first sub-item ; the second sub-item comprises two tertiary sub-items for vegetable-tanned and mineral-tanned skins.

Sheep- and goat-skins (Items 352) are distinguished in most tariffs either according to species or according to the age of the animal (sheep- and goat-skins, lamb- and kid-skins). The distinction according to the age of the animal would, in practice, give rise to many difficulties ; even the distinction according to species is not always easy to draw.

It has therefore been thought best to group skins of the two kinds in a single basic item, leaving the various countries free to subdivide according to species.

As in the previous cases, it has been decided to distinguish, in Item 352, between curried and uncurried skins. Two sub-items have, therefore, been provided for skins simply tanned and uncurried which bulk fairly large in international trade, and for curried skins. The second sub-item may be subdivided according to species and then according to the tanning process.

As in the preceding items, no provision is made here for a distinction according to method of preparation (undyed and dyed skins), the distinction according to tanning process being more important.

Item 353.

Item 353 has been set apart for varnished leather, which cannot, in practice, be distinguished according to origin or to tanning process.

Bronzed, silvered or gilt leather has been grouped together with varnished leather in a single item, because said leather has undergone a finishing process similar to that of varnished leather. On the other hand, leather simply pigmented, even with cellulose pigment, cannot be regarded as varnished, and continues to be classified with the corresponding items according to kind.

Item 354.

This item comprises hides or skins which, in trade and in many tariffs are generally described as glove skins, that being the main purpose for which they are used, though they may also be employed otherwise (for morocco wares, clothing, etc.).

This item is subdivided into two sub-items, one for tawed skins—*i.e.*, skins prepared with alum, salt, yolk of egg and flour, as well as skins prepared with formol—and the other for chamois-dressed skins prepared with fish oil. The various countries are left free to make further subdivisions based on other factors, such as colour.

The question of the classification of split " crusts " was considered, but the suggestion that a separate item should be introduced for this kind of skin was not adopted, although the

skins in question are of low quality and price, and the distinction according to origin presents difficulties.

Item 355.

Item 355, " Skins not specified ", includes certain kinds of skins which are of too little commercial importance to justify the introduction of a basic item. The subdivisions of this item comprise, first, parchment-dressed skins, including transparent skins and drum skins, which have not been tanned like the products included in the previous items, and, secondly, skins of animals other than those whose skins have already been classified, such as snake-skins, lizard-skins and fish-skins. Imitations of these skins made out of ordinary skins do not come in here, but under the corresponding items, according to kind.

Item 356.

This item should be confined to leather waste which is of no use for leather wares, but is only fit for the manufacture of imitation leather. The classification of leather waste on this basis would cause great difficulties in importation. A more general wording for this item has therefore been decided upon, while the necessity of limiting its scope to the strict requirements of trade has been emphasised.

Item 357.

The item " Imitation leather " (357) includes only products manufactured from leather waste, or containing leather ; all leather imitations made of other materials are excluded.

Chapter 37.

MANUFACTURES OF LEATHER OR OF HIDES OR SKINS.

Item 358.

Item 358 comprises only parts of footwear. Since finished footwear is classed in Chapter 54, a place had to be found for parts of footwear among manufactures of leather.

Parts of footwear may be distinguished according to the leather and according to the work. The first sub-item therefore comprises parts of footwear of sole-leather, simply cut out, whether sized or not ; the other parts which are covered by the second sub-item may be simply cut out, but neither sewn nor combined with other materials (See Item 606).

* * *

Leather and hides or skins cut out for a specific purpose are understood to come under the corresponding items for articles (clothing, gloves, morocco wares, etc.) if, by their shape or manner of presentation, they are recognisable as parts of such articles. This treatment is clearly indicated in a note inserted after Item 363. One the other hand, cut-out articles, of which the purpose is not clearly shown by the shape are to be placed under the item " Manufactures of leather or of hides or skins, not specified ", where a special sub-item is provided for the purpose.

Among manufactures of leather, the draft distinguishes the groups of chief commercial importance, for which basic items have been provided ; other articles appear under the general item " Manufactures not specified ".

Item 359.

With saddlery and harness-makers' goods (Item 359) there have been placed (in a special sub-item) gaiters and leggings, which bear a certain analogy to some parts of footwear (uppers for top-boots) but which, being already finished products, cannot be classed under the preceding item ; on the other hand, these articles can quite well be placed under the same item as similar articles for horses, which are regarded as saddlery.

Item 360.

Consideration was given to the classification of trunks, suitcases and other travelling requisites, which have a separate item to themselves in many tariffs.

In view of the difficulty of drawing any strict line between travelling requisites and morocco wares, it was decided to include them both under the same item (360), but in two special sub-items, an arrangement which allows countries to classify travelling requisites separately.

This item naturally includes all leather or leather-covered travelling requisites, but there remains to be decided how are to be dealt with travelling requisites made of materials other than leather, these being, as a rule, products of the same industry. In various tariffs travelling requisites in imitation leather, American cloth or coarse fabrics are classified in the same chapter, or even in the same item, as similar articles made of leather.

It was finally decided to confine this item to articles made of, covered with, or mainly composed of leather, provided that the leather parts are not mere trimmings.

Morocco wares and travelling requisites, as well as saddlery and harness-makers' goods, are very often combined with other common or fine materials. It has not been thought necessary to make any subdivisions on that basis in these items.

Item 361.

This item includes clothing of leather and parts of such clothing, even if combined with textile fabrics, or with simple trimmings or ornaments of fur.

Item 362.

Item 362 includes also gloves simply cut out. The first sub-item comprises all-leather gloves, it being understood that sewn ribbing, minor trimmings, embroidery and buttons do not affect the classification. The second sub-item covers leather gloves with lining or part of the glove in woven or knitted fabric, and also leather gloves combined with other materials.

Item 363.

Among the technical articles (Item 363) a separate sub-item has been provided for transmission and conveyor-belts, which are intended to include also bands and straps. Accessories and parts of machines, especially for the textile industry, appear together with all other technical articles, under the second sub-item.

Item 364.

Item 364 includes all manufactures not elsewhere specified or included.

* * *

Simple trimmings and accessories of base or precious metals or of other materials do not affect the classification of articles made of hides or skins.

Item 365.

The chapter for manufactures of leather includes articles made of gut (Item 365), the raw materials for which appear in Chapter 5. In certain tariffs, special mention is made of cables, cords and strings of gut, and also goldbeater's skin. It has, however, been thought better to make no subdivisions in this item, which includes mainly articles of no great importance in international trade.

Chapter 38.

FUR SKINS.

Item 366.

This item comprises skins exclusively intended for furriers' wares, in a raw state, which have not yet been subjected to *any* process of dressing. It also includes raw fur skins simply prepared for transport (dried, salted, limed, etc.).

Items 367 and 368.

In regard to these items : " Fur skins, dressed " and " Fur skins, made up ", the question of a distinction between common and fine furs arises. The variety of regulations now in force in different countries is a serious hindrance to trade and industry, which earnestly call for a uniform solution of this question.

The present systems differ considerably. Some tariffs enumerate the common fur skins to which that specification is limited, others do the same for fine fur skins, while others again further classify very fine fur skins. The industry as a whole would prefer an enumeration of those fur skins which are regarded as fine to the exclusion of others, since this would ensure greater safety for the future than the opposite method.

The importance of this question was realised ; in view, however, of the wide variety of standards and of the methods of applying them in different countries, it was decided not to make any classification of common or fine fur skins.

The note to Item 367 assimilates fur skins, simply dressed, to skins sewn together in the form of sheets, bags, touloupes or squares, solely for the purposes of transport and presentation and requiring further work on the part of the furrier.

In order to circumscribe the scope of Item 368 : " Fur skins, made up ", an attempt must first be made to draw a line between this item and the item " Made-up articles " in Chapter 52.

It has been thought reasonable to lay down the principle that whole fur skins, even if lined or covered or ornamented with textile materials or other materials (leather), should still be classed under this item, whereas articles with simple fur trimmings should come under the chapters and items for made-up articles, leather clothing, etc.

The item " Fur skins, made up " includes also fur skins cut out for a specific purpose, imitation tails, or furs gummed or glued on fabric.

The question whether waste can or cannot be used for furriers' wares is less important than the similar question which arises in connection with leather. It has therefore been decided not to make a separate item for this waste, which will be covered by the item " Fur skins, dressed " so far as it can still be used in the making up of fur skins.

Section VIII.

RUBBER AND ARTICLES MADE OF RUBBER.

Chapter 39.

RUBBER AND ARTICLES MADE OF RUBBER.

In view of the importance of rubber and articles made of rubber in world trade, it was decided that these products should be given a special section. This section has only one chapter, as it was not found necessary to provide separate chapters for the raw material, the semi-finished products, and the finished articles. Chapter 39 also includes products often used as substitutes for rubber proper and resembling it, such as gutta-percha, balata, etc. These products include reclaimed rubber and imitation or artificial rubber, and also synthetic rubber, although, at present, this is produced in very small quantities.

The items are preceded by a general note to the effect that the specification " rubber " also includes products into whose combination mineral or other materials enter in any proportion.

Item 369.

This item includes all the materials mentioned in the chapter, in the raw state. It was not thought desirable to give raw rubber and substitutes therefor a special item as distinct from that for gutta-percha, balata and substitutes therefor in the raw state, and it was thought that, for an international nomenclature, it would be enough if there were a single item covering all the above-mentioned products, provided, however, that natural products were separated from reclaimed products, and that a third sub-item were allowed for imitation rubber and other substitutes.

This item of course includes—under *(a)*—not only natural and plantation products, purified or not, in the form of blocks, balls, rugged sheets and plates, but also rubber-juice with or without the addition of ammonia or other substances to keep it fluid during transport.

It should further be noted that synthetic rubber is to be classified in sub-item 369*(a)* with the above-named natural products.

Item 370.

Consideration was given to the advisability of including in a subdivision of the previous item waste, powder and parings of rubber, gutta-percha, balata and substitutes therefor, as these are products which might be assimilated to the raw materials in the natural state ; it was decided, however, that a separate item should be provided for such waste, and that it should be classified with the remains of worn-out articles of rubbered fabrics, etc., as all such waste is usually employed for the extraction of the rubber and the production of reclaimed rubber.

Item 371.

It was at first intended to include rubber paste not vulcanised, whether mixed or not with other materials, in Item 369, as such products represent the first stage in the manufacture of rubber goods, and may consequently be assimilated to raw products.

Since, however, in a large number of tariffs, such pastes, together with non-vulcanised plates and sheets, are given a special heading, it was thought advisable to similarly provide an item for them in the draft nomenclature, placing along with them rubber solutions, which may be considered a half-finished product of the rubber industry, whilst leaving each country free to separate solutions from pastes and make any other distinction it might desire. It should be noted that rubber solutions are to be included in the present item, even in cases where they are imported put up for retail sale.

Item 372.

This item includes plates, sheets, strips and thread of vulcanised rubber, gutta-percha and balata, and also the same products manufactured from substitutes.

It seemed necessary to arrange two separate subdivisions—one for plates, sheets and strips, and the other for thread, each in its turn including two further subdivisions depending on whether the plates, etc., are combined or not with textile, asbestos or metal thread, and whether the rubber threads are covered or not with threads of textile material.

In this way, it remains possible to establish a further distinction according, for instance, to whether the sheets are produced by rolling or sawing (English sheets), or whether they are combined with metal or with a textile material, or with both; threads may also be distinguished according to their section, or thickness, or the nature of the textile material with which they are covered. Sub-item *(b)*1 includes simple threads or threads made up into bundles of naked rubber covered either with threads of textile material or with a woven sheath of threads of textile material. On the other hand, when these threads constitute elastic lace ribbons or cords, they come under Item 576.

Item 373.

It seemed that tubes should be classified immediately after plates, sheets and thread, and that they should form a basic item, in view of their importance in international trade and industry.

In the case of tubes, too, it was thought desirable to divide the item into two main categories, according to whether or not they are combined with textile materials or metals.

This last category naturally includes both reinforced tubes and those which are fitted at the ends with metal connections. It also includes tubes and pipes of rubber combined with textile materials, regardless whether rubber predominates in their composition or not.

This item does not include rubber tubes prepared for stalks of artificial flowers, which are to be classified in Item 624*(c)*.

* * *

After the items for the above-named products, all detailed tariffs include a list of articles which, according to the circumstances of the country concerned, require special protection, and are consequently given a separate tariff item. It was therefore necessary to ascertain which of the numerous rubber products were of sufficient general and international importance to require a basic item, and it was recognised that primary importance could be attached only to certain technical articles and tyres for vehicle-wheels.

Item 374.

This item includes all articles of rubber for technical uses. Although it has always been made a rule to avoid any classification based on the purpose or use of the article or product, it seemed reasonable to make an exception in favour of certain characteristic articles intended for technical use, as the purpose of such articles is conspicuously shown by their very form or by their intrinsic nature ; therefore, the words " technical uses " do not imply the intended use of the article, but define its form and its sole, absolute, specific purpose without any possible ambiguity.

For these reasons, it was thought advisable to enumerate in the sub-items of Item 374 the principal technical articles to be included therein, separating transmission-belts from discs, washers, joints, clack-valves and valves, blocks and shoes for brakes, and similar articles.

These products may, of course, be combined with other materials, in accordance with the general rule contained in the note at the end of the chapter.

It may be pointed out that the transmission-belts mentioned in this item under *(a)* remain in the sub-item, even if rubber does not predominate as regards weight, provided that it is contained among the various layers of the fabric or covers the surface of the belt.

Item 375.

This item includes tyres for vehicle-wheels of all kinds, which may be divided into two main classes : pneumatic and non-pneumatic. The latter are in turn divided into solid and hollow tyres, while pneumatic tyres generally include two components—viz., an inner tube and an outer cover.

Item 375 includes these two classes of tyre, with three subdivisions, the first comprising solid or hollow tyres, the second inner tubes, and the third outer covers. Tubing for inner tubes—*i.e.*, tubing from which pneumatic inner tubes are made by cutting it into lengths, joining the two ends, and fitting a valve—is included in the same subdivision as inner tubes ready for use, and countries wishing to do so will be able to separate tubing from inner tubes for the purpose of applying different Customs duties.

Inner tubes which also act as outer covers (for instance, for very light bicycles) are to be included in the sub-item " inner tubes ".

Tyres may obviously be classified under Item 375, even if they are combined with other materials.

Items 376 and 377.

After the two preceding items, there remain to be considered only those covering all other articles made of rubber. There was a choice between two methods : to classify articles made of rubber either according to their purpose or use or according to the technical basis of their manufacture.

For the reasons explained above—namely, in order to adhere to the principle that goods ought not to be classified, unless it is absolutely essential, according to their use or purpose—it was thought advisable to classify articles made of rubber according to the process of manufacture.

It may be said that in the present state of technique there are three dif erent methods of producing these articles :

(1) Production by immersion—*i.e.*, formation of the article by the deposit of a layer of rubber on a mould immersed in rubber in the fluid or semi-fluid state ;

(2) Production by punching out a sheet of rubber into various pieces of given shape, the article being afterwards made by joining together the edges of the pieces punched out ;

(3) Production of solid or hollow articles by stamping either out of the mass or from a sheet.

Inasmuch as articles manufactured by the first two methods have a very different value from those produced by the third process, it was thought necessary to place them under one item (No. 376) with two subdivisions. The first subdivision, which includes all articles produced by immersion, covers articles made from sawn sheets ; the second covers all other articles manufactured by punching out sheets into pieces of given shape which are afterwards put together to produce the article desired.

The next item (No. 377) is a miscellaneous one, and covers all other articles made of rubber —*i.e.*, those not mentioned under their specific name in the preceding items, and also articles manufactured by processes other than those mentioned in Item 376.

In this item, soles and heels for boots and shoes, non-spongy carpets, and articles made of spongy rubber, which are becoming increasingly important through their evergrowing use, have been explicitly mentioned, and form the first three subdivisions.

These three categories of article, indeed, require a special mention in the international nomenclature, as they already receive it in many Customs tariffs.

It should be noted that the specification " carpets " includes, not only carpets of given shape which are made of rubber reinforced or not by fabrics or otherwise, but also strips of the same nature, with patterns even raised or inlaid, and to be used, after a simple process of punching out, as carpets for motor vehicles, bathrooms, corridors, etc.

The fourth sub-item includes articles of rubber not elsewhere specified or included.

* * *

The items so far dealt with, which—although the fact is not explicitly mentioned—relate to articles made of soft rubber, must naturally be followed by items covering hardened rubber or ebonite.

Articles made of ebonite are held to include hardwares made of any plastic material contain ng rubber in the pulp.

These goods are quite different from the wares dealt with in the previous items, and cannot be conveniently grouped with them in the various items of the nomenclature.

Items 378 and 379.

It was thought sufficient to provide only two items for ebonite and articles made of that material.

Item 378 covers the raw material and semi-manufactured products—plates, sheets, rods or tubes, in two categories : *(a)* raw, not worked, and *(b)* polished or otherwise surface-worked.

By " raw, not worked " are to be understood sheets, rods and tubes which have undergone no additional process after manufacture.

It should be mentioned that ebonite powder is also included in Item 378*(a)*.

Item 379 includes all other articles made of ebonite. As in the items relating to articles made of rubber, it was thought necessary to make a distinction according to the process of manufacture, and consequently two subdivisions have been provided, one for articles which are simply moulded or punched out, and the other for articles manufactured in any other way.

Chapter 39 includes neither rubbered fabrics nor felts, elastic fabrics, ribbons and trimmings, nor wearing apparel and other wares manufactured from these articles, the same all coming under the section dealing with textile products. The following are also excluded from Chapter 39 : Rubber footwear, hats, caps, bonnets and berets, also the other articles of rubber and ebonite expressly specified or included in other chapters of the draft nomenclature.

Section IX.

WOOD AND CORK AND WARES OF THESE MATERIALS ; GOODS MADE OF PLAITING MATERIALS.

This section comprises under two chapters wood and cork, with wares of these materials. The third chapter consists only of goods made of plaiting materials, these materials themselves being already classified under Chapter 14, or, as regards strips and shavings of wood, under the chapter on wood.

This section does not, however, include certain products which, for special reasons, are classified under other chapters, such as dye-wood and tanning-wood, wood-pulp, hats and hat-shapes, footwear, walking-sticks, whips and riding-whips, brooms, brushes and sieves, toys, buttons, penholders, pencil-cases and smokers' requisites.

Chapter 40.

WOOD AND ARTICLES MADE OF WOOD.

Items 380 to 382.

The large category of rough wood comprises, on the one hand, wood fuel, including wood waste and sawdust, agglomerated or not in the form of briquettes (Item 380), to which is added charcoal, also in briquettes (Item 381), and wood in the round, rough, whether or not stripped of the bark (Item 382). Wood in the round, simply rough-hewn—that is to say, wood with lopped-off branches, the rough edges and cumbersome parts being removed—is classified as rough wood.

Items 383 and 384.

After rough wood in the round comes worked wood ; this is classified according to the extent to which it has been worked.

Wood in the rough and sawn wood are distinguished in many tariffs according to the species of timber, but the criteria used for this classification are too varied to enable the inference of any uniform rule therefrom. There is a general distinction between ordinary and fine woods, but the distinction or enumeration of these two categories varies widely in different countries. Similarly, the distinction made in some tariffs between European and extra-European timber cannot be adopted for an international nomenclature. Other tariffs distinguish between hard and soft wood. As this distinction is not uniform in all countries, however, it has not been generally introduced.

Several tariffs discriminate between certain kinds of wood in the rough and certain kinds of sawn timber, according to use and dimensions (*e.g.*, pit wood, wood for paper-making, various categories of sawn timber, etc.). These distinctions are far from uniform, however, and therefore cannot provide any reliable criterion for an international nomenclature.

The category of timber squared with the axe and sawn timber includes various semi-finished products and roughly made articles of wood, most of which are products of the forestry industry. These wares may be impregnated or chemically prepared, dyed, etc. ; this simple work does not affect their classification, the various individual countries being at liberty, if they deem fit, to levy a special surtax in respect of this work or to classify the wares so treated under a special sub-item.

Items 385 to 389.

The draft specially mentions the most important of these articles. They come under Items 385 to 389 (railway and tramway sleepers, stavewood, hoopwood, wood in splints and shavings, wood for walking-sticks and tool-handles, wood woo and flour, wood split small) ; other articles of this category not specially mentioned are classified under the general items (382, 383 and 384) relating to wood in the round, rough-hewn wood, wood squared with the axe and sawn wood.

Some tariffs have a special item for posts, poles, props and stakes ; these articles can be simply rough-shaped, squared or wrought with the axe (pointed) or sawn, and consequently come under the respective items of the draft.

Item 386 (stavewood) comprises wood prepared for large or small staves and the bottoms of barrels, but not finished (neither planed nor grooved, etc.).

Hoopwood, whether or not arranged in hoops, bundles or coils, is classified with wood in splints and shavings in Item 387.

Item 388 comprises wood for walking-sticks, tool or other handles, etc., rounded or not.

Item 389 comprises, besides wood split small for matches or roller-blinds, wood sliced for the same purpose, and wooden pegs.

Item 390.

The other main category of worked wood—*i.e.*, wood planed, tongued or grooved (Item 390)—is followed by a number of basic items comprising the most important articles in international trade. From the point of view of the extent of the work performed on the wood, a distinction may be drawn between roughly made articles, articles mordanted, dyed, varnished or lacquered ; polished, finely painted, gilt, silvered or bronzed ; veneered, with ornaments produced by a marking iron, or stamped, countersunk or turned, carved, inlaid, with marquetry or mosaic work ; combined with other materials, common or fine, stuffed, covered, etc.

This distinction according to the extent of the work performed on the wood is provided for under the various items as far as is necessary for the various individual articles.

* * *

Items 391 to 404 comprise articles which it was considered necessary to mention specially in the international nomenclature.

Item 391.

Item 391 includes blocks and panels for parquet flooring, and has two sub-items, comprising respectively blocks and sheets not put together and blocks put together and panels. Blocks and sheets for parquet flooring are planed, grooved or tongued and cut to specified dimensions according to their intended use.

Items 392 and 393.

These items include veneering sheets and plywood. Sheets of wood (generally unrolled or sliced) not exceeding 3 mm. in thickness are classed as veneering sheets. Plywood is formed of several veneering sheets placed crosswise on one another and glued together. Wood covered with veneering sheets on one or both sides is treated as plywood. The number of sheets which the articles included in this item consist of is not taken into account nor is the total thickness of the article.

Item 394.

Beadings for frames, furniture, etc., in Item 394 are classified according to the extent of the work performed on the article as rough, as covered with plaster or paste, but not finished, and as finished beadings.

Beadings mordanted or simply dyed by injection or soaked are also included in sub-item *(a)*. Sub-item *(a)* 2 also includes carved beadings of rough wood.

Item 395.

Item 395 comprises frames made of such beadings and other frames (oval, solid, etc.).

Item 396.

This item should comprise packing-cases or crates of ordinary wood, put together or even in shooks. As regards packing-cases or crates in shooks the question was considered whether this item should not be strictly confined to packing-cases or crates put together and to assembled parts of cases or crates (nailed, glued, etc.), recognisable as such, because packing-cases or crates in shooks, within the meaning of sub-item *(a)*—*i.e.*, boards, sawn, cut to measure, whether planed, tongued or grooved, or not—in no way differ from, and, consequently, cannot be distinguished from, sawn or planed wood, etc. It was, however, considered possible to find a criterion to distinguish between the proposed item and the item relating to wood sawn, planed, etc., by restricting the sub-item for packing-cases or crates in shooks to boards of certain specific dimensions, namely to boards not exceeding 1.50 metre in length.

Item 397.

Item 397 comprises coopers' wares furnished with metal hoops, accessories, etc., and coopers' wares in shooks. The unfinished parts of such articles are included under Items 386 and 387. In Item 397, the customary distinction is drawn according to the kind of wood used (soft or hard). Among the different kinds of hard wood used for coopers' wares may be mentioned oak, beech, chestnut, elm, etc., and among the different kinds of soft wood may be mentioned fir, pine and poplar.

Item 398.

Carpentry work—that is to say, beams and planks with mortise and tenon—has, for practical reasons, been grouped together with joinery work for building under Item 398, which contains two sub-items for these two classes of articles. This item thus also includes all parts of unassembled wooden buildings and houses, not elsewhere specified.

Item 399.

This item comprises wheelwrights' work, such as hubs, spokes, wooden felloes, with or without ironwork or metal fittings, also roughly finished—that is to say, wooden parts which have undergone a process of treatment beyond rough-hewing or plain sawing.

Item 400.

This item comprises, under four sub-items, household articles, tools, tool-handles and lasts for boots and shoes, bobbins and other similar articles for the textile industry, and other turned wares not specified elsewhere. It was thought preferable to group all these articles, which are of a fairly similar nature from the technical point of view, under a single basic item, without giving them special items, as is the case in some tariffs.

Item 401.

First of all bentwood furniture was classified under a separate basic item, apart from the general category of wooden furniture, as it forms a special and distinct class of furniture which, in most Customs tariffs, is also given a separate place. This item comprises bentwood furniture and parts thereof, roughly finished or worked, with or without ornaments produced by a marking iron or by mechanical processes, carved, combined with parts of other wood, stuffed and covered, etc., provided that such furniture retains the well-known character of bentwood.

This item also includes, as parts of furniture, chair-seats, usually made of plywood, also cane chair-seats, whether or not to be used for bentwood chairs.

Item 402.

This item comprises all other furniture. Some tariffs provide special items for school, church or office furniture, but it was not thought necessary to create special items or sub-items for such furniture, as it is not of very great importance in international trade, and may easily be classified with other furniture.

It is somewhat difficult to subdivide this item, in view of the diversity of the systems at present in force in different countries. Generally speaking, Customs tariffs distinguish furniture either according to the species and nature of the wood (solid furniture of ordinary or fine wood, and veneered furniture) or according to the extent of the work performed thereon (furniture on which the work is simple, or more expensive and more elaborate, and stuffed furniture).

The relatively simple distinction, based on the extent of the work performed, was chosen as a criterion by introducing three sub-headings, for plain or moulded furniture, for furniture carved, with marquetry work, finely painted, gilt, silvered, with metal ornaments, ornamented with leather or with fabric, and for stuffed furniture, respectively.

Sub-item *(b)* also covers billiard tables and furniture ornamented or decorated with mirrors, with or without tinfoil.

Item 403.

Item 403 comprises all sporting requisites and gymnastic apparatus of wood, combined with other materials or not, such as poles, ladders, vaulting-horses, parallel bars, trapezes, skis, etc. Propellers for aeroplanes, etc., are not included in this item but are classified in Chapter 76.

Item 404.

This item comprises all articles used for internal decoration and sometimes also called fancy furniture (*meubles de main, soprammobili, Kleinmöbel)*, small articles of cabinet work (such as boxes, caskets, *étuis*, jewel-cases, etc.), various small articles of wood, usually finely worked, and small fancy or decoration articles.

Item 405.

This collective item comprises all wooden wares not specified or included elsewhere. Under sub-item *(a)*, special mention is made of trunks, suitcases and packing-boxes of wood, covered or not with paper or fabric or ornamented with metal or leather, which are of fair importance in international trade. All other articles of wood not specially mentioned are comprised in sub-item *(b)* of this number. The various tariffs again contain

many special items for certain of these articles—*e.g.*, oars, clock cases, bird cages, foundry models, gun-stocks, cycle-wheel rims, dummy models, button moulds, boot-trees, printing-rollers and plates, brush-backs, etc., but it was not thought that all these articles, appearing in the various tariffs according to the special requirements of any particular country, are of sufficient importance to be separately mentioned in the international nomenclature.

Chapter 41.

CORK AND ARTICLES MADE OF CORK.

This chapter comprises cork as a raw material and manufactured articles of cork.

Item 406.

Rough cork in slabs or irregularly shaped pieces is placed in Item 406 with cork waste and crushed or ground cork, which is used mainly for the manufacture of agglomerated cork.

* * *

Except articles of agglomerated cork used for building or for insulation, almost all semi-finished and finished articles of cork may be made either of natural or of agglomerated cork. The two kinds of products must, therefore, be included under the same items, though, where necessary, sub-items must be provided to distinguish the particular kind of cork used.

Item 407.

Among the semi-finished cork products there are mentioned in this item cubes, slabs and sheets of cork, including thin sheets (cork paper).

Items 408 and 409.

Items 408 and 409 comprise the most important cork wares—namely, stoppers and bricks, slabs, tiles, tubing and the like, for building and for insulation.

The item comprising stoppers includes all kinds of cork stoppers, though not combined with other materials. Cork stoppers with tops of metal, wood, glass, etc., come under the items respectively covering those wares.

Item 410.

All other articles made of cork are included in the collective Item 410 covering articles not specially mentioned. In this item, a distinction must be drawn between articles simply cut out for a specific purpose (such as discs) and finished articles, which may or may not be combined with other materials.

Chapter 42.

ARTICLES MADE OF STRAW, CANE AND OTHER VEGETABLE MATERIALS FOR PLAITING.

This chapter comprises only the articles themselves, the raw material being classified under Chapters 14 or 40.

The draft provides basic items for three main categories of articles coming under this chapter—plaiting, plaited wares or wares made of assembled plaiting, and wares of wickerwork, of which wickerwork furniture must be separately mentioned as being the most important.

For all these wares, a general distinction is drawn between ordinary and fine wares. This distinction may be based on the quality of the raw material or on the kind of the work. No such distinction is made in the item covering plaiting, but these criteria have been adopted for wares of plaiting materials and wares of wickerwork, plaited wares or wares of plaiting materials being distinguished according to the coarse or fine quality of the work, wickerwork furniture according to the quality of the raw materials, and other wickerwork goods according to the varying amount of work carried out on the raw material. A sub-item is reserved for articles of these substances combined with other materials.

Item 411.

This item comprises all kinds of plaitings except those made of textile materials. Plaitings may, also be combined with other materials (textiles, paper, etc.), assembled plaitings being naturally treated as wares of such materials.

Item 412.

In Item 412, plaited wares or wares of assembled plaits, a special sub-item is provided for carpets, mats and similar fabrics, which are fairly distinct from other coarse or fine wares coming under this item and also are of considerable importance in international trade. Wares under this item may also be combined with other materials. Wares already classified elsewhere, such as hats, are not included in this item.

Item 413.

This heading comprises furniture of wickerwork or bamboo. The latter forms a fairly distinct class of furniture, the raw material of which is not dissimilar to vegetable plaiting materials.

The first sub-item comprises ordinary furniture of osier, hazel, birch sticks, and similar materials. The body or other parts of such furniture may even be made of wood, provided that they do not modify the character of the furniture as wickerwork.

All other such furniture comes under the second sub-item and may also be stuffed or combined with other materials.

Item 414.

Wares of wickerwork included in Item 414 may also be combined with other materials, a special sub-item being provided for wares combined with leather or textile materials, and a note is inserted under this item expressly allowing the usual accessories of metal, leather, etc.

Section X.

PAPER AND ITS APPLICATIONS.

Chapter 43.

MATERIALS USED FOR THE MANUFACTURE OF PAPER.

This chapter groups waste paper and cardboard and old paper and cardboard wares intended for tearing-up together with paper pulp.

Rags, scraps and waste of textiles, although important raw materials for the manufacture of paper and cardboard, have not been included in this chapter because rags and waste are now used, not only for the manufacture of paper, but also, and to a large extent, as raw material for the textile industry—viz., for the manufacture of wool and cotton shoddy. It was therefore considered preferable to include waste of this kind in the section for textile materials, where a special chapter has been allotted to it (Chapter 53).

Item 415.

Old paper (old newspapers, etc.) is sometimes used, not for the manufacture of paper, but as packing-paper. On this account, certain countries require that in order to be admitted as " waste printing-sheets ", such paper should be first rendered unserviceable, or that proof of its use as paper stock should be furnished. However, the majority of countries make no distinction in this respect. The form chosen will cover both alternatives.

Item 416.

It is considered that one basic tariff number is sufficient for all paper-pulp, but that this item should have certain sub-items according to the character of the pulp and the technique of manufacture.

Therefore, one sub-item has been introduced for rag pulp, and a second for pulp from wood, straw and other vegetable fibres.

The question arose whether it would be expedient to subdivide still further and draw a distinction between wood-pulp and pulps from alfa, straw and other vegetable fibres. The bulk of the existing tariffs do not make this distinction, and, furthermore, the Customs administration would experience difficulties in practice ; for it is very hard, even by chemical methods, to discriminate clearly in many cases between chemical pulp from wood and from other vegetable fibres. All these commodities have therefore been grouped together.

On the other hand, a distinction drawn in almost all Customs tariffs appears to be essential—viz., between mechanical pulps and chemical pulps, which have neither the same character nor the same value.

Mechanical pulp is that obtained by merely scraping wood, without the intervention of any chemical agent. By this process, very short-fibred pulps are obtained, which produce paper and cardboard somewhat lacking in solidity and consistency, and which are most commonly used by adding them in larger or smaller quantities to chemical pulp. The so-called brown pulp is grouped with mechanical pulp (this is done in almost all Customs tariffs). This pulp, which is also called semi chemical pulp, is obtained by boiling wood in the autoclave, but without the intervention of any chemical agent. It is mainly used for the manufacture of brown cardboard.

Chemical pulp or cellulose is obtained by treating wood in the autoclave with chemical agents, mainly calcium bisulphite and soda. This treatment dissolves the lignine in the wood, so that the fibres are released, thus producing a pulp with long fibres.

Moreover, it is considered that there is no point in further distinguishing between chemical pulps manufactured with different agents—*i.e.*, between pulp made with bisulphite and that made with soda—although there are a few tariffs that draw this distinction.

Another distinction might be drawn between bleached and unbleached chemical pulps. A number of tariffs already discriminate between them, and there is something to be said for this course, since the bleaching operation adds to the value of the goods, and since for certain purposes, such as the manufacture of artificial silk, a fully bleached pulp must be used. This

is not, however, a universal need, and it should be left to countries which so desire to make the distinction.

Nor has special mention been made of pulp for paper-making imported in a moist condition, although certain tariffs provide for the special treatment of such pulp. The problem, however, is one of transport ; the need for such a distinction is not identical in all countries, for after long journeys pulp despatched in a moist condition arrives at its destination more or less dry.

Lastly, the Customs administrations generally require supervisory measures in regard to the taxation of cellulose pulps, so as to prevent goods actually for use as cardboard being imported under that description. It does not seem, however, that these measures need be enumerated in the international nomenclature.

Chapter 44.

PAPER AND CARDBOARD ; WARES OF PAPER AND CARDBOARD.

Few articles are treated in such widely different ways in the Customs tariffs of the various countries as paper and cardboard, and, accordingly, very real difficulties were encountered in establishing a Customs nomenclature which could be accepted by all countries and would yet satisfy the conditions of simplicity laid down.

The first question to be settled was whether a distinction should be drawn between " paper " and " cardboard ", and, if so, what should be the limit between the two. This distinction is necessary ; it exists in almost all Customs tariffs, and is essential for technical reasons. The existing tariffs are by no means in accord, however, as to the limit of weight dividing paper from cardboard. These limits vary, for most of the European countries, between 180 and 400 grammes per square metre, and some of the countries establish further subdivisions.

It was first proposed to fix different weight-limits according to the nature of the cardboard, but it was realised that this would often give rise to serious difficulties, more particularly in the case of made-up cardboard—*i.e.*, cardboard not imported in the state in which it emerged from the machine. This method would also have complicated the Customs clearance of the article, and, accordingly, it was finally decided to establish a single weight-limit to divide paper from cardboard. This limit was fixed at 300 grammes—that is to say, all products weighing 300 grammes or more per square metre are counted as " cardboard " for purposes of Customs classification, while articles weighing less than 300 grammes per square metre are to be treated as " paper ". In order to prevent the standard from being too rigid, however, a small number of special categories of paper was introduced.

This limit of 300 grammes will no doubt arouse protests in both directions, but, as it will be impossible to gain unanimity on this point, the matter is one for a compromise.

Efforts were made to establish a clear and logically-arranged group of paper and cardboard articles, and a number of main groups were defined—namely, a first group for cardboard not made up or worked—*i.e.*, cardboard as it emerges from the machine—and a second group for the same cardboard, if, after manufacture, it has been worked in such a way as to modify its structure or appearance. Next comes paper, with two groups corresponding to the two cardboard groups—*i.e.*, a first group for paper in sheets as it emerges from the machine, and a second group for paper which has been modified in structure or appearance. Besides these specific groups, certain special articles which it would be difficult to include in either group are given basic items.

An item has also been made for special cardboard and paper—*i.e.*, articles intended primarily for technical use, employed for building, etc. These varieties of cardboard and paper are not made only of paper-pulp, sized or not sized ; they are articles manufactured partly from chemical or mineral materials, which give them a special character and render them suitable for their purpose.

Chapter 44 concludes with articles of cardboards or paper, separate main items being allotted to a few articles of a specific nature, which are grouped separately in most Customs tariffs.

It should be pointed out that the simple glazing (satining) of cardboard and paper has no effect on the classification.

Item 417.

The first item—cardboard not made up or worked—comprises a large number of articles which are manufactured in very different ways and have very different values, and which had to be given special sub-items. The criteria of classification are the raw material used and the method of manufacture.

A first sub-item comprises common cardboard, including only articles made from very ordinary raw materials (old paper, straw, coarse vegetable fibres, or mechanical wood-pulp), which are not sized in the pulp or hardened, and are therefore spongy and cannot be used for making products of good quality.

A special sub-item is given to felted cardboard, which is manufactured partly from old woollen rags. This is cardboard used as a raw material in the industry of roofing-board (bituminised board).

The third sub-item consists of a special variety of cardboard now manufactured on a very large scale. This is " duplex " and " triplex " board, the surface layer of which is made of good-quality pulp, the other layer being usually of very common pulp. By this means, it is possible to obtain products sufficiently substantial and durable and of good appearance while using a minimum of good-quality raw material.

In the case both of cardboards of this last category and of Bristol boards, dealt with in the next sub-item, the weight-limit of 300 grammes is perhaps somewhat high. A number of these articles, though in the nature of cardboard, do not weigh as much as 300 grammes. This contingency is provided for, however, by means of special corresponding headings under " paper ".

Another sub-item consists of cardboard made of several sheets of paper pasted upon one another—*i.e.*, Bristol board. As a rule these articles are of good quality; they have special characteristics, and ought, it was thought, to be placed in a category by themselves.

Lastly, there is a collective sub-item comprising all " other " cardboard. It has to include articles such as good-quality cardboard made of cellulose or sized in the pulp, compressed cardboard (leatherboard, etc.), and common cardboard not of natural colour but dyed in the mass.

There is a note to sub-item 417*(e)* to the effect that cardboard covered with paper of natural colour, white or coloured in the mass, is classified under that sub-item. These cardboards have, in point of fact, been worked after manufacture, but merely with the object of improving their appearance and enabling common cardboard under sub-item 417*(a)* to be used in place of the better-quality cardboard under 417*(e)*. It therefore seems better to classify this kind of cardboard—in place of which, moreover, " duplex " cardboard is now being used—in the basic Item 417 and more particularly in sub-item *(e)*.

Item 418.

This item comprises cardboard which has been further worked after manufacture—in other words, has undergone a kind of finishing. The special varieties classified under Item 425 are excepted, however, since, on account of their method of manufacture and the uses to which they are put, they can hardly be counted as ordinary cardboard, and should therefore be given a separate item. This second basic item also has only a small number of sub-items, comprising articles of importance in international trade.

The first sub-item relates to glazed *(lustré)* cardboard. This is cardboard of good quality, highly compressed, and only includes cardboard whose surface has been polished, which is usually done with agate (" presspahn " and other). It is a fairly important article, used chiefly for technical purposes, and also enters into the composition of certain cardboard wares. Products of this description, with an unpolished surface, are included under Item 417.

A second sub-item comprises all cardboard of which the appearance has been changed by the application to the surface of mineral materials (glazed or enamelled board) or colours, etc., also cardboard covered with paper treated in the same manner.

A special sub-item has been given to parchment cardboard. From the point of view of international trade, parchment cardboard—which is treated with sulphuric acid or zinc chloride—is not as important as parchment paper ; nevertheless, like the latter, it had to be given a separate sub-item. The question was raised whether parchment cardboard and paper should not be classified with special cardboard and paper in Item 425, and more particularly with vulcanised cardboard and paper, under sub-item 425*(a)*. Both kinds of products are certainly prepared in a very similar manner. Parchment cardboard and paper are mostly treated with sulphuric acid, though occasionally also with zinc chloride. Vulcanised cardboard and paper are usually treated with zinc chloride, so that the chemical treatment is the same in both cases, the object being to destroy the fibrous structure of the paper and make it a homogeneous mass. Vulcanised fibre, however, is coloured (brown, red or black) in the mass, and above all is very strongly compressed ; besides that, the purposes for which it is used are different as, while parchment paper is employed for the same purposes as ordinary paper, vulcanised fibre is used mainly for technical purposes (the manufacture of travelling requisites, etc.), and also for machine parts. In view of the differences in their manufacture and, above all, in their use, it was felt that the two products ought to be kept separate, as they are already in most Customs tariffs.

A further sub-item is provided for corrugated and goffered cardboard, which is used mainly for packing.

Finally, a last collective sub-item groups together all made-up cardboard which does not come under one of the preceding sub-items or among the special kinds of cardboard comprised in Item 425.

Item 419.

On practical grounds, two basic items have been established for paper not worked up in any manner after manufacture. The reason for it is that subdivisions being necessary under this group, assuming that a single basic item had been adopted for all said paper, it would have meant relegating in *tertiary* items important groups, such as that comprising ordinary paper, white or dyed in the mass, which bulks very largely in international trade.

The first item comprises paper weighing from 30 to 300 grammes per square metre—*i.e.*, paper of ordinary quality—and the second item consists of thin paper weighing up to 30 grammes per square metre. This weight-limit at present varies in different countries between 15 and 30 grammes, but in the majority of Customs tariffs it is fixed at 30 grammes. It was requested from certain quarters that this limit should be raised to 35 grammes, in order to include also under the last-named item certain fine papers of high value, such as papers for condensers and dielectric papers ; but some papers of these types even exceed the weight of 35 grammes, so that the limit of 35 grammes would not have been any more satisfactory. It had been intended to introduce a special sub-item under this item for watermarked paper ; but as papers of very different kinds would have been brought under this sub-item simply owing to the fact that they were watermarked and as, moreover, there are various kinds of watermarks, one of which, a watermark subsequently impressed on the paper, sometimes really constitutes a printing process, the introduction of such a sub-item was finally abandoned, the countries being left the option of fixing a special tax for watermarks. It is understood, however, that when watermarks replace printing proper, the product is to be classified with printed paper (Chapter 45).

If watermarked paper is subjected to a special tax, an exception should be made in the case of laid paper, which should be treated in the same way as unlaid paper, as it does not constitute a special quality of paper.

Item 419, which comprises all paper weighing more than 30 grammes per square metre and not worked up subsequently in any manner after manufacture—and hence articles more or less varying in character and value—has been subdivided into a number of sub-items.

The first sub-item comprises packing-paper. An attempt had been made to avoid this description in the international nomenclature, because it represents a use rather than a quality of paper. Finally, however, it was decided to introduce it, but to confine it to papers of common quality which could not well be used for anything else than the packing of goods. There is a note that this heading should include, in the first place, paper of natural colour or dyed in the mass, other than white, rough on at least one side ; next, paper made from straw or coarse vegetable fibres, even dyed in the mass in a single colour ; and, lastly, paper made from brown boiled pulp of natural colour : the two latter sorts of paper even if glazed on both sides.

In some quarters, the desire was expressed that a special place should be given to *Kraft* paper—*i.e.*, packing-paper of good quality and very strong. It wa not, however, thought advisable to accede to this request, especially as it does not seem possible to give a satisfactory definition of this paper, which will therefore have to be treated in the same way as papers in general.

The second sub-item, which includes felted paper, corresponds to sub-item 417 *(b)*—felted cardboard.

After this, sub-items have been created for " duplex " and " triplex " board, which comes under the category of paper because it weighs less than 300 grammes, and for paper formed of several sheets pasted upon one another, such as Bristol and similar card.

Another sub-item is provided for newsprint paper, a comprehensive definition of which is given in a note specifying the quality and format of the paper and fixing the minimum content of mechanical wood pulp, a criterion found in many tariffs. These papers may also be dyed in the mass. This special sub-item meets a need in certain countries.

The last sub-item comprises all other paper not included in any of the previous sub-items —*i.e.*, the bulk of paper, white or dyed in the mass, printing-paper, notepaper, drawing-paper, etc.

Item 420.

This item, which includes all paper weighing up to 30 grammes per square metre, even dyed in the mass, but not worked up after manufacture, has been subdivided into two sub-items, the first for cigarette-papers and the second including all other light papers. The advantage of a special sub-item for cigarette-papers was disputed, on the ground that is does not exist in many tariffs, and that it would be difficult to distinguish cigarette-paper (in large sheets, of course) from other light papers. This sub-item is, however, of genuine importance to a number of countries which have already introduced it into their Customs tariffs, on account of the special conditions of manufacture and the materials employed, and have experienced no difficulties in practice.

Item 421.

This item is for paper which has been worked up after manufacture, and corresponds to the second item of the cardboard group, though it differs in certain respects.

The first sub-item refers to glazed paper ; it corresponds to that for glazed cardboard (418 *(a)*), and has a similar scope.

Another sub-item is provided for ruled, lined and checkered paper, used for account-books, manuscript music-books, school exercise-books, etc. This sub-item is justified by the fact that it relates to a special kind of work ; moreover, it is specifically provided for in most tariffs.

Surface-coated and enamelled paper, unlike cardboard, is classified separately from other papers worked on the surface. The surface-coating and enamelling work is much more

important in the case of paper than in that of cardboard, and this paper should therefore be specially classified.

Surface-coated papers are papers the surface of which has been coated with a mineral substance, usually permanent white, barium sulphate, chalk or white lead mixed with gum arabic or a similar substance, in some cases with the addition of colours. The paper thus prepared is then given a certain gloss by means of a calender. Surface-coated papers deteriorate fairly easily when exposed to damp. In order to protect them against external influences, they are sometimes covered with a transparent coating which does not mask or affect the colour and which makes the paper washable. By this means, so-called "enamelled" or porcelain papers are obtained. For this preparation, spirit varnishes or varnishes with a turpentine base are frequently used ; they are spread over the paper with a brush.

A sub-item is also provided for oiled and waxed paper, and paper coated with stearin, paraffin wax, gelatine or albumen—that is to say, paper coated with fatty or waxy substances, and used chiefly for packing goods. Paper coated with gelatine or albumen is used in the preparation of photographic paper. This sub-item should also include tracing-paper (transparent paper treated with turpentine oil or with resin), which is also used for window-envelopes.

A special sub-item has also been provided for indigo-paper, carbon-paper, and the like, which are of some commercial importance.

As regards parchment paper, classified in the next sub-item, reference should be made to what has been said with respect to parchment cardboard; imitation parchment paper is not included in this sub-item, which covers only products subjected to the requisite chemical treatment. The most common imitation of vegetable parchment—namely, "pergamine"—is paper carefully manufactured from good-quality raw materials and heavily sized, but with its fibrous structure retained. It cannot, therefore, be treated as vegetable parchment.

Papers whose superficial appearance has been changed by means of colours, etc., such as coloured and varnished paper, and paper coated with metal, printed *(indienné)*, with printed designs, etc., form another sub-item. These articles play an important part in the manufacture of cardboard wares and book-bindings.

This sub-item also includes gummed paper, which is worked in a similar manner.

By paper with printed designs is understood paper bearing rolled-in designs, motifs or subjects repeated regularly over the whole surface of the sheet, like wallpaper.

A further special sub-item has been introduced for diaphanous papers and transfers *(vitrauphanies* and *transferophanies)*. These are coloured pictures on paper, which imitate and replace stained glass ; the former are stuck and the latter transferred on to panes of glass. It was originally proposed to rank these articles with the wallpaper item, but it is preferable to reserve the last-named item exclusively for wallpaper, the importance of which is considerable ; and, owing to their nature, diaphanous papers and transfers can without difficulty be included under Item 421.

Another sub-item comprises paper stiffened *(armé)* or strengthened with textile threads or tissues. This is generally packing-paper, and the sub-item, in so far as it relates to articles composed partly of textiles, obviously covers only those in which paper is the main component —*i.e.*, paper strengthened with tissue, and not tissue lined with paper.

Then comes a sub-item which comprises paper whose surface is not uniform, but has been more or less variegated by a mechanical process : crêpe paper, paper corrugated, crinkled, perforated, goffered, or shaped by stamping.

Account must be taken of cases where one and the same paper has been worked in several of the ways enumerated in the various sub-items. In such cases, the last of the sub-items in question would be applied. Thus, for instance, paper with printed designs and goffered would come under sub-item 421 *(k)*.

Finally, a last sub-item has been provided for paper which has been worked in ways other than those mentioned under *(a)* to *(k)*.

Items 422 to 425.

The group of items which follows refers to articles of a very special kind, in which no distinction is to be drawn between paper and cardboard.

The item for wallpaper (No. 422) relates to articles made exclusively of paper. Lincrusta, which consists of linoleum applied to cardboard or paper, comes under linoleums.

Item 423 comprises articles of cellulose not used as paper or cardboard : cellulose pulp in sheets, for filtering, etc.

Item 424 comprises blotting board and paper—that is to say, special papers not sized or only slightly sized in the pulp, which easily absorb ink, etc. This item also includes filter-paper, which is fine, unsized, cellulose paper.

The last basic item for cardboard and paper in sheets is "special cardboard and paper", which comprises the following sub-items :

(a) Vulcanised cardboard and paper, which has already been referred to in connection with parchment cardboard, and which comes under this sub-item even when in the form of rods or tubes.

(b) Cardboard and paper covered or impregnated with artificial resins, etc., of which a typical example is bakelised cardboard. These are products used in the electrical industry, and are usually treated with substances having a basis of carbolic

or similar acids and formaldehyde. These articles, imported in the form of rods or tubes, come under Item 279 (Chapter 28) or Item 967 (Chapter 82), according to the state in which they are imported.

(c) Cardboard impregnated with heavy mineral oils, bituminised or asphalted for roofing and other uses; these are products of a special industry. It was suggested that these cardboards should be classified under the chapter on chemical products, or with coal-tar products. This suggestion was not accepted, as, if it had been, it would logically and on the same grounds have been necessary also to transfer vulcanised and bakelised cardboard, etc., to other chapters, which would have introduced complications.

(d) Cardboard covered with graphite, and cardboard in imitation of school slates, blackboards, etc. This sub-item, of course, applies only to unframed articles.

(e) Cardboard to which mineral substances have been added in the pulp to harden it, and which is used for building purposes, etc.

* * *

Wares of Cardboard and Paper.

In this group too, an attempt has been made to reduce the number of basic items, and they have been established only for very special articles which are similarly treated in the majority of tariffs.

Item 426.

This comprises cardboard and paper simply cut out for a specific purpose. There is no objection to this item so far as it relates to paper cut into strips or in any special shape other than rectangular. On the other hand, the introduction under this item of a special group for cardboard and paper cut into square or rectangular forms might give rise to controversy. Some countries make no distinction in this respect, and treat rectangularly cut paper in the same way as paper in sheets. It was decided, however, to retain this sub-item, because a number of States accord special treatment to sheets cut out below certain dimensions, and will therefore always regard it as important to distinguish clearly between whole sheets of paper and sheets which are already to some extent in the nature of " wares ".

In the case of paper cut out in square or rectangular form, a dimensional limit had of course to be fixed to distinguish it from paper in sheets. Some countries have begun to standardise the format of paper, but this has not yet become a sufficiently general custom to enable the dimensions adopted to be incorporated in the international nomenclature. The maximum limit has been fixed at 36 cm., so as to include notepaper, typewriting-paper, etc., in sub-item 426*(b)*. This does not, however, include notepaper imported with envelopes in special packing, which comes under Item 428.

Item 427.

This basic item is specially introduced for cigarette-paper ready for use—*i.e.*, in strips, cut to size, in booklets or tubes. It meets the requirements of certain countries which impose a revenue duty on cigarette-paper in booklets or tubes. By its nature and quality, cigarette-paper is easily distinguishable from other light papers.

Item 428.

Another basic item was introduced for letter-envelopes and for notepaper and correspondence-cards, even in pads, imported with their envelopes in boxes, folders, etc. A good deal of trade is done in these articles, and they require a separate item.

Item 429.

The item " Paper Bags, Sacks, Cornets and Pouches " appears in most Customs tariffs. These are simple articles, involving little work in manufacture, and can hardly be classed with " other " wares of paper or cardboard.

Item 430.

Boxes, cases and caskets of cardboard or paper are also given a basic item, with two sub-items for articles wholly of cardboard or paper and articles combined with other materials. The former is further subdivided in order to make special mention of folding boxes, which are very simple articles, generally formed of a sheet of cut-up cardboard which has only to be folded to make a box.

Cases and caskets coming under this heading may be strengthened with wood or other materials, provided they retain the appearance of cardboard or paper wares.

Boxes, cases and caskets exist in a large variety of forms and shapes, and this item is arranged so that it can be further subdivided should any country consider it necessary.

Item 431.

This includes exercise-books, registers and account-books, memorandum-books, albums, files, covers for books, etc. These are very special articles which figure by name, and, as a rule, separately, in the majority of Customs tariffs. This item also includes note-blocks and writing-blocks.

Item 432.

This comprises bobbins and tubes for spun goods. These articles are made of cardboard or rolled sheets of paper, and may be hardened or not. They are sometimes perforated. This item does not, on the other hand, include flat, star-shaped, round, or specially shaped pieces of cardboard for putting up yarns for retail sale.

Item 433.

This comprises wares of cardboard or strong paper, simply shaped or moulded by stamping. These wares are chiefly plates, trays, pots, lids, tumblers, etc. This item also includes articles simply manufactured in the above-mentioned manner and intended for various industrial purposes, such as shoe-making (counters, etc.).

Item 434.

This special item comprises wares of papier-mâché, carton-pierre, etc., which, not being made of cardboard, cannot be treated like the other wares coming under this chapter.

Item 435.

The last item comprises all wares of paper or cardboard not elsewhere specified or included. It is subdivided in order to specify articles which are listed separately by most countries, but for which it is not desired to insist on a separate basic item. These are cardboards for Jacquard and similar machines (which are very special technical articles), paper lace and embroidery, paper tablecloths and serviettes, and all other articles.

It had at first been intended to classify paper linen with paper tablecloths and serviettes in sub-item *(c)*. But as these articles are appreciably different, and as paper linen is not imported in large quantities, it was thought better to reserve this sub-item for paper tablecloths and serviettes, the idea being that paper linen might be classified in sub-item *(d)* " Other ". This collective sub-item also includes travelling requisites of cardboard.

Wares of cardboard and paper are frequently fitted with clasps, fasteners, corner-pieces, eyelets, springs, etc., and it is, therefore, necessary to study how articles furnished with such accessories are to be treated. It seems that these accessories should not affect the classification of the articles, and accordingly a note has been introduced at the end of the chapter to the effect that they are not to be taken into account for purposes of classification, even if the nomenclature contains a special sub-item for articles of the kind in question combined with other materials.

* * *

Consideration had also to be given to the classification of the articles included in Chapter 44, when there is any printing on these articles (letterpress, vignettes, etc.). As the nomenclature contains a special chapter (Chapter 45) for products of the graphic arts, the question arose whether the articles mentioned in Chapter 44, when printed on, should be classified under Chapter 45 as " Products of the Graphic Arts ", or whether it would be preferable to leave them in Chapter 44. From certain quarters, there were proposals to classify under Chapter 44 all printed articles mentioned in Chapter 45, such as postcards, calendars, printed pictures, vignettes, etc., so that Chapter 45 would contain only booksellers' wares proper, and truly artistic products. But this classification is unacceptable, because certain printed matter, such as prospectuses, posters, postcards, visiting-cards, intimation-cards, etc., are products of the graphic arts just as much as books. Another radical solution might have been to place all printed objects and articles in Chapter 45.

It was recognised that articles of the same character and intended for the same purpose should not be classified separately in the nomenclature or in statistics on the sole ground that they bear printed matter or designs. The point is fairly simple in cases such as those of cigarette-paper, boxes, cases and caskets, exercise-books, registers and account-books, memorandum-books, files, etc., or the special articles mentioned in Items 432 to 434, which are not, strictly speaking, products of the graphic arts at all, even when they have printing upon them. The question is an open one, however, in the case of envelopes, specially cut out paper, or labels, which, when printed on, do represent products of the graphic arts.

It was finally decided in principle to leave in Chapter 44 wares of cardboard or paper, even those with printed matter or designs, with the exception of those under Item 426, which, when bearing printed matter, are, properly speaking, products of the graphic arts, and consequently

come under Chapter 45. That intention is indicated in the second note at the end of the chapter.

Individual States may, of course, introduce in Chapter 44 any sub-items they may consider necessary for articles of the kind in question bearing printed matter or designs.

It should be noted that if any article of paper or cardboard, whether in sheets or otherwise, simply bears a trade-mark or manufacturer's mark, this will not affect its classification.

Chapter 45.

BOOKSELLERS' WARES AND PRODUCTS OF THE GRAPHIC ARTS.

Chapter 45 deals with printed paper and cardboard in cases where the printing is the essential part of the article. Articles of paper or cardboard which have a special purpose and are printed on, the printing, however, only constituting an accessory factor not essential for the use of the article, are classed, as stated above, in Chapter 44.

The publishers' and booksellers' associations in certain countries submitted a proposal that Chapter 45 should only comprise booksellers' wares proper, to the exclusion of all advertisements, prospectuses, etc., being of opinion that printed books are not an article of commerce proper, but rather a vehicle of thought, and that, owing to their importance to the development of intellectual culture, they deserve a special place, together with certain articles such as pictures, artistic engravings, sculptures, stereotypes, etc. There is no reason to separate, in the tariff nomenclature, printed books and newspapers from other products of the printer's art, particularly as the printers' associations take up an attitude opposite to that of the publishers and booksellers, and ask that all articles of paper which are printed, including, therefore, even those classed in Chapter 44, should be collected in a single chapter.

Item 436.

A single main heading comprises all booksellers' wares proper—viz., books, newspapers and periodicals, maps, charts, etc., and printed or engraved music. The question of creating a basic item for each of these articles was examined; but the view was taken that these products were so closely related that it was preferable to group them under a single basic item, and divide them into sub-items. It seems inadvisable, indeed, to classify under different basic items reviews and periodicals on the one hand, and printed books on the other.

All products classed under this item may contain illustrations and pictures without this affecting their classification, even if the illustrations take up more space than the text. It will, of course, be optional for the different countries, if they see fit, to differentiate in tertiary items. The same applies as regards sewing, binding, etc., tariffs being extremely varied in this respect.

Sub-item *(a)* comprises printed books—*i.e.*, literary, scientific and technological works, etc. It will also include manuscripts, except those for collections, specially mentioned in Chapter 86 ; but, in the text, no reference has been made to manuscripts, as they are of very little importance in international trade. This sub-item includes books of the kind in question, whatever the method of printing, and even those which are lithographed, typed, etc., as well as books for the blind in Braille characters. It will also include booksellers' catalogues, which are not to be distinguished from books, as well as almanacs.

Works dealing with architecture, which frequently have illustrated plates loose in pockets or bound separately, also come under this item, with these plates included.

Sub-item *(b)* includes political, literary, scientific or professional journals, as well as periodicals of the same type. Fashion-papers also come under this sub-item, but not fashion-plates, which have the character of picture-wares.

All cartographical products, whether they are simply on paper, mounted on cloth, sewn, or bound in atlases, and whether they have texts or not, etc., have been placed in sub-item *(c)*. Globes, on the other hand, are included in the chapter for instruments and apparatus (Chapter 77).

Sub-item *(d)* comprises printed or engraved music, whatever the process of reproduction. Perforated paper in rolls for pianolas and apparatus for the reproduction of music is classified under Item 944 (Chapter 79).

Item 437.

It was thought necessary to create a special basic item for illustrated or picture postcards of all kinds. This is a well-defined article in which there is a considerable trade. It was not

thought advisable to have a special sub-item for cards ornamented with accessories of textile materials, artificial flowers, etc., but, on the other hand, a separate place was given to photographic prints—*i.e.*, cards printed on silver bromide paper and the like, which as a rule have a considerably greater value than ordinary cards.

This item includes both postcards sewn together in booklets and postcards in sheets.

Item 438.

Although playing-cards do not bulk large in international trade, they were given a special basic item because in nearly every country they are subject either to a monopoly or to special taxes. This item includes playing-cards of all sizes with the usual pictures, including tarots and cards printed on celluloid.

Item 439.

This comprises in general all pictures on paper or cardboard which are not mentioned in any of the previous groups, whatever the process of reproduction. It therefore includes photographs, engravings, chromolithographs, religious pictures, and etchings, whatever the subject and the method of reproduction—*i.e.*, pictures reproduced by machine (even if hand-finished), but not artists' original works, which are classed in Chapter 86.

Pictures of this kind may bear a legend or title.

The question whether it would be advisable to exclude *framed* pictures from this item was considered, since, in many cases, the frame may be of greater value than the picture it encloses. It was finally decided to leave framed pictures under this heading, each country being free to adopt special rules for the treatment to be applied to frames.

Picture-books for children, even with captions, as well as works which are only a collection of pictures or engravings, generally accompanied by a brief text, are also classed under this item. This applies to works in which the pictures constitute the essential part, the printed text being only subordinate.

Two sub-items have been created, the first for articles of this latter kind, and the second for all other pictures.

Painting-books for children and pictures for cutting-out and dressing (dolls) also come under this item.

On the other hand, pictures having the usual dimensions of postcards and capable of being used as such should be included under the item for postcards.

Item 440.

This last basic item comprises all other " printed matter " not elsewhere specified or included, irrespective of the printing process employed, and therefore, in the first place, catalogues (with the exception of booksellers' and musical catalogues, which come under Item 436), prospectuses, printed cards (including visiting-cards), printed advertisements, posters, calendars, and labels—*i.e.*, chiefly what are known as " job printing ". These articles may be illustrated without any change in their classification being involved. It has not been thought necessary to subdivide this item according to the method of printing, or to whether the articles are printed in one or several colours. It would, indeed, be difficult to find a solution here that would give satisfaction to every country, since the methods of printing are very numerous and varied. A special sub-item has only been created for calendars of all kinds, as these are articles of a definite character and command a large trade. This sub-item also includes tear-off calendars and blocks for such, but not memorandum-books, which are classed under Item 431 (Chapter 44).

The idea of creating a special sub-item for labels was given up, because some labels, when only having a vignette without text, are in the nature of picture-wares. The second sub-item accordingly comprises all " other " printed articles.

The articles coming under this item may be framed or bound without any change in their classification being involved.

Dry printing is, generally speaking, assimilated to typographical printing proper, except in the case of trade-marks and the like ; the same applies to watermarks, when these replace printing proper.

Section XI.

TEXTILE MATERIALS AND TEXTILE GOODS.

Preliminary Observations.

Section XI comprises the various raw materials used by the textile industry and all semi-manufactured products and finished articles produced by that industry.

The section is divided into eight chapters. Each of the first four chapters relates to one textile material or to a group of similar textile materials—thus, Chapter 46 deals with silk and other silk y materials, including artificial silk and products there of ; Chapter 47 deals with wool, horsehair and other animal hair, and with other textile materials of animal origin ; Chapter 48 deals with cotton ; and Chapter 49 with flax, hemp, jute, ramie and other vegetable textile materials.

These four chapters are to be found in all Customs tariffs, even in those which do not possess a very extensive nomenclature.

The present draft nomenclature has placed the silk industry at the head of the textile industries—first, in accordance with the general principle that in the nomenclature animal substances should come before vegetable substances, and, secondly, because silk is the richest textile material.

The chapter on silk includes all products of the silk industry, both of natural silk and of artificial silk. These two products have not, however, the same origin, and there is also a difference of value between them. Nevertheless, as artificial silk is being more and more used, either in combination with natural silk or other textiles, or separately, there was no alternative but to give this new textile its appropriate place beside natural silk.

The silk manufacturers, who have met together on several occasions, themselves placed artificial silk alongside natural silk in the draft nomenclature which they proposed to establish for the silk industry at their Congress held in December 1927.

Some groups of textile manufacturers had even suggested that a special chapter should be devoted to artificial silk, but it was not deemed advisable to accede to this request.

On the other hand, the International Silk Federation gave expression to an entirely legitimate desire in asking that a clear distinction should be made between products consisting chiefly of natural silk and those consisting chiefly of artificial silk. It was therefore decided to grant this request, although the same textile products would thus be mentioned twice over and States adopting the uniform nomenclature would be obliged to make a distinction between articles of natural silk and those of artificial silk, even when they proposed to subject them to the same duties.

This is obviously a somewhat burdensome obligation, but no one can now fail to recognise the justification for the present trend of opinion in industry, which requires a clear distinction to be made between natural silk—the classic product—and the product which has—incorrectly —been given the name of silk.

In accordance with these conceptions, the chapter on " Silk " has been divided into two parts, the first part containing articles of natural silk and the second articles of the product which must still perforce be termed " artificial silk ", pending the textile fibre in question being given some other recognised international designation.

Chapter 46—" Silk "—is followed by the chapter " Wool, Horsehair and Other Animal Hair," which primarily includes all wool of animal origin.

By the term " wool " should be understood the wool of wethers, ewes and lambs, wool of alpaca, llama, vicuna, yak, hair of camel, Cashmere goat, or mohair and other similar fine hair. This chapter also includes hair of hare, rabbit and beaver used in the manufacture of felts, also horsehair and other coarse hair of animals not included in the above definition of wool though often employed mixed with the latter.

The third chapter of Section XI is devoted exclusively to the cotton industry, while the fourth is reserved for industries using all vegetable textile fibres other than cotton, such as flax, hemp, jute, ramie, abaca, phormium, tenax, sunn, sisal, aloe and coconut fibre, etc.

There are certain textile products which are not manufactured by those industries that go through the whole process of transforming the raw material into yarns and the yarns into finished products, or which take a semi-manufactured article whether of cotton or of silk, wool, hemp, etc., and subject it to further treatment. Among these products may be mentioned wadding and felts, cordage, cabling and twine and ropemakers' wares, transmission or conveyor belts. Another important branch of the textile industry is that which includes the industries using fabrics—whatever be the component textile material—as the raw material for the production of fabrics of special qualities or for special uses not coming under the category of the habitual or normal uses of fabrics of this kind. To this branch belongs the industry which manufactures fabrics specially prepared for bookbinding, drawing and painting ; the industry which manufactures cloths oiled, waxed, impregnated with asphalt, tar or similar materials ; the industry manufacturing fabrics covered with a coating having a base of cellulose derivatives ; the industry manufacturing linoleum, lincrusta and similar articles ; the elastic and rubbered-fabrics industry ; and those industries which employ yarns and fabrics for the manufacture of articles used for technical purposes.

In accordance with the principle explained above—namely, that, as the above-mentioned industries do not employ the product of one textile material only and that, therefore, for the Customs classification of a large number of products of the industries in question, it is not always necessary to consider the textile material of which the articles are composed—it was thought desirable and feasible to exclude products of this kind from the items of the first four chapters : silk, wool, cotton and other vegetable textile fibres, and to bring them together in one chapter (Chapter 50), which follows the four chapters mentioned and is entitled " Wadding and Felts ; Rope and Rope-makers' Wares ; Special Fabrics and Articles used for Technical Purposes ".

Owing to the considerable increase in the use of knitted fabrics, which are now made from all textiles, it would have been necessary to include, in each of the chapters devoted to the principal animal and vegetable textile materials, special items for each of the various articles of hosiery.

It was thought preferable to classify all articles of hosiery, of whatever textile material they are made, in one chapter, which thus includes all articles of the kind, whether made up or not.

Consequently, Chapter 51 includes hosiery of silk, wool, cotton, flax, etc., and even of horsehair and other animal hair, as also all other fibrous products of animal or vegetable origin.

The last chapter but one of Section XI includes clothing, underwear and made-up articles of all kinds—that is to say, products of the industries which use fabrics as the raw material for the manufacture of articles of clothing, of articles for domestic purposes made of fabrics, and of other similar articles.

This chapter is entitled " Clothing, Underwear, and Made-up Articles of All Kinds".

The last chapter of the section includes waste of the textile industry which can be used either for the manufacture of paper or, after unravelling, for the manufacture of new " renaissance " fabrics, etc. It also covers old cordage, scraps of vegetable fibres and all similar articles.

* * *

After enumerating the reasons which have led to the subdivision of the articles included under Section XI into eight chapters, it would be as well to explain the principles which have been followed in arranging the items of these chapters.

The first question examined was the order in which the items should occur, and it was decided to begin with those relating to the raw material at its different stages of preparation. Yarns come next, arranged according to the extent to which they have been worked up, and, lastly, articles manufactured from yarns.

The order in which the various articles should occur was also examined, and it was thought desirable to mention in the first place the large body of fabrics with warp and weft, then the various kinds of such fabrics and, finally, articles which can be distinguished from them owing to their essentially different method of manufacture. Embroideries should come at the end, because these can be executed on any kind of fabric or textile article.

The order in which the groups in question occur, and which is common to all the chapters of textile products, is as follows :

First group : Raw materials at their different stages ;
Second group : Semi-manufactured products (yarns) ;
Third group : Fabrics, including velvets and plushes, carpets and ribbons ;
Fourth group : Tulles, lace, trimmings, etc. ;
Fifth group : Embroideries.

Another problem to be solved, in order to arrive at a uniform nomenclature of the products of the textile industry, was that raised by the classification of yarns and other articles made from more than one textile material.

Under most Customs tariffs, there are three systems of classifying yarns, fabrics and other textile articles composed of different materials—namely :

(1) The system of percentage based on the weight of the textile materials composing the product ;

(2) The system of percentage based on the number of yarns of the various materials composing the fabrics ;

(3) The system of taking as a basis the most highly-taxed textile material.

In seeking to frame a Customs nomenclature which will lend itself both to the *ad valorem* assessment system and to the system of taxation by weight, and under which one and the same textile material may, in some countries, be the most highly taxed of all textile materials, while, in other countries, it may be less highly taxed or entirely free of duty, and which nomenclature will admit of the application of a classification on the lines which each country has become accustomed to follow, the only solution is to adopt a nomenclature based on the natural characteristics of the products and on the division of same into two classes : (1) products consisting of a single material ; (2) products composed of a specific textile material combined with other textile fibres.

Obviously such an over-simple solution of the problem would not solve certain difficulties, particularly those affecting the classification of yarn composed of several textile materials thoroughly mixed or twisted, or affecting fabrics and other articles manufactured from such yarn.

If the idea of a classification according to the most highly-taxed product is abandoned, owing to its being inapplicable, on international grounds, to the drawing up of a common classification and nomenclature, the question must be settled in conformity with the rules to be mutually agreed upon, due account being taken in each case of the various mixtures most commonly employed by the different industries.

Naturally the silk, wool, cotton and other industries are all very legitimately desirous that the chapter of the Customs tariff which especially concerns them should contain all the products respectively manufactured by them.

It is also clear that, in order to solve the problem whether yarn composed of wool and silk belongs to the chapter " Silk " rather than to the chapter " Wool ", regard must not only be had to the weight of the two textile materials and to the way in which they are mixed, but also to the question whether said yarn has been manufactured by a process employed by the silk rather than by the wool industry or *vice versa*.

The same problem arises in connection with the classification under one chapter rather than another, of fabrics manufactured either from yarn of one textile material inter-woven with yarn of another textile material, or from yarn composed of two or more textile materials. It is a matter of common knowledge that the two largest international organisations of the textile industries—namely, the International Silk Federation and the International Wool Federation—have, for some years past, been devoting their efforts to solving these problems. As stated above, the International Silk Federation submitted to the Congress of Silk Manufacturers, held at Milan in 1927, a draft unified Customs nomenclature for silk fabrics (with the exception of trimmings, hosiery and lace), which was approved by the Congress.

The International Wool Federation also drew up, towards the end of 1929, a draft unified Customs nomenclature for products of the wool industry. Nevertheless, neither of these two drafts clearly defined the field covered by the industry to which it applied, so that the question may be said to have been solved in the main but not in detail. It is, however, absolutely essential to specify details in order to arrive at a really uniform Customs nomenclature.

It has been thought desirable to say a few words here about the draft Customs nomenclature approved by the Silk Congress in December 1927.

This draft was based on the division of silk articles into four classes (corresponding to the other textile materials)—natural silk, artificial silk, cotton and wool. The classes of cotton and wool were each divided into two sub-classes according to whether the fabric contained natural silk or artificial silk. Then came a class reserved for fabrics, in which floss silk waste was the component predominating in weight.

In this draft, manufactured articles—tulles, ribbons, velvets and plushes, and other fabrics —appeared as tariff items in each of the classes and sub-classes in question and thus occurred six times. Each article could also be shown in the form in which it was placed on the market—namely, unbleached, scoured, bleached, dyed, loaded, printed, goffered, moiré, figured or containing fine, semi-fine or false metal. In the case of an article composed of more than two textile materials, classification was made according to the percentage by weight of the textile materials, in two groups, the silk group (natural silk and natural floss silk and artificial schappe silk) and the group of other textiles. The classification was then determined on the basis of the material which, in the group, was predominating in weight.

In order to meet the wishes of the silk manufacturers, it was decided to collaborate with the International Silk Federation. After an exchange of views, which took place in October 1929, the Federation in question, while entirely retaining in its main outlines the proposal approved by the Congress in December 1927, increased from 4 to 7 the number of articles to be included in the above-mentioned classes and sub-classes, each of which thus comprised tulles, lace, ribbons, velvets and plushes, crêpes, open-woven and close-woven fabrics, and other fabrics not elsewhere specified.

The International Wool Federation had also caused to be prepared a draft Customs nomenclature of the materials and products relating to the wool industry, and this draft was submitted to and approved by the meeting held in Paris on February 26th, 27th and 28th, 1929.

As regards the question whether articles composed of an admixture of wool and silk should come under the wool industry or the silk industry, the International Wool Federation concurred in the opinion that articles not containing a proportion of at least 15 per cent of wool (in weight) did not belong to the wool industry. The International Silk Federation agreed that, with a few exceptions, articles containing at least 12 per cent (in weight) of natural silk or 20 per cent (in weight) of artificial silk belonged to the silk industry.

It should, however, be pointed out that, in the case of yarns and all articles made of yarns composed of different textile materials, thoroughly mixed or twisted, the two drafts failed to provide a precise, and still less a consistent, classification.

Obviously, the greatest difficulties are those raised by the classification of products mixed with silk ; the other combinations of textile products in which there is no silk can be very easily classified. It was therefore necessary in the first place to find a nomenclature adapted to products combined with silk, since, in the case of similar articles of other textile materials, the nomenclature is naturally derived from that of the former.

There were two methods of solving this problem : (1) to take as the heading of the basic item the article itself (yarn, fabric, tulle, etc.) and to create as many sub-items as there were combinations of mixtures of silk with other textile materials, or (2) to take the latter as a basis and to create as many sub-items as there were articles.

The first method was certainly that which could be most easily accepted by countries not needing a large number of subdivisions for the various possible combinations of silk.

The second method involved the provision of items founded on the silk content, including articles with regard to which such a method of classification was not necessary, even in countries where the silk industry is very highly developed.

Again, either of these methods will probably cause the sub-items or items affecting textile products to be further subdivided. As regards yarns, for instance, it must be considered whether they are single or twisted, unbleached, bleached, dyed, etc., and what is their count, and, in the case of fabrics, whether they are unbleached, bleached, dyed, printed, plain, figured, etc., and what is their weight per square metre or the number of threads per given unit of area.

Then, again, it is not the practice in all countries to fix, for the supplementary processes to which a textile product has been subjected, percentages of increase in the duty levied on the product at the particular stage of manufacture taken as a basis, while many countries prefer to establish a fixed duty covering the various processes of manufacture or characteristics of the finished product.

In view of the above-mentioned difficulties and the principles laid down in the draft of the International Silk Federation, a preliminary draft nomenclature of the chapter " Silk " has been established by adopting the first of the methods indicated above. This preliminary draft, which was examined in April 1930, became a provisional draft in November of the same year.

One disadvantage of this draft was that it did not definitely solve the problem of the classification of articles of silk mixed with other textile materials, according to the various combinations of the former with the latter, and only provided for each article—yarns, fabrics, ribbons, lace, etc.—in some cases a single basic item with two sub-items (one for articles of pure silk and the other for articles of mixed silk), and in others two basic items (one for articles of pure silk and the other for the same article of mixed silk).

This over-simple solution of the problem was adopted for the following reasons :

(1) The fact that certain countries could not accept the principle of percentage by weight for dividing into classes articles composed of two or more textile materials mixed ;

(2) The difficulty of reaching an agreement as to determining when an article, composed of various textile materials mixed, properly belongs either to the chapter on silk or to that on wool, cotton, etc. ;

(3) The difficulty of reaching an agreement as to the classification of yarns consisting of different thoroughly mixed textile materials and as to the classification of composite yarns combining threads of textile materials in which one thread differs from the other, or combining one thread of textile material with one composite thread of various thoroughly mixed textiles, and, finally, as to the classification of manufactured articles produced from the threads in question ;

(4) The difficulty of reaching an agreement as to the percentage up to which a textile material entering in the production of a manufactured article should, for purposes of Customs classification, be regarded as not forming part of the product in question.

The solution offered by the provisional 1930 draft, apart from the above-mentioned difficulties, involved, in the case of certain textile products, a purely fictitious unification of the Customs nomenclature of those products.

It was therefore essential to seek the most complete solution possible.

With this object, a questionnaire was sent in February 1931 to the International Silk and Wool Federations to enable them to study the possibility of an agreement which would remove the difficulties mentioned in paragraphs (1) to (4) above.

By April, certain of the difficulties in question had been disposed of, and, in June 1931, agreement was finally reached.

At a meeting in which representatives of the international organisations in question took part, and after a detailed and conclusive discussion of the question, the following principles were established for the classification of manufactured articles composed of more than one textile material and for the allocation of the articles in question to a particular textile industry rather than another.

These principles, with slight modifications designed to facilitate their application, form the basis of the general notes relating to Section XI which, in the draft nomenclature, precede the eight chapters constituting this section.

The principles in question are as follows :

(1) The adoption of percentage by weight for the classification of single threads and fabrics formed of more than one textile material mixed, and the establishment, for the countries which prefer to maintain the classification of fabrics based on the percentage of the number of threads, of a correlation between the number of silk threads and their percentage by weight ;

(2) There need be only a single silk thread in a twisted yarn for the latter to be assigned to the silk industry, or there need only be a single woollen thread in a twisted yarn containing no silk thread for the twisted yarn to be classified among the articles belonging to the wool industry ;

(3) A certain percentage of silk products contained in fabrics should be disregarded, so that the fabrics in question should not, for purposes of Customs clearance, be regarded as products of the silk industry ;

(4) Apart from the weight or number of threads of the various textile materials, the classification of fabrics in a particular chapter is based on the warp or weft, each composed entirely of threads of only one textile material, beginning with natural silk and then taking—bar the latter—all other textile materials in the following order : (1) silk or floss silk ; (2) floss silk waste ; (3) artificial silk ; (4) artificial textile fibres ; (5) wool or fine hair ; (6) horsehair ; (7) coarse hair ; (8) cotton ; (9) flax, hemp and ramie ; (10) jute ; (11) other vegetable textile materials.

Certain exceptions are provided to the rule relating to special articles, such as velvets and plushes, carpets, tulles and netted fabrics, lace and trimmings and hosiery.

After explaining the difficulties encountered in connection with the adoption of a uniform nomenclature of the manufactured goods included in the textile materials section and the manner in which it was decided to solve them so that the draft international nomenclature should, as far as possible, meet the economic and statistical requirements of the industries which that section had in view, we can now pass on to the examination of the various chapters. For the definition of articles or processes which are mentioned in the various chapters and are consequently common to the different articles, irrespective of the textile material of which they are composed, the following list has been appended.

With regard to this list, it should be noted that no difficulty arose in drafting the definitions it contains.

Only one question needed thorough investigation—namely, the definition of the limit beyond which fabrics with designs were to pass from the class of non-figured (plain) weavel into that of the figured weaves. There were two courses open, either to adopt the technicas principle that a fabric, to be regarded as figured, must have a design obtained with a certain number of shafts or by means of special machines—such as Jacquard, Verdol and similar machines—or the principle that certain weaves of fabrics are to be regarded as non-figured, and all others as figured. In several tariffs, which adopt the first principle, fabrics are regarded as figured if they have a design obtained by using more than 5, 8, 20 and even 24 shafts.

On the other hand, there are tariffs which, in accordance with the other principle, classify as non-figured : (1) fabrics which have, on each side, only one and the same single cloth, serge, twill or satin weave, either with a warp effect or with a weft effect ; (2) fabrics with a weave derived from one or other of the single cloth, serge, twill or satin weaves, when they have only one effect or a single and uniform crossing in warp or weft on each side, such as simple hopsacks and simple effect reps or ribs ; alternate ribs or " powder grains " ; simple serges and simple zig-zag twills (drills) ; diagonals with simple ribs ; satins with a repeated pattern and satins having only one effect in warp and weft, etc. ; (3) fabrics with several effects on each side, such as the lines, stripes, squares, checks, obtained by only one single weave (cloth, serge, twill or satin), a part or all of the component threads being simply doubled, trebled, etc.

In order to avoid doubtful interpretations, the above-mentioned definitions should be supplemented by patterns, so as to determine whether, according to the effects derived from these single weaves, the fabric should be regarded as plain or figured.

The countries are thus allowed a certain latitude in applying the above-mentioned rules—a thing to be avoided in an international nomenclature—but, since they are entitled to this right, and it was not desired to base the definition of figured fabrics on the number of shafts employed in the weaving, it was decided on practical grounds to define as non-figured the fabrics mentioned under No. 1 and to place the fabrics coming under Nos. 2 and 3 among figured

fabrics, while leaving it to the individual countries to subdivide the class of figured fabrics into two or more sub-items, according as the fabrics are made in the weaves mentioned in No. 2 or No. 3 or in other weaves involving or not the use of the machines known as Jacquard, Verdol, dobbies, etc.

* * *

GENERAL DEFINITIONS OF TEXTILE PRODUCTS.

Yarns.

Single.

By single yarns are meant yarns obtained by the juxtaposition and spinning of textile fibres. Double spoon single yarns, however, are classified as single yarns, and this also applies to parallel juxtaposed yarns called twin yarns *(binati)*, even if only very slightly twisted.

1. *Unbleached.*—Unbleached yarns are yarns having the natural colour of the textile fibres from which they were manufactured.

Yarns manufactured from waste are also regarded as unbleached if they have the colour of the waste from which they were manufactured. Owing to their origin, these yarns contain fibres of various colours, the yarn having, however, no definite colour.

2. *Bleached.*—Bleached yarns are yarns which have been subjected, in hanks, bobbins, etc., to a bleaching process, and also yarns manufactured from bleached fibres.

Yarns consisting of a mixture of unbleached and bleached fibres are to be regarded as bleached yarns.

Washing—that is to say, treating with soap or caustic materials—is also regarded as a bleaching process.

Creamed yarns are assimilated to bleached yarns, whether their shade be the natural colour of the fibre, even washed or bleached, or has been artificially given.

Yarns of scoured natural silk are assimilated to bleached silk yarns.

By bleached yarns of natural or artificial silk are to be understood yarns " dyed white "—that is to say, yarns which have been bleached and bear traces of a violet-blue dyestuff which modifies the natural yellow colour of the fibre.

3. *Dyed.*—By dyed yarns are meant yarns dyed in fibres or in hanks, bobbins, etc.—that is to say, soaked in a dyestuff, either a solution of colouring matter or a product which later produces the desired coloration by oxidation.

Yarns having been given a temporary dye which wears off after simple washing with soap are not regarded as dyed.

Mottled yarns—that is to say, yarns composed of two strands of different colours or of one unbleached or bleached strand and of another dyed strand and producing a single yarn—are to be regarded as dyed yarns. Mixed yarns obtained by the deliberate mixing of fibres of different colours or of unbleached or bleached fibres with dyed fibres are also regarded as dyed yarns.

4. *Printed or Clouded.*—Unbleached, bleached or dyed yarns which have been printed are regarded as printed. By clouded yarns are to be understood yarns printed in one or more colours at more or less regular intervals. Yarns produced by printing the slubbing or sliver of the textile material (stout yarns) are to be assimilated to clouded yarns. Clouded yarns are to be classified as printed yarns.

Twisted Yarns.

Every combination of single yarns by twisting constitutes twisted yarn, whatever the degree of twisting and the process employed for assembling the yarns.

Yarns which have been subjected to several twistings (cable-twist yarns) are to be classified as twisted yarns.

As " cable-twist " yarns are regarded yarns obtained by doubling together two or more twisted yarns or one or more twisted yarns with one or more single yarns, regardless of the direction of the doubling.

The class of twisted yarn includes looped yarn—that is to say, twisted yarns with loops at regular intervals. Twisted yarns composed of two threads, one of which is folded over itself at regular intervals so as to form a sort of full loop or swelling, come under the same category.

1. *Unbleached.*—Same definition as for single unbleached yarns.

2. *Bleached.*—Same definition as for single bleached yarns.

Twisted yarns, composed of single unbleached yarns and of single bleached yarns, are regarded as bleached twisted yarns.

3. *Dyed.*—Same definition as for single dyed yarns.

Twisted yarns composed of single unbleached or bleached yarns and single dyed yarns are classified as dyed twisted yarns.

4. *Printed, Clouded.*—Same definition as for single printed or clouded yarns.

Twisted yarns composed of single yarns unbleached, bleached or dyed and of single printed or clouded yarns are regarded as printed or clouded twisted yarns.

Single or Twisted Yarns.

1. *Gassed.*—These are yarns which have been subjected to singeing in order to remove the fibres which give them their plushy appearance.

Gassing does not change the classification of the yarns.

2. *Mercerised.*—By mercerised yarns are meant yarns which have been subjected under tension to treatment with cold caustic soda. Mercerisation gives the yarns a beautiful silky gloss and increases their capacity to absorb dyestuffs.

3. *Glazed.*—Glazed (lustred) yarns are yarns which, after bleaching or dyeing, have been specially treated by being soaked in a bath of gummy water, starch or fecula, wax or paraffin, with the addition of gelatine, lichen or similar substances.

These yarns are then made glossy by means of rapidly rotating polishing rollers.

4. *Sized or Dressed.*—Sized or dressed yarns—that is to say, yarns which have been subjected to a dressing process in preparation for weaving are classified regardless of this treatment.

5. *Yarns put up for Retail Sale.*—Yarns put up for retail sale are yarns in balls, bobbins, discs, skeins and other similar, as also those in hanks with a make-up other than that usually adopted for weaving and other industrial purposes.

This item includes hanks which are subdivided into skeins by a dividing thread which passes between the skeins tying them up and clearly separating them from one another.

The following are not regarded as put up for retail sale : Yarns on bobbin-pegs, pirns, bobbins, cops, spools, and similar make-ups for transport to twisting, bleaching, dyeing or weaving mills or works or for the manufacture of other textile products, such as machine-made embroidery, trimmings, hosiery, etc.

Warp Yarns.

Warp yarns—that is to say, yarn so manufactured as to form the warp of pieces of fabric, whether put up or not on the weaver's beam, are to be classified in the items provided for the yarns of which they are composed.

Fabrics.

For nomenclature purposes, the word " fabric " has been taken in its broadest meaning and covers articles of all kinds manufactured from textile threads or filaments. Thus it includes, not only fabrics with warp and weft (cloths and ribbons), but also knitted fabrics (jerseys, hosiery, lace, tulles and nets, etc.).

Fabrics also include material composed only of warp threads held together by fulling or with the aid of a solution of gum, glue, rubber or other similar materials.

Non-figured (Plain) Fabrics.

Apart from the exceptions provided for tulles, netted fabrics, lace, velvets and plushes, non-figured fabrics are understood to mean fabrics which, on the right side, have only one (fundamental) weave—that is to say, fabrics with taffeta or cloth weave, or twill, serge or satin weave.

Figured Fabrics.

With the foregoing reservations, figured fabrics signify fabrics with effects obtained by weaving with several simple weaves or with weaves derived from or combined with simple weaves, or which have designs obtained by weaving with machines such as dobbies, Jacquard and the like.

Damask Fabrics.

By damask fabrics are understood fabrics generally manufactured on Jacquard looms, having varied (usually large) designs, such as twig and leaf patterns, flowers, bouquets, etc. ; the figuring is due to the perpendicularity of the threads which, according to the angle from which the fabric is viewed, presents a contrast between the figured work and the ground. The same weave (usually satin) serves to give both effects (warp and weft) and the contrast between these two effects forms the characteristic feature of damask.

Broché Fabrics.

By broché fabrics are meant fabrics which have designs or effects produced by the use of one or more threads (figuring threads), which are independent of the ground fabric, in such a way that the design thread can be removed without destroying the fabric.

Brochés include, not only shuttle broché fabrics (weft figured with the swivel broché slay), but also lappets and " veyrons ", which are warp figured fabrics.

The following are assimilated to broché fabrics : Embroidered *(lancés)* fabrics—namely, fabrics the design or effect of which, independent of the ground fabric, is produced by an additional weft or warp which runs the whole width or length of the fabric, but only appears at the place where it is to form the design ; the loose ends of the threads on the reverse side may be cut off.

On the other hand, broché fabrics do not include fabrics belonging to the class of figured fabrics with double warp or double weft, which are incorrectly called brochés. It must be remembered that, in broché fabrics, the figuring is a thing apart and consists of a thread or threads which are independent of the ground fabric so that the pattern can be completely removed without any need to unravel the ground fabric, and the latter must, when the pattern threads have been removed, look as if there had been no broché figuring.

A special kind of brocading is represented by " feather-stitch " brochés, which imitates satin-stitch embroidery.

In these fabrics, the figuring threads, which are applied by means of a small shuttle, cover only certain parts of the surface and fill as much space on the reverse side as on the right side of the fabric ; the ends of the figuring threads never appear on the right side of the fabric.

Unbleached Fabrics.

Unbleached fabrics are fabrics manufactured from unbleached threads. Simple washing or dressing with uncoloured preparations does not affect the classification of these fabrics.

Bleached Fabrics.

Bleached fabrics are fabrics bleached in the piece or manufactured from bleached yarns, as also washed fabrics, creamed fabrics and fabrics manufactured from unbleached yarns and from bleached or creamed yarns.

Bleached fabrics include scoured fabrics of natural silk and fabrics of natural or artificial silk dyed white.

Dyed Fabrics.

Dyed fabrics include fabrics manufactured from yarns dyed in one colour, fabrics dyed after weaving and fabrics which have been treated with a coloured dressing.

Fabrics manufactured from mottled or mixed yarns of one kind only are also regarded as dyed.

Fabrics of Yarns of Different Colours.

Fabrics of yarns of different colours are fabrics manufactured from unbleached or bleached yarns and dyed yarns, as also fabrics composed of yarns of different colours, or of different shades of the same colour.

Fabrics the two sides of which are of a different single colour are assimilated to fabrics of yarns of different colours.

Printed or Clouded Fabrics.

Printed fabrics are fabrics printed, after weaving, in one or more colours, and fabrics manufactured from printed warp yarns.

Fabrics made from printed or clouded yarns and those composed of unbleached, bleached or dyed yarns and printed or clouded yarns are also regarded as printed or clouded.

Fabrics one side of which has coloured designs produced by pencil brush, paint-brush, or spray or in any other way (fabrics painted with a stencil or otherwise, pyrograved, aerographed, etc.) and fabrics printed by means of wool dust sized with glue are assimilated to printed fabrics.

Mercerised Fabrics.

Fabrics manufactured in whole or in part from mercerised yarns and fabrics mercerised in the piece are regarded as mercerised.

Glazed Fabrics.

By glazed fabrics are understood fabrics manufactured from glazed yarns and those which have been glazed after weaving.

Moiré Fabrics.

Moiré fabrics are fabrics which have a wavy and changing appearance obtained by partially flattening or altering the regular scheme of the threads by means of calender rollers.

Goffered or Stamped Fabrics.

By goffered or stamped fabrics are understood fabrics which have undergone a process of dry-printing with a calender and the design of which is in relief or hollow.

Fabrics sized, Fabrics applied on Paper, Raised Fabrics, Fabrics having passed through the Back Rollers of a Calender, and Gassed Fabrics.

These fabrics are to be classified under the items to which they belong, to whichever of these processes they have been subjected.

List and Selvedge, and Dividing Threads.

When classifying fabrics, no account should be taken of the list or selvedge, whatever its composition, except where it is intended to form part of the make-up (fabrics for umbrellas, scarves, etc.).

Similarly, no account is taken of dividing threads introduced during weaving with the sole object of indicating the lines along which fabrics in the piece are to be cut or divided.

Crêpes.

By crêpes are meant, in general, light fabrics having on both sides a more or less definite appearance of craping, due to strongly twisted wefts which have a tendency to wrinkle and are so placed that they alternate in the direction of the twists : for instance, two insertions of weft yarns with a right twist and two insertions of weft yarns with a left twist. The crêpe appearance of the fabric is precisely due to the wrinkling of the wefts, which is rendered possible by the considerable degree of twisting to which they are subjected, the lightness of the fabric and the wrinkling, in the opposite direction, of the neighbouring wefts, due to the different directions of the twists of the said wefts. Craping can also be produced by strongly twisted warp yarns arranged in such a way that the yarns alternate in the direction of the twist—that is to say, with one or two warp yarns with a right twist and the following warp yarns with a left twist.

There are fabrics which, though they have a wrinkled or granite-like appearance, do not belong to the category of true crêpes. In these fabrics, the effect of craping is due to the use of special weaves (sand or granite-like) and also to the use of warp yarns of various thicknesses. When one weave is used in the parts of the fabric which are to remain flat and a different weave is used in those parts which are to have a wrinkled appearance by keeping the first warp at a different tension from the second warp and by using yarns of a different count or degree of twisting, fabrics are obtained which look like crêpe and are called crepons. The same effect is of course obtained by alternating, during the weaving, twisted weaves called crepons with non-twisted weft yarns and by employing, at the same time, one weave for the parts of the fabric which are to remain flat and another weave for the parts which are to become wrinkled.

For the purpose of classification in the nomenclature items, referring to crêpe, only true crêpes are to be regarded as such.

All the rules laid down for the classification of close-woven fabrics also apply to the classification of crêpes.

English-style crêpes—that is to say, fabrics which have undergone a special finishing and goffering process giving them the appearance of crêpe—are assimilated to crêpes. For the classification of English-style crêpes, the goffering is not taken into account.

Velvets, Plushes, Chenille Velvets and Terry-cloths.

Fabrics which possess over the whole or part of their surface a series of yarns forming a more or less raised pile or a series of rings (loops) are regarded as velvets. In the first case the velvet is cut and in the second case it is looped or curled.

Velvets are composed of at least three distinct elements : ground warp and weft and additional warp or weft composing the velveted part.

Warp velvets are those in which the pile or the loops are formed by an additional warp, and weft velvets (velveteens) are those in which the pile is produced by a second weft or sometimes by a single weft providing the two series of picks (ground and pile).

Plushes are obtained in the same way as velvets.

Velvets proper have a short straight pile, while in plushes the pile is longer than in velvets and even sometimes slightly laid in the direction of the warp. One variety of plush called " shag " (felbel, felpa) has a still longer pile, which is also laid generally in the direction of the warp.

Stuffs that have a velveted appearance obtained by means of special carding of the surface in order to form the pile, which is thus produced at the expense of the weft and warp threads of which the fabric is actually composed, are not to be regarded as velvets.

Velvets which are partly looped and partly cut are called shorn velvets.

In velveteeen, the additional or effect weft is called " pile pick ". When the velvet is taken off the loom, the pile pick forms more or less broad floats which, after being cut with special scissors, stand up and thus form the pile. According to the nature of the weave employed or the method of cutting the floats, plain velvets or ribbed velvets are obtained. Velvets also include those, the floats of which are not cut.

When the pile appears on both sides, this is called double-faced velvet.

Non-figured velvets (that is to say, velvets without designs) are distinguished from *figured* velvets (velvets with designs), either in the velveted part or in the non-velveted part ; in the latter there may also be *broché* designs. Broché effects may also be velveted.

Velvets may be unbleached (that is to say, made from unbleached yarns), bleached, made from yarns of different colours, dyed after weaving, printed, clouded, goffered, aerographed, pyrograved, etc.

By using special yarns or special processes, velvets or plushes are obtained which look like furs : caracul, broadtail (breitschwanz), astrakhan, etc.

By assimilation, chenille velvets—that is to say, velvets composed of a fabric with warp and weft in which chenille threads are inserted as an additional weft—are regarded as velvets.

By chenille is meant a kind of trimming composed of narrow bands of fabric cut from the piece in the direction of the warp and consisting of groups of two, three or more warp yarns in which pieces of weft are inserted. When the bands are twisted, the wefts form with their free ends a kind of tufted cord, which is called chenille thread. The pieces of weft yarn composing

the chenille may also be assembled otherwise than by warp yarns—that is to say, by binding threads produced by hooks in braid-making machines.

Chenille velvet generally has both sides velveted.

When the chenille wefts are inserted into certain parts of the fabric only, a partially velveted fabric is obtained, which sometimes has designs, patterns, etc.

Terry-cloths are fabrics of which one or both sides are covered in whole or in part by loops. For this reason, certain Customs tariffs classify them with looped velvets. These are fabrics composed of one weft or of two warps, one of which forms the ground warp, while the other, for forming the loops, is wound on the loom with a variable tension and simply crosses with the weft so as to form, on the right side of the fabric, free parts which are of varying lengths. When a certain number of wefts are drawn together by a blow of the loom slay, these free parts, derived from the free tension beam, form eyelets which, in view of the considerable degree of twisting of their component yarns, tend to get twisted and thus to form loops.

Terry-cloths may also have a looped appearance on both sides or only on certain parts of the surface, forming squares, lozenges, patterns, designs, figures, etc.

For the classification of velvets, plushes and chenille velvets composed of various textile materials, the rules contained in general note 3*(c)*, relating to Section XI, must be applied.

The classification of terry-cloths, on the other hand, is governed by the classification rules applicable to other kinds of fabrics.

Carpets.

By carpets are understood stuffs which, by their method of manufacture, their strength, design and stripes, must obviously be used exclusively for covering floors, staircases, etc., whether they are intended to be affixed thereto or not.

Fine moquette fabrics, chenille fabrics, so-called Utrecht velvets and, in general, all fabrics resembling carpets and intended for furnishing, such as table-covers, portières, curtains, upholsterings and the like, should not be classified as carpets.

Carpets can be divided into four main classes :

(a) Carpets with knotted or twisted pile. This category includes, in particular, Persian, Afghan, Dagestan and Indian carpets (Agra, Cashmere, Mirzapore, etc.), Turkish, Caucasian, Egyptian, Moroccan and Tunisian carpets, etc., and carpets of these varieties manufactured elsewhere than in the countries of origin.

For the manufacture of genuine knotted carpets, a frame is used, inside which two systems of superimposed warps are stretched. The yarns to be knotted on the warp in order to form the pile are 5 to 6 centimetres in length. Each pile thread comprises a lower and an upper thread of the double warp, and the weave is obtained either with a " ghiord " knot or a " senneh " knot. Sometimes both these knots are used at intervals in the same piece. The pile is called twisted when the pile yarn completely envelops the warp yarn. After each line of knots, two weft yarns are usually introduced, care being taken to change the crossings of each pick so as to obtain a stronger weave.

The knotting does not extend to the selvedge of the carpet, which is formed by a narrow woven strip. The beginning and end of the carpet are also formed by a certain number of picks and not by lines of knots. For this reason, knotted carpets always have selvedges and woven ends.

Carpets with knotted or twisted pile can also be machine-made, either entirely or with hand-made parts, by means of special looms.

(b) Carpets with velveted or looped surface (uncut pile), generally manufactured in the piece, on a canvas ground or a ground of flax, cotton, hemp or jute yarn.

This kind of carpet is obtained by the same method of manufacture as that employed for warp velvets and plushes, which it resembles (moquette carpets). These carpets may be plain (that is to say, not figured) or figured on the dobby or the Jacquard loom, with or without broché-figuring.

(c) Chenille carpets, in which the velveted part of the carpet is formed by chenille yarns. These yarns may be introduced into the composition of the carpet either as an extra weft in the texture of the fabric, which produces reversible velveted carpets, or as a weft applied and fixed, by weaving, on to the ground fabric containing a warp and a weft (Axminster).

(d) Felt carpets—that is to say, felts which, in view of their thickness, colour, printed designs and borders—whether decorated or not with machine-made embroidery—and their size, are clearly intended to be used as carpets.

In addition to these four classes of carpets, the following should also be mentioned : So-called " Kelim " (or " Kilim ") woollen carpets, characterised by longitudinal division recurring every time the lateral limit of a colour effect meets the same warp yarn along a certain number of picks ; Smyrna carpets, which are hand-made and composed of a very loose ground fabric of strong twisted yarn, generally of cotton, through the strands of which the pile yarn is threaded by a needle ; Sumak carpets, which are hand-made, have two warp systems extending the whole width of the carpet and are interwoven with woollen yarns which constitute the pile ; carpets with selvedges of woollen fabrics ; reversible so-called Scotch carpets (with three warps of different coloured wool and three wefts—one of jute and the other two of cotton) ; Belgian carpets (with a double warp of wool and a treble weft, one of jute and the other two of cotton).

These last two types are made on the Jacquard loom from ordinary thick, strong carded wool yarn.

With the exception of felt carpets, there is no reason to distinguish between carpets manufactured in the piece and those made in strips or in the finished state in the form of carpet squares, hearth-rugs, etc., even hemmed, bordered or trimmed with fringes—whether separately added on or not—or merely cut out.

The same applies to bedside carpets or rugs manufactured in units, having their edges turned in and sewn, or protected by means of a galloon, ribbon, trimming or strip of fabric, in order to prevent the unravelling of the carpet during transport. Carpets in one piece which have their edges overcast are also classified as carpets.

Finally, it should be noted that the items relating to carpets include plain or figured carpets and also carpets manufactured with printed warp yarn and those which have been printed after weaving or are goffered or have been subjected to any other process.

Ribbons.

By ribbons are to be understood fabrics in bands with real selvedges, woven on the shuttle : that is to say, which have warp and weft and do not exceed 30 centimetres in width.

Bands cut out of a fabric, not exceeding 30 centimetres in width, are assimilated to ribbons, provided that such bands be furnished with false selvedges, so as to give them the appearance of real ribbon.

Ribbons also include ribbons produced without weaving by juxtaposing or joining together with glue, yarns or fibres of textile materials.

Pipings also come under the heading " Ribbons ".

Ribbons, like fabrics, can be plain, figured, broché, unbleached, bleached, dyed, woven with yarns of different colours, printed, goffered, moiré, etc.

Ribbons are classified according to the rules laid down for fabrics.

Ribbons may also be woven with their surface wholly or partly of velvet, plush or chenille.

Ribbons belonging to this last category are classified according to the rules laid down for velvets.

Trimmings.

By trimmings are to be understood all braided articles in general—that is to say, articles without warp or weft, produced on the braiding loom or by hand.

Trimmings also cover articles composed of a bundle of textile yarns intertwined with, or covered by, other textile yarns, and nets not coming under item 567 (Chapter 50).

Trimmings also include articles manufactured with a braid-making machine—that is to say, articles the ground weave of which is produced exclusively by means of " hooks " in which the pattern threads are introduced as wefts.

Trimmings include in particular aiglets, tapes, bobs, fringes, cords, tassels, laces, buttons, " olives ", pleats, twists, fancy braids, braided brace-loops, furniture decorations and similar articles, nets used as hair-nets, bonnets and the like, chenille yarns, braided wicks, tattings and other similar articles coming under the head of trimmings.

Trimmings may have a wood, bone, leather or metal core or be combined with other materials and include buttons, hooks, eyes, clasps, rings, glass or metal beads, etc.

It should be observed that complex trimmings, produced by sewing done solely in order to join together the various parts of which the trimmings are composed, are not to be regarded as " made-up " articles but classified under trimmings.

Trimmings of metal thread or yarn are expressly included in item 492.

Trimmings composed of several textile materials should be classified according to the rules contained under *3(e)* of the general notes relating to Section XI. Nevertheless, the classification of chenille yarns is determined by the material which constitutes the pile and that of " covered " trimmings by the material of the textile yarn forming the sheath of the trimming.

Tulles, Bobbinet-tulles and Netted Fabrics.

Tulle is a light and transparent open network fabric produced on the bobbin loom. Tulle contains a certain number of threads (generally three in ordinary plain tulle) irregularly arranged, sometimes oblique, sometimes broken, parallel or perpendicular to the edges of the piece and intersecting one another. The mesh may be hexagonal (regular hexagons or elongated or rounded hexagons), or square. There are two kinds of tulles—plain and figured.

Plain tulles are those the entire surface of which consists of a single series of regular meshes of the same shape and size, consisting solely of the network produced by weaving without any pattern or filling in of the meshes.

Figured tulles are those which have a combination of meshes of various shapes or sizes or the patterns of which are mechanically produced by filling in the meshes even by a process of broché figuring, or by the application of specks or spots of other materials forming a scattered design superimposed by hand or by some process other than weaving, broché figuring or embroidery.

Bobbinet-tulle is generally composed of two elements : (1) a warp formed of a straight thread and a leno thread, and (2) a so-called pattern thread connected with the warp thread by the leno thread. The pattern thread passing from one warp to the other forms one side of the mesh and, by repeating these passes, the mesh is filled in and this constitutes the clothing or opaque parts of the design.

In bobbinet-tulles, the warp, which is very prominent, has threads stretched parallel at a certain distance from one another, the pattern threads being equal in number to the warp threads.

Bobbinet-tulle is used for making long curtains, bed-covers, armchair-covers, short curtains, etc.

By netted fabrics are understood square-mesh nets knotted at the four corners, which are used, not for hunting or fishing, but in the make-up of articles of textile materials, in place of tulles, light fabrics, embroidery work, etc. They differ from fishing nets, the meshes of which are not square but rhomboid. The knots of the netted fabrics prevent the threads from being displaced or drawn at the points of intersection.

By unbleached tulles are to be understood tulles in the form of chiffon—that is to say, as they come from the loom.

Tulles composed of several textile materials should be classified according to the rules laid down in 3*(e)* of the general notes relating to Section XI.

Tulles also include figured tulles, whether bobbinet or not, cut to measure for curtains, window-nets, bedspreads, dressing-table and like covers, even festooned, simply hemmed or bound with ribbon, braid or tape.

Tulles and bobbinet-tulles with designs of the nature of lace and figured tulles, imported in strips or widths less than 40 centimetres wide, are assimilated to lace.

Lace and Lace Fabrics.

Lace and lace fabrics are stuffs with open meshes, figured, woven, braided on the spindle, made with a needle, etc., the design of which is produced by changing the size, shape and position of the meshes. Lace is made by hand, or by machine, on special looms (Leaver loom, circular bobbin loom, etc.).

Lace includes articles of this kind in the piece, in strips, lengths or motifs for making-up or trimming articles of clothing, underwear, etc.

Lace of a particular shape which constitutes separate articles (dresses, veils, handkerchiefs, collars, collarettes, cuffs, fichus, table-centres, saucer-mats, etc.) belongs to Chapter 52, in so far as these articles represent assembling or sewing work.

Embroideries.

Generally speaking, embroidery is the application by hand or by machine of threads in relief, forming designs on fabrics, tulles, lace, ribbons, velvets, felts, etc. Designs of the nature of embroidery produced by weaving, as, for instance, those of broché fabrics, are not regarded as embroidery.

There are three main classes of embroidery :

(1) Satin-stitch embroidery—that is to say, embroidery the design of which is formed by one or more threads which pass from one side of the fabric to the other and usually form the complete design on the right side only.

Embroideries of this kind also include drawn-thread work, carried out by removing from the fabric some warp or weft threads and then joining the parts of the warp or weft threads which have been left loose, by stitches, knots or special work, by means of an independent thread.

(2) Chain-stitch embroidery, which is carried out by drawing the embroidery thread or twist along the fabric, so that it forms a long loop. By again inserting the needle into the middle of this loop, a new loop is made each time, so that the stitches overlap and form a sort of continuous chain.

Embroidery done with an embroidery needle, and known as moss-stitch, fur embroidery, etc., is to be regarded as a variety of chain stitch. This also applies to braid embroidery, which consists in covering with a more or less thick thread a chain-stitch embroidery design.

(3) *Appliqué* embroidery, in which the design is cut out of a fabric generally different from the ground fabric, and attached to the latter with a simple hand or machine stitch, or an embroidery stitch. In certain cases, the design is made by the application of a twist, trimmings, a small ribbon, chenille yarn, etc. *Appliqué* embroidery is to be classified as chain-stitch embroidery if the fabric which forms the design is attached by means of a chain stitch ; otherwise, it is assimilated to other kinds of embroidery.

Embroidery coming under the first two classes may also be done with metal thread or yarn, as may also the sewing on of " motifs " in *appliqué* embroidery.

The fact that the embroidery involves the use of glass beads, spangles, jewel stones, etc., or is carried out with twist, lacing, chenille yarns, etc., does not affect the classification.

Embroidery may be executed on tulle, netted fabric, lace, velvet, plush, ribbon, or fabrics of any other kind, hosiery and felt.

Chapter 46.

SILK, FLOSS SILK, ARTIFICIAL SILK AND ARTIFICIAL TEXTILE FIBRES ; METAL YARN.

This chapter includes three groups :

A. Raw materials, thread, yarn and articles manufactured from natural-silk materials (silk, floss silk and floss-silk waste).

B. Thread, yarns and articles made from artificial-silk materials (artificial silk and artificial textile fibres).

C. Metal yarns (metal thread combined with textile thread) and articles made from those yarns.

The first two groups belong entirely to the wholesale silk industry, and the third to another industry, which, in certain countries, is closely connected with the other two groups.

In accordance with the desire expressed by the silk manufacturers, group A, after the items relating to raw materials and thread and yarn, is divided, in the case of ribbons, velvets and plushes, crêpes and other fabrics not elsewhere specified, into two classes : the first (A, I), which comprises the said articles of silk or floss silk, pure or intermixed (items 447 to 450), and the second (A,II), which comprises the same articles of silk or floss silk mixed with other textiles (items 451 to 454). Although it would have been desirable to include, in A,I and A,II, tulles and netted fabrics, lace, trimmings, embroidery and carpets, it was considered sufficient for an international nomenclature to group these articles in one class (A, III), whether they are of silk and floss silk, pure or intermixed, or whether they are these materials mixed with other textiles. This third class (A, III) also includes gauzes for bolting and fabrics of floss-silk waste, pure or mixed with other textiles and not containing natural silk or natural floss silk (items 455 to 461).

Group B, after the items relating to thread of artificial silk or artificial silk waste, comprises four classes, each of which includes articles of artificial silk corresponding to those which appear in classes A, I and A, II.

Class B,I therefore includes ribbons, velvets and plushes, crêpes and other fabrics not elsewhere specified, made of pure artificial silk (items 469 to 472) ; class B,II includes the same articles made of artificial silk mixed with other textiles, except natural silk, natural floss silk, and natural floss-silk waste (items 473 to 476) ; class B,III includes the same articles, made of artificial-silk waste and pure artificial textile fibres (items 477 to 480) ; class B,IV comprises the same articles made of artificial-silk waste and artificial textile fibres mixed with other textiles, except natural silk, natural floss silk, natural floss-silk waste and artificial silk (items 481 to 484).

The last class (B,V) includes the same articles as class A,III—namely, tulles and netted fabrics, lace, trimmings, embroidery, carpets and gauzes for bolting.

Thus a clear distinction is made between articles of natural silk (items 441 to 461) and articles of artificial silk (items 462 to 490), by repeating six times the nomenclature of four articles, in order to take account of the manner in which the textile materials composing them are assembled, and by repeating twice the nomenclature of six articles, in order to take account of whether the materials of which they are composed belong to the natural-silk group or to the artificial-silk group.

Finally, group C of Chapter 46 includes in two items (491 and 492) metal thread combined with textile thread (metal yarns) and articles of metal thread or yarn, such as fabrics, ribbons, trimmings and other articles for garments, furnishings and similar uses.

* * *

Item 441.

The first item is understood to refer to cocoons from which silk thread can be obtained, while cocoons unsuitable for reeling must be placed under the item referring to silk waste in the mass (item 442*(a)*). Cocoons to be regarded as unsuitable for reeling are cocoons perforated so that the thread is broken (pricked, dead, spoiled, damaged by the emergence of the moth, spotted, rust-stained, flossy and similar cocoons).

This item also includes worm-gut (Messina hair or so-called Florence horsehair), and the countries wishing to distinguish between this kind of hair and silkworms' cocoons by introducing a special sub-item for this purpose are entirely free to do so. Worm-gut is produced by the silkworm, which is stifled in vinegar when it is about to make its cocoon. This material resembles horsehair, but is much less flexible and, unlike horsehair, has a glossy

surface. It is generally used for the end of fishermen's lines. The byssus of the pinna or sea-silk (mother-of-pearl hair) is assimilated to worm-gut or Messina hair ; it is obtained from a shell-fish (the *pinna nobilis*) and is a sort of filament of a golden brown colour, very glossy and resembling silk.

Item 442.

This item includes all qualities of silk waste used as raw materials for the manufacture of schappe and floss-silk waste threads.

This item covers :

A. *Cocoons* unsuitable for reeling and blazes—that is to say :

(1) *Cocoons perforated*, so that the thread is broken (pricked, dead, spoiled, damaged by the emergence of the moth, etc.) ;

(2) *Cocoons not perforated* or torn, but the structure of which is considerably weakened in certain parts so that the thread is broken for reeling at the affected points (black withered cocoons, with or without chrysalis, spotted and rust-stained throughout and rendered flossy by the butterfly) ;

(3) *Blazes* (silky network from which the cocoons are suspended).

B. Reeling waste :

(1) " *Frisons* " or outer floss (the coarse outside layer of the cocoon which is removed in order to reach the thread suitable for reeling).

There are three kinds of " frisons " : *(a)* " *Capitons* ", which are the coarsest part of the " frisons " ; *(b)* " *Costes* ", which are less coarse and become ribbon-like at the end ; and *(c)* " *Frisons* " properly speaking, which are in clusters, curly and finer.

(2) *Husks (bassinés)*—cocoons the reeling of which has been interrupted.

(3) *Pelettes*—the thin coating which remains round the chrysalis after the utilisable portion of the raw silk has been removed.

C. Waste thread, left after the silk has been thrown or spun : *floss silk* which, strictly speaking, is the waste of the raw silk after it has been thrown ; this heading also includes the waste mentioned in A, 3, and B, 1 to 3, above.

Floss silk is composed of cut or intertwined threads, left after spinning (selected hanks), twisting (waste composed of cut-off ends) and weaving (weaving waste).

D. Articles produced by the carding and combing of the waste :

(1) *Schappe*, which is produced by the combing of the silk waste previously subjected to a process of maceration in vats of hot water until the textile fibres are completely separated ;

(2) *Fantaisie*, which is the product obtained by the carding or combing of the waste.

E. The residue produced by the carding and combing of the waste :

(1) *Floss-silk waste*, which is the residue from the carding or combing of the silk waste mentioned under D, 1 and 2, after all the fibres suitable for the spinning of the schappe have been removed by successive operations ;

(2) *Noils* are the residue from the combing of the floss-silk waste when this has been subjected to a process of re-combing.

This item is divided into four sub-items corresponding to the various forms of silk waste—viz : *(a)* in the mass ; *(b)* devilled ; *(c)* carded or combed ; *(d)* prepared for spinning.

(a) Includes in particular cocoons unsuitable for reeling, waste produced by the reeling of the cocoons, the throwing of the silk and the spinning of the schappe and the floss-silk waste, and also the waste of the threads obtained by weaving.

So-called floss-silk waste laid in uneven laps, without the help of the carding machine, is to be regarded as floss silk in the mass.

(b) Comprises waste passed through the devilling machine, including waste of devilled silk fabrics.

(c) Comprises waste of all kinds, carded and combed in rolls or laps.

(d) Comprises waste in the form of slivers, slubbing, etc., which, after carding, has undergone a further process before spinning. The twist of this slubbing should not exceed 100 turns per metre. No distinction is made between cultivated silk waste and wild silk waste, nor is any distinction made according to whether the waste mentioned in *(b)*, *(c)* and *(d)* is in the pure state or mixed with any other materials in any proportion.

Item 443.

This item includes all kinds of threads produced by the reeling of the silk-worm cocoons, in so far as they are not put up for retail sale.

The item is divided into two sub-items, the first of which includes raw-silk threads in skeins—that is to say, obtained by a process of simple reeling.

The second sub-item comprises all other kinds and qualities of silk threads, and is subdivided into two tertiary items : (1) unbleached threads, and (2) silk threads scoured, bleached, dyed, printed or clouded.

The first of these tertiary items is subdivided into five quaternary items under capital letters.

A includes raw silk not twisted which, instead of being on hanks, is put up on tubes, reels or bobbins.

B includes silk threads called " trams "—that is to say, thrown silk which is composed of two or more threads and has received a single twist, generally from left to right, of about 100 to 200 turns per metre. The trams are usually on hanks.

C includes threads called " organzine, singels (poils), voiles ", of a twist not exceeding 1,000 turns per metre. By *organzine* is to be understood a silk composed of two or more threads in which each single thread has received a first twist (spinning) from right to left of about 500 to 700 turns per metre and the doubled thread an additional twist in the opposite direction—that is, from left to right—usually of 475 to 600 turns per metre. Organzine is generally on hanks.

The *single (poil)* or *(voile)* is a single raw-silk thread with a twist, usually to the left, of about 3,000 to 3,400 turns per metre. For Customs nomenclature purposes, ordinary, single with a twist of not more than 1,000 turns per metre, should be assimilated to organzine. Single is usually put up on tubes, reels or bobbins.

D includes threads designated as " special finishes ", which consist of silk threads of a twist exceeding 1,000 turns per metre, called " crêpes, grenadines, singles (poils) or voiles ".

Crêpe is a double or multiple tram with forced twists generally of 2,000 to 3,600 turns per metre. Owing to the requirements of the texture of the fabrics for which it is employed, crêpe is usually put up in approximately equal quantities : right twist and left twist. In order to avoid confusion of the twists, the silk is usually dyed in different colours for each twist. These dyes, which should be superficial and temporary and disappear with scouring, need not be taken into account for the classification of crêpes.

Crêpe is put up on tubes, reels and bobbins.

Grenadine is an organzine with hard, double or multiple twist, usually with 1,500 to 2,000 spins per metre and a twist of 1,400 to 1,800 turns. Grenadine is usually put up in skeins, and, in special cases, on tubes, bobbins or reels.

Single (poil) or *voile*, with a twist exceeding 1,000 turns per metre, is assimilated to crêpe, and is often called " muslin " or " poil crêpe ".

Finally, E includes all silk threads which, owing to their being prepared differently from the threads mentioned above, cannot be classified with them. This category includes, for instance, special articles for hosiery, trimmings, sewing threads, embroidery threads, etc., which are not put up for retail sale.

The tertiary item 443*(b)*, 2, includes all thrown-silk threads not put up for retail sale, which are delivered scoured, bleached, dyed, printed or clouded.

Item 444.

This item includes all silk threads derived, not from the reeling of the silk-worm cocoon, but from the waste classified under item 442. A special sub-item has been introduced for floss-silk (schappe) threads, in view of the great difference in value between them and the threads derived from the waste from the combing of floss-silk waste included under sub-item *(b)*.

The schappe threads are composed of silk waste previously macerated and combed—that is to say, derived from the flock cleansed of all impurities and freed from the very short fibres. Consequently, the fibres constituting schappe threads are absolutely parallel, and the threads are regular, clean and have a silky and somewhat glossy appearance. The floss-silk waste threads are composed of waste from combing (floss-silk waste or poils) passed through the carding machine, and are thus derived from a product containing impurities and intertwined fibres of different lengths—usually very short. Floss-silk waste is therefore usually somewhat irregular, the component fibres not being parallel, but often forming little knots. The threads are more or less clean, but their appearance is dull rather than glossy.

These are essentially different products which perhaps should each have been given a basic item. It was decided, however, to bring them together in one item, as certain countries will find one tariff item sufficient.

As regards schappe yarns, it was proposed to subdivide them into three tertiary items : (1) unbleached, (2) bleached, (3) dyed, printed or clouded. Naturally, any country desiring to do so will be free further to subdivide the sub-items according to the various degrees of preparation—such as unbleached, bleached before spinning or bleached in the thread, dyed, printed or clouded—and also according to the count of the yarn and whether the threads are single or twisted, thus making any distinctions which may be necessary for trade purposes.

This observation is of a general character and naturally applies to all items relating to yarns of all the textile materials coming under Section XI.

Item 445.

This item comprises the threads coming under items 443 and 444 when they are composep of silk, floss silk (schappe) or floss-silk waste, mixed with other textile materials.

Nevertheless, this item does not include single threads containing a close mixture of at least 10 per cent (in weight) of fibres of wool or of fine hair, which should be classified under 504 or 506 of Chapter 47, according to the form in which they are put up.

Nor does it comprise single threads containing a close mixture of at least 10 per cent (in weight) of natural silk, natural floss silk or natural floss-silk waste, which are to be classified on the basis of the textile material which predominates in weight in the mixture.

This item includes twisted threads, one of the ends of which is of natural silk.

Subject to these exceptions, to enable threads of silk, floss silk or floss-silk waste to come under this item, the said silky materials must predominate in weight over the other textile materials of which the thread is composed.

Item 446.

This item includes all threads of silk, floss silk or of floss-silk waste coming under items 443, 444 and 445, in so far as they are put up for retail sale.

This item provides a distinct category for silk thread, with due allowance for the great difference in price between these threads and those of floss silk (schappe) or floss-silk waste.

Item 447.

This is the first item of group A,I, mentioned above. In order to avoid the necessity of repeating for each item the qualitative composition of the article, and in order not to make the heading too cumbersome, it was decided to insert A,I after the word " Ribbons ", so that the heading of the item is deemed to read as follows :

" Ribbons of Silk or Floss Silk, Pure or Intermixed."

This observation applies to all items of Chapter 46, and to all the groups mentioned therein.

The item " Ribbons " has been divided into two sub-items according to whether the article is or is not of velvet or of plush. The sub-item *(b)* " Other " is also divided into " plain " and " figured " ribbons.

Item 448.

This item comprises velvets and plushes of all kinds formed of silk or floss silk, pure or intermixed.

It was decided not to propose sub-items and to leave the individual countries entire freedom to establish such sub-items in the light of their individual requirements.

Item 449.

This item comprises fabrics called " crêpes " and is divided into two sub-items, according to whether these goods are plain—that is to say, not figured—or figured. Sub-item *(a)* is divided into five tertiary items according as these groups are : (1) unbleached ; (2) scoured or bleached ; (3) dyed or woven with threads of different colours ; (4) printed or clouded ; (5) goffered, moiré or stamped.

The various processes indicated in the five tertiary items also apply to ribbons, velvets, plushes and other fabrics, and to other articles of the textile industry. Strictly speaking, all these processes should be specified in special sub-items. Nevertheless, in view of the fact that the ten kinds of articles enumerated include certain articles which, from the point of view of the general requirements of a Customs nomenclature, can be grouped together, owing to their resemblance or to the value of the treatment to which they are subjected, it was decided to divide them only according to the five tertiary items mentioned above.

The first is reserved for the raw product, which was given a special subdivision because, usually, in the Customs tariffs, the duty levied on the raw product forms the basis of the increase imposed on successive processes of transformation.

The second tertiary item includes the process of scouring and that of bleaching, while the third comprises the dyed product, whether dyed in the piece or in the thread ; this group also includes articles composed of threads of different colours.

The fourth tertiary item comprises articles printed either in the piece, in the thread, on the warp or on the weft.

The last tertiary item comprises all processes similar to printing, but carried out on the fabric without the use of colours—that is, by a dry process, such as goffering or stamping. Moireing is assimilated to these operations.

Naturally, the above-mentioned processes may be carried out both for figured fabrics and for non-figured fabrics, but it was not thought necessary to repeat in sub-item *(b)* the tertiary items of *(a)*, as in a large number of tariffs surtaxes are imposed for " figured " fabrics and also because it will be perfectly easy for the countries which do not charge a surtax of the kind to establish such tertiary items as they need, selecting them from among the five tertiary items indicated under *(a)*.

At the same time, any countries which desire to make a distinction between fabrics dyed in the piece, for instance, and fabrics composed of threads of one colour or of different colours can, of course, easily do so by adopting quaternary items.

This observation is naturally of a general nature and consequently applies to all textile products which have the qualities or have been subjected to the processes mentioned above.

Item 450.

This is the last of the items of group A,I, and comprises all fabrics of silk or floss silk, pure or intermixed, which are not elsewhere specified—that is to say, all fabrics of this kind other than those coming under items 447 to 449 and 455 to 460.

This item should include articles called " open-woven fabrics "—that is to say, muslins, grenadines, voiles, and all extremely light fabrics ; gauzes, etamines, open-worked fabrics and, finally, close-woven fabrics of all kinds.

The item is divided into two sub-items, as in the case of crêpes, the first containing non-figured fabrics and the second figured fabrics. The non-figured fabrics are subdivided into five tertiary items in the same way as the crêpes.

Items 451 to 454.

These items form group A,II and include ribbons, velvets and plushes, crêpes and other fabrics not elsewhere specified, composed of silk or floss silk, mixed with other textiles. They also comprise articles of this kind, the weft or warp of which is formed wholly of silk or floss-silk threads, as also velvets and plushes the face of which is entirely velveted and composed of silk or floss-silk threads.

These items further include velvets and plushes having velveted or looped part of wool, cotton, etc., and the reverse side of silk or floss silk.

These articles being the same as those in group A,I, the observations regarding this last group also apply to group A,II.

The terms of this group do not cover articles which contain not more than 8 per cent in weight (or 35 per cent in number of threads) of silk or floss silk, or not more than 8 per cent in weight (or 35 per cent in number of threads) of artificial silk, floss silk or floss-silk waste or other artificial-silk materials. Nor do they include velvets, plushes or velveted ribbons, neither the right nor the reverse side of which is of silk or floss silk ; on the other hand, they include the same products which, while their right side or reverse side is not entirely composed of the above-mentioned textile materials, contain such materials in a proportion exceeding 8 per cent in weight, or 35 per cent in number of threads.

Item 455.

This is the first item of group A,III—that is to say, the group including the articles which may be composed of silk, floss silk or floss-silk waste, pure or intermixed or mixed with other textiles. This item comprises tulles and netted fabrics—that is to say, articles not made on the same looms as ordinary warp and weft fabrics are manufactured on.

It was decided to make a clear distinction between lace and the item " tulles " ; further, netted fabrics made in imitation of tulles and commonly employed as such are classified with tulles.

The item is divided into two sub-items : *(a)* plain and *(b)* figured. As has been previously pointed out, it was not thought necessary to separate tulles entirely composed of silk materials from those mixed with artificial-silk materials, or with wool, cotton, etc. Indeed, in many tariffs, the fact of a tulle containing silk is sufficient for its being regarded as made entirely of silk. According to the general rule laid down in 3 *(e)*, the present item comprises tulles and netted fabrics which contain natural-silk material in whatever proportion. Any countries which desire to make distinctions according to the quantity of silk contained in the tulles will be free to do so by providing the necessary tertiary items.

Item 456.

This item includes all lace which contains silk or floss silk, even in very small quantities.

Item 457.

This item includes trimmings of all kinds in the manufacture of which silk, floss silk or floss-silk waste is used, in whatever proportion.

However, as these are articles of totally different value, it was decided to divide trimmings into two classes according as they are formed entirely of silk, floss silk or floss-silk waste, whether intermixed or not (sub-item *(a)*) or are formed of the said silk materials mixed with other textiles (sub-item *(b)*).

Item 458.

A basic item was provided for embroidery, in view of the importance of this article and of the fact that it is entirely different from all other textile articles. This item includes hand-made or machine-made embroidery executed on fabric of natural silk or floss silk or floss-silk waste which, in view of its composition, has to be classified in group A of the present chapter.

The basic item is subdivided into two groups which form sub-items *(a)* and *(b)*.

Sub-item *(a)* includes two kinds of embroideries : " chemical " *(aérienne)* embroideries and embroideries in which the embroidered fabric is not apparent and which are called embroideries without visible ground.

In view of the fact that chemical embroideries and lace resemble each other and are used indiscriminately, the possibility of grouping these two articles together was considered ; but it was eventually decided to adopt for the classification of chemical embroidery also the technical criterion of the manufacture, which cannot be regarded as the same for lace and for chemical embroidery.

Inasmuch as, in the case of chemical embroidery, it is impossible to ascertain the quality of the frame on which the embroidery has been executed, and as, in the case of embroidery without visible ground, it is impossible to determine the quality of the ground fabric which has been removed in the process of cutting out to follow the design of the embroidery, so far as concerns the articles coming under *(a)*, the classification of the embroidery should be based on the quality of the thread used for the execution of the embroidery proper.

As these articles look like lace, the fact that the thread with which the embroidery was executed is of silk, floss silk or floss-silk waste will suffice to enable the article to be included in 458*(a)*.

Sub-item *(b)* contains all embroideries not belonging to sub-item *(a)*—that is to say, satin-stitch embroidery, chain-stitch embroidery, and their varieties, as also *appliqué* embroideries and open-worked wares.

Embroidery may be executed on ribbon, velvet, crêpe, tulle, lace or any other fabric.

Sub-item *(b)* has been divided into two tertiary items, in order to distinguish between embroidery of silk, floss silk or floss-silk waste, pure or intermixed, and embroidery of silk, floss silk or floss-silk waste mixed with other textiles. The great difference in value between the two groups is sufficient to justify this distinction.

Item 459.

This item includes carpets the face of which is formed of silk, floss silk or floss-silk waste, pure or intermixed or mixed with other textiles, whatever the weights of the canvas and of the velveted or looped part respectively.

It was considered that, in the international nomenclature, it would be sufficient to subdivide the item into two classes, by distinguishing carpets with knotted or twisted pile, hand-made, such as real oriental carpets, from all other varieties of carpets manufactured on machine-looms.

Each country may further subdivide sub-item *(b)*, " other ", by also including thereunder machine-knotted carpets, and treating these in the same way as hand-knotted carpets.

Item 460.

This item includes silk fabrics of special manufacture (gauze stitch) for the bolting of alimentary flour or other products in powder form, and made with threads of raw or unbleached silk, very strongly twisted and with exactly square openings of identical size.

Apart from gauzes in the piece, this item includes gauzes cut to measure or made up to be mounted on cylinders, flat sieves, etc., even when they are sewn or hemstitched with ribbons or filled with metallic eyes, or have been subjected to other similar methods of preparation.

Fabrics of plain cloth weave made of raw silk, of the same nature and to be used for the same purpose, are assimilated to bolting gauze.

Item 461.

This is the last item of group A—that is to say, of the natural-silk group.

This item comprises all fabrics made of floss-silk waste not included under items 455 to 459, and distinguishes between fabrics of pure floss-silk waste and fabrics of floss-silk waste mixed with other textiles, not containing natural silk or natural floss silk.

Sub-item *(b)* includes only fabrics which contain more than 20 per cent of floss-silk waste (in weight or in number of threads) ; it also comprises fabrics the weft or warp of which is entirely composed of threads of floss-silk waste.

In view of the nature of these fabrics, it was not thought necessary to make any further subdivision, according to the quality or method of marketing the said fabrics.

Item 462.

This is the first item of group B—that is to say, the group which includes all articles affecting the artificial-silk and derivatives industry.

This item includes all artificial silks, whatever process is employed and whatever materials are used in their manufacture (nitrocellulose silk or collodion silk, cuprammonium silk, viscose silk, cellulose acetate silk, etc.).

It includes threads not put up for retail sale, whether pure or mixed with other textile materials, with the exception of single threads containing a close mixture of 10 per cent at least (in weight) of woollen fibres or of fine hair, and threads containing a close mixture of less than 10 per cent (in weight) of artificial silk or artificial textile fibres, which are to be classified according to the textile material predominating in weight in the mixture.

This item includes twisted threads, one of the strands of which is of artificial silk, provided that these twisted threads contain no strand of natural silk.

The item is divided into two sub-items, the first of which *(a)* includes pure threads and is subdivided into : (1) unbleached or bleached and (2) dyed or printed. The first of these tertiary items is further divided into : (A) single threads and (B) threads with two or more strands.

Artificial-silk thread coming under this item may be put up in the form of hanks or spinning-jennies or on bobbins, reels or any other support.

Unbleached or bleached threads may be oiled or sized or not.

The single threads are composed of a certain number of fibres, emerging at the same time from a nozzle and forming a group of threads which may receive a more or less strong twist.

The single threads may therefore be divided into fibres having received a twist either of less or of more than 500 turns per metre.

By thread with two or more strands is understood single threads, joined and twisted together.

The artificial-silk industry would have liked the Customs nomenclature to take account of all the qualities of thread in question by including them under appropriate sub-items. Nevertheless, it was decided that the work of making these distinctions should be left to the various countries and that, for an international nomenclature, the four divisions proposed were sufficient.

Item 463.

The actual system of making artificial silk involves the necessity of creating the two items Nos. 462 and 463. The first of these items includes threads of artificial silk properly speaking, and the second, those which consist of a single filament, round, of the thickness of horsehair, or flat thread *(lame)*, mainly used for trimmings, braiding and the manufacture of widths of material for hat-making.

This item thus includes horsehair (artificial) and flat thread of artificial silk, obtained either direct by spinning or by cutting out or by agglomeration, provided that the width of the flat thread does not exceed 10 millimetres. Tubular threads (artificial straw) are assimilated to flat thread.

The item is divided into two sub-items : *(a)* pure articles and *(b)* mixed articles, to which apply the explanations given with regard to the mixed threads coming under item 462.

It was not thought necessary to establish other subdivisions for artificial horsehair and flat threads, so as to leave the countries quite free to arrange their own tertiary and quaternary items.

Naturally, this item should not include braided artificial horsehair and flat threads, which are to be classed as " trimmings " (item 487).

Item 464.

This item includes waste—in the mass—derived from the various processes of the manufacture of artificial silk or of the subsequent manipulation thereof. This is waste of threads of irregular length which, to be worked up, must be subjected to treatment on the opening card.

Waste in the mass derived from the devilling of artificial-silk fabrics, as well as waste of artificial textile fibres, are also included in this item.

Item 465.

This item includes artificial textile fibres, not manufactured—that is to say, which have not attained the degree of finish laid down in item 466, and which have been cut into strands of less than 2 metres in length in the mass or in bundles.

These fibres are to be distinguished from the waste mentioned in items 464 and 466, inasmuch as, when they are in bundles, all the fibres composing one bundle are of uniform length and equal to the length of the bundle ; when they are in the mass, the mass is composed of fibres of uniform length.

The fibres coming under this item cut to a length of two metres or more and presented in any form whatever, and, in particular, in laps, slivers, bobbins or hanks, are to be assimilated to the threads coming under item 462.

Item 466.

This item includes the products coming under items 464 and 465 manufactured—that is to say, combed, carded, devilled or simply drawn, but without reaching the stage of threads, whether in laps, rolls, slivers or slubbings.

To sum up, items 464, 465 and 466 include raw materials for the manufacture of so-called artificial schappe silk and of all the other kinds of yarn produced by spinning of fibres of cellulose acetate, nitrocellulose, xanthate of cellulose and cuprammonium cellulose, etc., on the same system as is employed for natural floss silk, cotton and wool.

Item 467.

This item includes threads manufactured from the artificial-silk materials coming under item 466, provided that they are not put up for retail sale.

It is subdivided into two sub-items : *(a)* for pure threads and *(b)* for threads mixed with other textiles, to which the observations relating to mixed artificial-silk thread coming under item 462*(b)* apply. Sub-item *(a)* is divided into three tertiary items : (1) for unbleached threads, (2) for bleached threads and (3) for dyed or printed threads.

Unbleached threads are divided into : (A) single and (B) twisted. Naturally, any countries which desire to do so may introduce further subdivisions.

Unbleached threads should include threads which have not been bleached, and "bleached threads" in 467*(a)*, 2, should include threads which have been bleached before spinning or bleached in the thread.

Item 468.

This item includes the threads coming under items 462, 463 and 467 put up for retail sale.

The item is divided into two sub-items, the first of which *(a)* is reserved for artificial-silk threads, pure or mixed, coming under items 462 and 463, and the second *(b)* for thread of artificial-silk waste or of artificial textile fibres, pure or mixed, coming under item 467.

Items 469 to 472 (Group B, I).

These items include the same articles as the first class of group A—namely, ribbons, velvets and plushes and other fabrics not elsewhere specified, composed of pure artificial silk. The observations relating to items 447 to 450 apply to these items.

Items 473 to 476 (Group B, II).

These items include the same articles as the previous group, in so far as they are composed of artificial silk mixed with other textiles—except natural silk, natural floss silk and natural floss-silk waste—and provided that the artificial silk is present in a proportion of more than 20 per cent in weight (or in number of threads).

Articles containing altogether more than 20 per cent in weight (or in number of threads) of artificial silk and artificial textile fibres remain in this group. It also includes the same articles having either the whole warp or the whole weft of artificial silk, as also velvets and plushes, the face of which is entirely covered and composed of artificial silk.

It also includes velvets and plushes with a velveted or looped part of wool, cotton, etc., and a reverse of artificial silk.

Subject to the exceptions provided for, the group does not include articles which do not contain more than 20 per cent of artificial silk in weight (or in number of threads).

Items 477 to 480 (Group B, III).

These items include the same articles as the two preceding groups, composed of artificial-silk waste and of pure artificial textile fibres. The observations regarding items 447 to 450 apply to this group.

Items 481 to 484 (Group B, IV).

These items include the same articles as the three preceding groups, but composed of artificial-silk waste and of artificial textile fibres mixed with other textiles—except natural silk, natural floss silk and natural floss-silk waste and artificial silk—provided that the artificial-silk waste and the artificial-silk fibres are present in a proportion of more than 20 per cent in weight (or in number of threads). The said articles containing altogether more than 20 per cent in weight (or in number of threads) of artificial silk and of artificial-silk waste or artificial textile fibres are not included in this item.

On the other hand, the said articles, the warp or weft of which is entirely composed of threads of artificial-silk waste or of artificial textile fibres, as also velvets and plushes, the right side of which is entirely covered with and composed of threads of artificial-silk waste and artificial-silk fibres, are included. This group also comprises velvets and plushes with a velveted or looped part of wool, cotton, etc., and reverse of artificial textile fibres.

The observations relating to this group are the same as for items 447 to 450.

Items 485 to 489 (Group B, V).

These items include the same articles as group A, III—that is to say, tulles and netted fabrics, lace, trimmings, embroidery and carpets.

The rules for the classification of these articles in their respective items are the same as those relating to items 455 to 459 ; nevertheless, the natural-silk materials of group A, III (as far as the articles of the present group are concerned) are substituted by artificial silk, artificial-silk waste and textile fibres of artificial silk.

The observations relating to items 455 to 459 also apply to this group.

Item 490.

This item includes bolting gauzes of artificial silk. The observations relating to item 460 also apply to the present item.

At the present time, bolting gauzes are not manufactured of threads of artificial-silk waste and artificial textile fibres ; consequently, bolting gauzes of artificial silk should more properly be classified in group B, I, but it was decided to place them in group B, V, in order to give this last group the same form as the corresponding group A, III.

Items 491 and 492 (Group C).

These items include metal thread combined with threads of textile materials (metal yarns and articles manufactured from metal thread combined or not with threads of textile materials.

Item 491 includes :

(1) Metal yarns consisting of a thread, lame, lamette, flat thread, etc., of metal twisted on a textile thread ;

(2) Threads, lames, lamettes, etc., of metal mixed with textiles or textile thread, whatever the proportion of the mixture.

These two classes of metal yarns are used in the manufacture of fabrics, trimmings, lace, etc.

As the metal thread of which the yarns are made may be of precious metal or an imitation of precious metal obtained by covering a thread of base metal with gold, silver, platinum or any other preparation, item 491 was divided into three sub-items, according to the quality of the metal thread, thus : *(a)* yarns of precious metal; *(b)* yarns of base metal silvered, gilt or platinum-plated ; and *(c)* yarns of base metal.

No distinction is made according to the nature or composition of the textile thread which constitutes the core of the metal yarn or is combined with the metal thread. Naturally, if a country required to make a distinction between different kinds of yarn on the basis of the quality of the material of the textile thread combined with the metal thread, it could subdivide the above sub-items.

Threads, lames, lamettes, flat threads, etc., of precious metal or base metal silvered, gilt, platinum-plated or other, used to manufacture metal yarns, have been given their respective items in the chapters on metals. As, however, it is possible with these threads, lames and flat threads to manufacture fabrics without their being combined with threads of textile materials, it is clear that, for the sake of simplicity of the nomenclature, the item relating to textile products mixed with these metal threads should be the same as the item relating to similar articles composed of metal yarns.

Thus item 492 was worded as follows : " Fabrics, Ribbons, Trimmings and Other Articles of *Metal Thread* or *Metal Yarn*, for Garments, Furnishings and Similar Uses".

It was proposed to subdivide this item into two main categories : ribbons and trimmings (sub-item *(a)*) and all other articles (sub-item *(b)*). It was decided to classify ribbons with trimmings owing to the very similar uses to which these two articles are put—for instance, in the manufacture of military uniforms and sacerdotal ornaments, ornamentation for bed-covers, blinds, door curtains, cushions, furniture, etc.

Indeed it is inconceivable that trimmings and ribbons composed of metal thread or metal yarn should be treated differently in a Customs nomenclature.

It is also clear that the duties imposed on textile articles manufactured from such metal thread or yarn should correspond to the quality of the metal, both in the case of specific duties and of *ad valorem* duties or surtaxes. Thus each of the two main categories of products in question has been subdivided into three tertiary items, as was done in the case of item 491—that is to say, according to whether the articles are manufactured from a precious metal, a base metal silvered, gilt or platinum-plated or from a base metal.

For the classification of articles composed of metal threads and metal yarns mixed with threads of textile materials, a note appended to the chapter lays down that articles made entirely of metal thread or yarn, as well as those the surface of which appears to be entirely covered with such thread or yarns, are included under item 492. Articles of which the warp or weft is formed exclusively of metal thread or yarn are treated in the same way.

Textile articles combined with metal thread or yarn but not complying with the above conditions are classified under the item to which they belong, according to the textile material of which they are composed.

In this connection, it must be remembered that textile threads which constitute the core of metal yarn or are combined with metal yarn are regarded as metal.

It should be pointed out that articles " the surface of which appears to be entirely covered with such thread or yarns " should be understood to include articles on the surface of which the linking points of the weft with the warp and the linking points of the textile thread with the metal thread or yarn are visible.

Further, " articles of which the warp or weft is formed exclusively of metal thread or yarn " should be understood to include those in which the weft of metal thread or yarns produces a broché or figured effect on the tissue and in which, consequently, these threads may also be cut on the underside of the fabrics between the two patterns.

This item also includes fabrics with two wefts or two warps, one of which is entirely composed of textile thread and the other of metal thread or yarns.

Chapter 47.

WOOL, HORSEHAIR AND OTHER ANIMAL HAIR.

The present chapter includes the raw materials, semi-manufactured products and finished products of the wool industry. Generally speaking, Chapter 47 includes all articles produced by the wool industry, from wool in the mass to the finest manufactured articles, and also products manufactured from horsehair and coarse animal hair. Articles belonging to the category of felts and hosiery and to that of clothing and made-up articles, however, come under Chapters 50, 51 and 52. The same applies to certain articles for technical use included in Chapter 50.

As stated in the part of the report which deals more particularly with the whole of Section XI, the provisional draft prepared in April 1930 was accepted almost in its entirety by the International Wool Federation, as it corresponded to the main lines of the proposals for the unification of the Customs nomenclature which that Federation had drawn up at meetings held by it on February 26th, 27th and 28th, 1929.

The proposals, which have assumed their final form, were unconditionally accepted by the Central Wool Committee, with a few observations of form rather than of substance, which the Committee officially submitted at Geneva on November 25th and 26th, 1930. A complete agreement was thus reached, even with the manufacturers, save that the points whether the articles composed of an admixture of wool and silk should be classified under the chapter " Wool " rather than under the chapter " Silk " were left outstanding. As already mentioned, an agreement on this question having been reached between the leaders of the International Wool and Silk Federations, with the assistance of the experts, the Customs nomenclature of the chapter on wool must also be regarded as final.

The chapter includes, in the first place, the headings relating to the raw materials : Wool (493), horsehair (494), other animal hair (495), and two items comprising waste of those materials, which also constitute raw material for the wool industry. Then comes a raw material of a different nature : woollen shoddy. After these materials come the corresponding threads, and then the articles manufactured from the different materials in the order adopted for the examination of these materials in the first items.

Item 493.

This item includes wool in the mass, of all kinds.

By " wool " is understood wool of the wether, ram, ewe and lamb, obtained by shearing or by removing the wool. Wool on skins comes under Chapter 36 (" Hides, Skins and Leather ").

The item is subdivided according to the appearance of the wool as put on the market.

Sub-item *(a)* includes wool in the mass, either in the yolk or washed on the animal's back ; sub-item *(b)* includes wool in the mass, scoured, whether or not bleached or dyed.

Wool which has been washed without being completely cleaned of the yolk is included under scoured wool. Each country will be free to subdivide *(b)* further, according to whether the wool is scoured, bleached or dyed.

Item 494.

This item includes horsehair of all kinds divided into two classes, the first for the unworked or washed, and the other for the bleached, dyed or otherwise dressed, but not curled. By horsehair is to be understood hair from the manes or tails of horses, mules, etc., to which hair obtained from the tail-tufts of neat cattle is assimilated.

Mixtures of horsehair with wool or with any other textile material are also included in this item.

By hair *otherwise dressed* is understood hair prepared, *e.g.*, for brush-making, either dyed or bound in uniform bunches with cord or any other binding tightly drawn, etc.

Curled horsehair, which is not included in this item, comes under item 499.

Item 495.

This item comprises all animal hair not elsewhere specified, unworked or washed, bleached or dyed, but not curled. There are two qualities of animal hair in the trade—fine hair and coarse hair.

Certain fine kinds of hair are used for spinning like wool : this class includes hair of alpaca, llama, vicuña, camel, Angora or Cashmere goat, Angora rabbit and other similar fine hair. Other fine hair which is unspinnable is commonly used for the manufacture of hats, brushes, harness-making, etc. This class consists of hair of the hare, rabbit (other than Angora), beaver, and other similar hair, such as nutria, musk-rat, etc. These two groups of fine hair are classified in sub-items *(a)* and *(b)* respectively.

Coarse hair and other hair which cannot be classified under *(a)* and *(b)* are grouped under sub-item *(c)*, which therefore comprises coarse hair of animals of the bovine and equine species, also of the ordinary goat and other similar coarse hair.

Pigs' and boars' bristles come under item 30 (Chapter 5).

* * *

The next two items, 496 and 497, refer to wastes of the raw materials coming under the previous three items.

Item 496.

This item comprises both wool waste and waste of all fine hair, spinnable and unspinnable, without distinction.

By wool waste is to be understood all the by-products obtained by successive processes of transforming raw wool into washed, combed, carded, spun and woven wool.

This waste may be divided into eight groups :

(1) *Sorting Waste.*—By this are to be understood the by-products from the sorting of wool :

(a) Dung bits—parts of the fleece soiled by excrement ;

(b) Pitch marks or slubbings—that is to say, slubbings of fibres bearing traces of marks indicating the ownership of the flock ;

(c) Wool earth—an earthy material mixed with fibres of wool, which falls beneath the sorting tables and is generally used as a fertiliser ;

(d) Clippings—pieces of woolly skin produced by mistakes in cutting and obtained for the most part at the time of the sorting of the fellmongered wool.

(2) *Washing Waste.*—By-products derived from the washing of the wool :

(a) Wool waste remaining at the bottom of the vat (lanetons)—a kind of felted fatty wool remaining on the grating of the leviathan washer ;

(b) Sub-gratings *(sous-grilles)*, short wool slubbings, which pass through the grating of the leviathan washer ;

(c) Wool adhering to the bands of the washing cylinders—wool of felted ribbons covering the cylinders of wool presses between one vat and another.

(3) *Combing Waste* or by-products derived from the combing of wool :

(a) Noils, the principal by-product of combing, which fall beneath the comb tenter. They may be oily or dry. They may also be carbonised—that is to say, deprived of their vegetable parts, when they are called carbonised noils ;

(b) Card fly—a by-product obtained from the process of carding which precedes combing ; it may be beaten and carbonised ;

(c) Burrs—small slubbings of wool mixed with vegetable materials (before they can be used, burrs must be carbonised, and the article thus obtained is called " carbonised burrs " ; very woolly burrs are passed through the burr picker and the burred product so yielded is a mixture of moity woollen fibres—that is to say, fibres still mixed with certain vegetable materials) ;

(d) Comb fly or down—very short fibres, rich in vegetable materials ;

(e) Combing sweepings, wool waste soiled with oil and earth, collected with the sweepings ;

(f) Card strips or card fly—waste derived from the stripping of the carding machines (this may be beaten and carbonised) ;

(g) Wool powder, very short fibres produced by the beating of waste and card fly ;

(h) Crazy wool—short down left on the carding machines ;

(i) Combing residue—small pieces of combed sliver, less than 30 centimetres in length, which are torn off in the process of combing.

(4) *Carded Spinning Waste :*

(a) Carding waste—by-products from carding-machines ;

(b) Spindle-ends—end threads adhering to spindles obtained by the divider of the third spinning card ;

(c) Carded thread waste from self-acting or continuous frame ;

(d) Card strips or card fly, as in 3*(f)* above, save that these are very oily ;

(e) Crazy wool, as in 3*(h)* above ;

(f) Combing sweepings—wool soiled with earth and oil, collected with the sweepings.

(5) *Combed Spinning Waste :*

(a) " Filasse " (laps, slubbings, slivers), pieces of combed tops—being by-products of the preparation of spinning ;

(b) Crowns—being fibres which wind themselves round the cylinders of preparing and spinning machines ;

(c) Thread waste, thread knots—these threads may be single, from " self-acting " or ring-frames, doubled (as a result of assembling) or twisted (as a result of the twisting) ; thread waste passed through the Garnett machine produces garnetted thread ;

(d) Sweepings—slubbings of wool soiled with earth and oil ; these may be fine (French spinning) or ordinary (English spinning).

(6) *Weaving Waste (including Knitting Waste) :*

(a) Thread waste from weaving—this may be of pure wool, or it may be mixed, carded or combed, and greasy, when it has been used for cleaning the looms ;

(b) Flock from the looms—very short fibres, but of regular length ;

(c) Knots formed of knotted threads, cut at the end of the weaving work.

(7) *Finishing Waste :*

(a) Ends of pieces ;

(b) Fulling fly ;

(c) Shearing fly ;

(d) Gassing fly.

(8) *Dyeing Waste :*

Felts obtained by dyeing—pieces of fulled and dyed wool.

With the exception of waste which can be used only for the manufacture of fertilisers, which are to be classified under item 342 (Chapter 35), all other waste of wool and of spinnable fine hair has been grouped under item 496. As some of this waste constitutes a raw material of some value, it was decided to classify these special qualities under two sub-items : *(a)* for noils, and *(b)* for spinning waste, all the rest being grouped under sub-item *(c)*.

Sub-item *(a)* thus comprises the wastes dealt with under 3*(a)* and 4*(a)* of the previous list ; said wastes generally have the appearance of wadding—*i.e.*, the form taken by the short hairs which adhere to the card cloth at the base of the card staple.

Sub-item *(b)* comprises the articles reviewed in 4*(b)* and *(c)* and 5*(a)*, *(b)* and *(c)* of the above list. The wastes coming under 6*(a)* and *(c)* and 7*(a)* are assimilated to them.

All other wool wastes enumerated above must, subject to the aforesaid exceptions, be classified under sub-item *(c)*, which also comprises waste derived from the preparation of other fine hair—that is to say, unspinnable fine hair.

No distinction is made between raw waste and bleached or dyed waste, the different countries being free to make such distinction or not, according to their special requirements.

It should, however, be noted that the item refers only to unworked waste, as carded or combed waste is classified with carded wool and hair under item 500.

Item 497.

This item includes waste derived from processes to which horsehair and coarse hair, washed, discoloured or dyed, are subjected.

Item 498.

This item includes wool obtained by tearing up rags or stuff or knitted-ware clippings and yarn waste, consisting of pure or mixed wool—that is to say, in general, the product variously known as " *laine Renaissance* ", " pulled rags ", " *Kunstwolle* ", " *lana meccanica* ", " shoddy ", " mungo ", " extract wool ", etc.

This item, of course, includes the product raw, bleached or dyed, provided that it is made up in the mass—that is to say, neither carded nor combed, these latter operations causing it to come under item 500.

Shoddy produced by the tearing up of coloured rags or clippings, which has a coloured appearance derived from the colours of the stuffs thus torn up, will not be regarded as dyed. Woollen rags not torn up are included with rags of other textile materials in Chapter 53 (" Rags and Scraps of Textile Material ").

Item 499.

Under this item are to be included curled coarse horsehair and other animal hair prepared for saddlery, bedding, harness-making and made up in twists, etc., whether or not mixed in any proportion with so-called " vegetable hair ".

The special articles that are at present used for padding cushions and coachwork are also to be regarded as falling under this item. These articles are composed of laps of horsehair and coarse hair consolidated either by means of a coarse fabric or by sizing with rubber.

This item further includes curled horsehair that has been bleached or dyed, together with mixtures, intended for padding, of curled horsehair or other coarse animal hair with waste of horsehair or other hair, of wool and of vegetable matters.

Item 500.

This item comprises every kind of wool, including mechanically produced wool and carded or combed hair, in laps or strips.

It also includes waste of wool and fine hair, carded or combed.

It was decided not to propose any subdivisions of the basic item, in order to leave each country entirely free to separate the various semi-manufactured products which come under this item according to their nature (wool, hair, waste), the mechanical process to which they have been subjected (carding, combing), and the kind of make-up (unworked, bleached, dyed, or printed).

This item includes slubbings or slivers measuring not more than 800 metres per kilogramme which have received only a very slight degree of twisting.

* * *

The next six items include threads manufactured from the raw materials, and from waste of those raw materials, enumerated in items 493 to 498.

Items 501 and 502.

These two items include thread and yarn entirely composed of wool, wool waste, wool shoddy, pure or intermixed.

A long discussion took place as to the utility and expediency of separating in two basic items carded wool yarn and combed wool yarn, after taking into consideration the difficulties which might be encountered with the Customs authorities in regard to the classification of certain types of thread and yarn. It was decided, in order to meet the wishes of the International Wool Federation, not to group carded wool yarn along with combed wool yarn under one single item with two sub-items, but to clearly separate them as follows : woollen thread and yarn, carded (item 501) ; woollen thread and yarn, combed (item 502).

By carded woollen thread and yarn are understood yarn manufactured according to the process of spinning employed in the case of carded wool—that is to say, woollen yarns which are obtained by the spinning of the *carded* slivers fed direct to the spinning looms, while combed wool yarns are derived from *carded* slivers which have been subjected to a number of successive processes of drawing out and combing,—usually on the comb tenter—the combed slivers being then drawn out into slubbing which is then spun. These various systems of spinning give the carded woollen yarns a woollen (plushy) appearance and they seem to be thicker than the combed threads of the same kind. The fibres are not entirely parallel and are interwoven with several small knots. The length of the fibres is irregular. The combed wool yarns do not contain short filaments, as these have been removed by the combing. The filaments are parallel and only slightly curled. These yarns are smooth and have no knots, as have carded yarns.

The two items are divided into two groups : *(a)* single thread and yarn, *(b)* twisted thread and yarn; and each group is further divided into two classes : (1) unbleached, and (2) bleached, dyed or printed.

It was decided that yarns and threads composed entirely of wool, or obtained by closely mixing or twisting wool with fine hair, should be included under these items, and further that :

(1) Twisted yarns composed of a carded yarn and a combed yarn should be considered combed ;

(2) Single yarns called *carded-combed* should be assimilated to combed yarns ;

(3) Yarns made of natural black wools should be classified as unbleached yarns ;

(4) So-called " *grisaille* " yarns—that is to say, yarns obtained from wool waste of different colours, the colour of the said yarns being simply that of the waste forming the raw material—should be included under unbleached yarns ;

(5) Mixed yarns composed of unbleached wool and bleached wool should be included under bleached yarns ;

(6) Yarns obtained by uniting two slubbings of different colour (coloured twist yarns) and those obtained by intentionally mixing fibres of different colours (mixed yarns) should be classified as dyed ;

(7) Flake yarns (printed in the yarn) and those obtained by printing the tops (*Vigoureux* system) should be included under printed yarns ;

(8) Looped, waved and similar yarns should be included under twisted yarns, according to kind.

In the case of wool yarns, it is, of course, open to the different countries to introduce sub-items for the different counts of yarn, whether single or twisted, and further to distinguish, if they so desire, between bleached, dyed and printed yarns.

Item 503.

This item includes thread and yarn made entirely of fine hair mentioned in item 495*(a)*.

The item has been subdivided into two groups : *(a)* single thread and yarn ; *(b)* twisted thread and yarn. Tertiary items were not thought necessary, since, under many tariffs, the same Customs regulations apply to these kinds of yarn as to wool yarns, except in the case of mohair yarns, which are generally placed under a separate item and are subject to lower duties than wool yarns or are free of duty.

Item 504.

This item comprises thread and yarn coming under items 501, 502 and 503, the composition of which includes other textile materials except those which, according to 2 of the general notes on Section XI, contain silky materials and should come under the respective

items of Chapter 46, and of those containing a smaller proportion (by weight) of wool than of other textile materials. This item should therefore include :

(a) Single yarns and threads containing a close mixture of at least 10 per cent (in weight) of fibres of wool or of fine hair, with or without a mixture of natural silk, artificial silk or artificial textile fibres ;

(b) The twisted yarns and threads composed of the single yarns and threads referred to in *(a)* above ;

(c) Twisted yarns and threads, one ply of which is made of wool or fine hair, including cases where such ply comes under the provision of *(a)* above ;

(d) Subject to the above exceptions, single and twisted yarns and threads in which wool or fine hair predominates in weight over the other textile materials composing the mixture or the yarns.

This item includes yarns and threads, single, twisted, unbleached, bleached, dyed, printed, etc. It was decided not to introduce sub-items, in order to leave the countries a greater degree of freedom in the subdivision of the articles contained in this basic item.

Item 505.

This item comprises thread and yarn of coarse hair and horsehair pure or intermixed, or mixed with vegetable textile materials. It naturally includes threads and yarns of coarse hair or horsehair mixed with wool or with fine hair, when the weight of the two last-mentioned materials is less than that of the coarse hair or horsehair.

It was decided not to make any distinction with regard to the make-up or quality of the yarns, and consequently the item includes yarns, single, twisted, unbleached, bleached, dyed, printed, etc.

If they so desire, the various countries may themselves subdivide this item, in which yarns composed of humain hair should also be included.

Item 506.

This item includes the yarns classified in items 501 to 505, in so far as they are put up for retail sale.

It was not thought necessary to subdivide the item into sub-items, although, in the case of certain yarns coming under it, there is no corresponding preparation for retail sale.

Item 507.

This item includes all fabrics of wool which are to be classified in Chapter 47 but have no special item in this chapter—that is to say, most of the fabrics proper used for making up clothing, etc.

It therefore includes :

(a) The fabrics made from the yarns coming under items 501 to 504 ;

(b) Mixed fabrics, not included in Chapter 46, in which the whole warp or the whole weft is composed of wool or fine hair, and the weft or warp is composed of horsehair, of coarse hair or of textile materials coming under Chapters 48 and 49 ;

(c) Mixed fabrics, not coming under Chapter 46, in which wool and fine hair predominate in weight over the other textile materials composing the fabric (see explanatory notes on item 516).

As in the case of fabrics composed of silk material, fabrics of pure wool have been separated from fabrics mixed with other textile materials ; consequently, the sub-item "of pure wool" comprises fabrics of actual wool, fabrics of fine hair and mixed fabrics made of wool and fine hair.

Nevertheless, if a country prefers not to discriminate between a fabric of pure wool and a woollen fabric containing a small quantity of silk within the limits allowed by 3*(f)* of the general notes, the fabrics must obviously be classified, not in sub-item *(a)*, but in sub-item *(b)*, under a special tertiary item.

Item 507 includes woollen fabrics of every kind—unbleached, bleached, dyed, woven in colour, printed, non-figured, figured, etc.

It was discussed whether, in the case of woollen fabrics, a distinction should be made between fabrics of carded wool and those of combed wool, but it was found that a clear distinction between these two categories, which is easier of application in the case of yarns, might be rather difficult in the case of fabrics, and especially certain kinds of fabrics.

It was therefore considered preferable to leave any country which desired to do so to make such distinction and draw up appropriate rules.

Item 508.

The provisional draft Customs nomenclature placed fabrics of felted wool for paper-making and for other technical purposes in Chapter 50. The International Wool Federation pointed out, however, that the manufacturers of this special kind of fabric had requested the inclusion of their products in Chapter 47, "Wool", if only because they belonged to the national wool

organisations and that their desire had given rise to a resolution adopted by the European manufacturers at a general meeting held in Paris in December 1929.

Consequently, felted fabrics were taken out of Chapter 50 and placed in item 508, which thus includes closely woven woollen fabrics made of one or more warps and then usually raised and more or less fulled, so that the texture of the fabrics sometimes becomes invisible.

These fabrics, which are generally used in the unbleached state, look like felt and are used for covering cylinders of machines for the manufacture of paper, paper pulp and for other technical purposes.

This item also includes felted fabrics in the piece and those woven endless in the form of sleeving. It also naturally includes felted fabrics of this kind, composed of wool mixed in any proportion with other textile materials.

Item 509.

This item includes blankets (or coverings) of wool or coarse hair and is divided into three sub-items :

(a) Of pure wool ;
(b) Of mixed wool ;
(c) Of coarse hair.

The term " blankets (or coverings) of pure or mixed wool " also includes blankets of fine hair, pure or mixed with wool, or mixed with other textiles.

By blanket (or covering) is understood a fabric cut in pieces, usually oblong in shape but sometimes square, and the pattern, finish, hem and size of which show that it is intended to cover human beings or animals.

Blankets (or coverings) coming under item 509 include blankets for beds and travelling-rugs, horse-clothing and swaddling-cloths. It also includes travelling-shawls (plaids) and ponchos weighing more than 400 grammes per square metre.

By blankets are to be understood, besides fabrics of the above-mentioned materials cut to measure, fabrics in the piece with stripes, borders or some other indication of the points at which the blankets are to be separated from each other.

Hemmed blankets, also if whipstitched or bordered even with ribbon or braid containing silk, are included under this item.

Woollen fabrics which, although intended to cover beds, have not the characteristics of blankets—thickness, strength, raised nap—and are not obviously intended for the purpose for which blankets are generally used (preservation of warmth or protection against cold), are to be classified as fabrics according to their kind.

Travelling-rugs are generally bordered with ribbon on the four edges. Rugs composed of two stuffs laid one on top of the other, and joined together by sewing at the edges, are not excluded from the heading, even if such sewing is covered with braid, ribbon, cord or fringe.

By plaid is understood a special type of shawl used for travelling and which for this reason might be called " travelling-shawl ". It generally has fringes at the two ends. Its length is greater than its width and it is woven with a warp and a weft of the same nature and quality and usually has a check pattern. In Scotland, its country of origin, it is part of the national dress and is worn on the shoulders just like a kind of shawl.

Plaids weighing not more than 400 grammes per square metre are not to be included in item 509, but, like other shawls, are to be classified as fabrics according to kind or otherwise in item 591*(c)*. These shawls nearly always have fringes woven on the four edges ; they are used as garments and are therefore worn on the person ; they are square in shape and light, and have patterns and colours suitable for the purpose for which they are intended.

Blankets (or coverings) remain under their respective sub-items, whether they are unbleached, bleached, dyed or woven in colours, plain or figured, damask or worked with the Jacquard machine, printed, clouded, etc.

All the remarks on *(a)* and *(b)* of item 507 naturally apply equally to *(a)* and *(b)* of the present item.

Blankets (or coverings) of all kinds made of velvet or plush are not included in the present item and are to be classified in item 510.

Item 510.

This item includes velvets and plushes entirely composed of wool or fine hair and also those the velveted or wrinkled part of which (right side), entirely covering, as it does, one side of the fabric, is composed of wool or fine hair. This item naturally does not include velvets and plushes which, in virtue of their composition, come under the respective headings of Chapter 46 : " Silk ".

It was decided not to introduce any sub-items and to leave it to each country concerned to adopt any subdivisions deemed necessary.

The present item includes velvets and plushes unbleached, dyed, printed, stamped, figured or prepared in any other way.

Item 511.

This item includes carpets of wool and of coarse hair of all kinds which, according to the general rules of classification (3*(d)* of the general notes on Section XI), are to be regarded as of wool or of coarse hair.

Naturally, carpets of wool include carpets of fine hair.

This item is divided into two sub-items : the first *(a)* comprises carpets of wool and fine hair and the second *(b)* carpets of coarse hair.

Sub-item *(a)* includes carpets composed wholly or partly of woollen or fine hair yarn, unless they contain so large a quantity of coarse hair that they are rather to be regarded as carpets composed of coarse hair mixed with wool, in which case they must be included under sub-item *(b)*.

Item 512.

This item includes ribbons of all kinds which, according to the general rules, are to be classified in the chapter on wool.

As the ribbons are composed of a warp and a weft, like fabrics, the rules governing the classification of fabrics are also applicable to ribbons. As, however, this item includes both non-velveted and velveted ribbons, the latter ribbons should be classified in the present item with reference to the rules drawn up in 3*(c)* of the general notes on the section.

This item includes ribbons, plain or figured; ribbons, unbleached, bleached, dyed, printed, goffered, stamped, etc. Naturally, ribbons of wool also include ribbons of fine hair.

Item 513.

This item includes trimmings of all kinds containing wool or fine hair in any proportion, but without admixture of textile materials, coming under Chapter 46.

Item 514.

This item includes lace, tulle and netted fabrics which, while not containing silk materials coming under Chapter 46, are made of yarns of wool or of yarns of fine hair in any proportion.

It was not thought necessary to separate lace from tulle and netted fabrics or to distinguish between such articles figured and not figured, bleached, dyed, etc.

Item 515.

This item comprises embroideries of wool and fine hair, divided into two classes : *(a)* chemical embroidery and embroidery without visible ground and *(b)* other embroideries.

Item 516.

After examining, in items 507 to 515, all the articles manufactured from wool or fine hair, it was found necessary to classify the articles manufactured from horsehair or horsehair yarns coming under item 505.

It seemed sufficient to group all these articles in one basic item, separating them into two sub-items : *(a)* fabrics ; *(b)* other articles.

This item comprises articles of horsehair, pure or mixed with other textile materials, provided that, in the case of fabrics and ribbons, there is no warp or weft composed of silk materials coming under Chapter 46 or of wool or fine hair.

The general rules on Section XI, therefore, apply also to the classification of fabrics and other articles included in the present item.

It should be pointed out that articles of the kind made of human hair are to be regarded as coming under the present item.

Item 517.

This item comprises, by analogy with the preceding item, fabrics and other articles of coarse hair not elsewhere specified.

It was not thought necessary in the case of this item to make any subdivisions, the observations referring to the preceding item also applying to this item.

Chapter 48.

COTTON.

This chapter is devoted exclusively to the cotton industry.

The nomenclature first deals with the raw material and with waste, which itself constitutes a raw material of the cotton industry, then takes up the semi-manufactured products—that is to say, yarns of all kinds—and closes with finished products : fabrics, blankets, velvets, carpets, ribbons, trimmings, tulles, lace and embroideries.

The following have been taken out of this chapter and placed in Chapter 50 (" Special Fabrics and Articles used for Technical Purposes ") : Absorbent cotton-wool, wadding, felts, cabling, cordage and twine (whether plaited or not), fishing or hunting nets and similar articles, tubing, transmission or conveyer belts, fabrics specially prepared for bookbinding, drawing and painting, waxed or oiled cloths, fabrics covered with a coating having a base of cellulose, elastic fabrics, ribbons and trimmings, rubbered cotton fabrics and other cotton articles for technical uses. Finally, in accordance with what has been said above, hosiery of cotton is classified in Chapter 51.

It should be pointed out that, even in the case of the nomenclature regarding thechapt er " Cotton ", the provisional draft had been communicated to the associations concerned who had proposed certain changes, several of which have been accepted and appear in the nomenclature on this chapter.

Item 518.

A basic item has been introduced for raw cotton in the mass, which includes the various qualities of cotton, whether ginned or not.

Item 519.

This item comprises cotton waste and devilled cotton, raw.

It was decided to include devilled cotton in the item reserved for waste, so as not to have two obligatory basic items for these products. Any countries which desire to do so can show devilled cotton waste separately and place it under a special sub-item.

It was thought expedient, however, to separate from all other wastes cotton-seed waste, which cannot be used for spinning and is called " linters " ; these have been placed under sub-item *(a)*.

Sub-item *(b)* comprises carding, combing and spinning waste, also wastes obtained by devilling cotton stuffs, all qualities of devilled cotton (not in the form of laps), waste yarns no longer fit to be treated as yarns, and weavers' waste.

All the articles classified in the present item must be in the raw state, but cotton yarn waste of several tints forming a variegated mass must not, of course, be considered as dyed waste.

Item 520.

This item comprises cotton, cotton waste and devilled cotton in the mass which has been worked in any way, with the exception of absorbent cotton-wool, classified in item 562.

The present item comprises the above-mentioned articles which have been cleaned, washed, freed from grease, bleached or dyed, but not carded or combed.

Item 521.

This item comprises cotton and cotton-waste and also devilled cotton, carded or combed, either raw or cleaned, washed, freed from grease, bleached or dyed, with the exception of absorbent cotton, which, in the carded state, will always come under item 563 *(b)* (absorbent wadding or cotton-wool).

The articles comprised in this item, when worked up into rovings to which a twist has been imparted, are to be classified as yarn.

* * *

Items 522 to 526 comprise various kinds of cotton yarns. It was decided to make a basic item for pure cotton yarn, single, with sub-items corresponding to the various processes to which it can be subjected, and then to introduce two items—one for cotton thread or yarn, twisted, and the other for cotton thread or yarn, cable twist. The other two items comprise, one, cotton thread or yarn mixed with other textile materials, and the other, cotton thread or yarn, pure or mixed, put up for retail sale.

This system of classification was regarded as more practical than that found in certain Customs tariffs, and consisting in introducing a single basic item for cotton yarns and subdividing it into two sub-items, one for single yarns and the other for twisted yarns, and setting up for each of said sub-items as many tertiary items as there are processes to which the yarns can be subjected.

The adoption of the first system is also justified by the fact that the second would have entailed the creation of quaternary sub-items relating to the groups dealing with the various counts of the yarns, and would thus overburden the nomenclature, more particularly in countries not desiring to adopt the system of a surtax on each process to which the product is subjected.

Item 522.

This item comprises cotton thread or yarn, single, in any form—that is to say, irrespective of the process to which the single yarns have been subjected. For these different processes five sub-items have been created : *(a)* for unbleached yarns, *(b)* for bleached yarns, *(c)* for dyed or printed yarns, *(d)* for mercerised yarns, and *(e)* for glazed yarns.

It was considered that five sub-items would meet the requirements of any national tariffs.

As regards the definitions of the above-mentioned qualities of yarns, the list of definitions should be consulted. It is sufficient to say here that by " mercerised yarns " are understood those which have undergone the process of mercerisation—that is to say, which have been passed through a bath of soda while being subjected to high tension. This treatment gives to the mercerised yarns the gloss and feel of silk, while increasing their strength and their capacity to absorb colouring matter.

By " glazed cotton yarn " should be understood yarns which, after bleaching or dyeing, have been given a special dressing which covers the " raising " and makes the yarn smooth and glossy.

The question was discussed whether double spun yarns should be classified among single or among twisted yarns, and it was decided that, as these yarns were single, they should be classified with single yarns, any countries which so desired being free to create a special sub-item for them.

Juxtaposed, parallel or so-called " folded " (binati) yarns, without a twist or with a very slight twist, are also to be regarded as single yarns and not twisted yarns.

" Vigogne " yarns of pure cotton, single, are to be classified among the cotton yarns of the present item.

Item 523.

This item includes pure cotton thread or yarn which has been subjected to the process of twisting, whether it is unbleached, bleached, dyed, printed, mercerised or glazed.

The twisted yarns coming under this item are obtained by assembling several elementary threads (single threads) twisted together.

It was decided not to introduce for this item the sub-items provided for in the case of single yarns. Since, as a general rule, the tax assessment of twisted yarns depends largely on that of single yarns, and since either surtaxes or fixed duties, including the portion relating to the process of twisting, are applied, each country will be free, according to which of the two systems it adopts, to establish, with or without special sub-items, the classification of the twisted yarns on the basis of that of the single yarns.

Item 524.

This item comprises pure cotton threads or yarns, " cable twist " or with a double twist—that is to say, yarns obtained by twisting together two or more twisted yarns or one or more twisted yarns with one or more single yarns, irrespective of the direction of the second twist.

The present item naturally includes all cabled cotton yarn or thread, unbleached, bleached, dyed, printed, mercerised, etc.

Item 525.

This item should include threads or yarns of the qualities enumerated in items 522 to 524, provided that they are mixtures of cotton with other textile materials coming under Chapter 48 in virtue of general note 2 *(a)*, *(b)* and *(f)* relating to Section XI.

So-called " vigogne " yarns containing less than 10 per cent (in weight) of wool are included here.

The present item naturally includes yarns or threads, single, twisted, unbleached, bleached, dyed, printed, mercerised, glazed, etc.

It was considered preferable not to introduce subdivisions and to leave the various countries free to establish such subdivisions according to the requirements of their own tariffs.

Item 526.

This item includes the yarns or threads which, in view of their nature, were dealt with in items 522 to 525, but which, owing to the process employed in their production, must be regarded as put up for retail sale.

* * *

The next three provisions comprise cotton fabrics which form the most important part of the cotton industry and trade.

As cotton fabrics may be divided into two main classes according as they are of pure cotton or cotton mixed with other textile materials, each of these classes being in its turn subdivided into non-figured cotton fabrics and figured cotton fabrics, three basic items were

regarded as adequate to meet the requirements of the national tariffs : one for pure cotton fabrics not figured, a second for pure cotton fabrics figured, and a third for cotton fabrics mixed with other textile materials, whether figured or not.

Item 527.

This item comprises pure cotton fabrics not elsewhere specified or included, which are not figured.

The item has been divided into seven sub-items comprising the various forms in which cotton fabrics are placed on the market.

Thus, we have: *(a)* unbleached fabrics, *(b)* bleached fabrics, *(c)* dyed fabrics, *(d)* printed fabrics, *(e)* fabrics made of threads of different colours, *(f)* mercerised fabrics and *(g)* glazed, moiré or goffered fabrics.

No other subdivision has been provided. Thus, whether the system of surtaxes or that of inclusive duties is adopted, it will always be possible and easy to establish the various graduated scales based on the weight of the fabric as compared with its surface and on the number of threads contained in the warp, in the weft, or in both, for a given surface.

Item 528.

This item comprises the cotton fabrics dealt with in the preceding item, but figured. It was deemed necessary to separate broché fabrics from other qualities of figured fabrics owing to the great difference in the method of manufacture of these two qualities of fabrics.

Sub-item *(a)* includes both feather-stitch broché fabrics and fabrics figured by extra floating weft, shuttle-broché fabrics (weft-figured with the swivel slay) and warp-figured fabrics called lappets.

Sub-item *(b)* comprises all other figured fabrics which cannot be classified under *(a)*.

It was not deemed necessary to introduce any subdivisions for this item either.

Item 529.

As stated above, this item comprises the fabrics dealt with in items 527 and 528, composed of cotton mixed with other textile materials which, in virtue of the general notes on Section XI, come under the present chapter. This item includes, in particular, fabrics the warp or weft of which is entirely composed of cotton and the weft or warp of which respectively is composed of other vegetable textile materials, with the exception of flax, hemp and ramie. In accordance with general note 3*(a)*, it was agreed that the latter kind of fabric belonged rather to the flax industry than the cotton industry and that, for that reason, they were classified in Chapter 49 (flax, hemp, ramie). This exception holds good even when the warp or weft of flax, hemp or ramie is not entirely composed of threads of these textile materials, but also includes cotton threads which form bands or stripes or which are simple ornamental threads.

The present item also comprises fabrics manufactured from one kind of thread composed of two or more textile materials thoroughly mixed and classified under item 525, and also fabrics manufactured with other qualities of threads which also come under this last item.

Finally, item 529 comprises all other cotton fabrics which, not being included in the items of the other chapters, must come under Chapter 48, because cotton predominates in weight over the other textile materials composing such fabrics. In view of the complexity of this item and the large measure of liberty which must be left to the various countries in order to enable them to adapt it to their requirements, especially as regards the classification of fabrics containing a small quantity of other silk or wool textile materials, it was not thought desirable to introduce sub-items.

Item 530.

This item corresponds to item 508 and comprises cloth of felted cotton for paper-making and for other technical purposes.

These fabrics are closely woven fabrics of cotton mixed or not with other textile materials (except wool and animal hair), which are composed of one or more superimposed layers closely interwoven. These fabrics are often raised and are afterwards more or less fulled, then having the appearance of felt (see explanatory note to item 508).

Item 531.

This item comprises a kind of fabrics which, owing to their special process of manufacture, should be separated from other fabrics.

By gauze-woven fabrics are meant fabrics in which the warp consists of two kinds of threads—the one stationary and known as the straight or ground thread, the other mobile and known as the twisting or crossing thread.

The twisting thread takes round the straight thread a half cross, a full cross, or even a cross and a half, thus forming a loop in which the weft is caught.

Gauze-woven fabrics are generally produced with the standard harness (leno or gauze

harness), but it is not impossible that other systems may be used to secure the gauze effect ; these are, however, merely mechanical devices to increase the output of the loom.

The item is divided into two groups : *(a)* not figured, and *(b)* figured. The first group has four subdivisions, based on the form in which the fabrics are placed on the market : (1) unbleached, (2) bleached, (3) dyed, printed or woven with threads of different colours, and (4) mercerised. The second group, which has no subdivisions, comprises broché or otherwise figured fabrics, as in item 528.

As gauze-woven fabrics include fabrics the surface of which is partly gauze woven and partly close woven, sub-item 531 *(b)* is to comprise both fabrics which are figured or broché in the close-woven part (according to the definitions laid down for fabrics coming under item 528) and fabrics which are figured in the gauze-woven part.

Gauze-woven fabrics manufactured with equal crossings are regarded as not figured. Other gauze-woven fabrics are to be regarded as figured, especially if they have successively varying crossings or when the crossings alternate with a plain or other weave and form special patterns, or have irregular-shaped openwork.

Fabrics incorrectly called " gauzes " and " etamines ", manufactured exclusively with a plain weave, do not come under the present item, but are to be classified according to the nature of their weave and their characteristics.

Item 532.

This item includes all kinds of cotton blankets or coverings, whether (as in the case of woollen blankets or coverings) they are intended to be used for preservation of warmth or protection from cold or for covering beds.

It should be observed that all the standards laid down for woollen blankets or coverings (see explanatory notes to item 509) apply to cotton blankets or coverings, so far as the different properties of the two forms of textile material permit. It is further agreed that this item includes cotton fabrics which, by reason of their weave (piqué, rep, etc.), design, edging, thickness, dimensions, etc., are obviously intended for use as bedcovers (counterpanes).

With bedcovers must also be classed dressing-table covers, which have the same characteristics as bedcovers and differ from them only in their dimensions.

Their classification remains unchanged, whether the bedcovers and dressing-table covers are hemmed or trimmed with fringes—including added-on fringes. Bedcovers or counterpanes made of tulle or bobbinet-tulle are not included in this item, but are classified with tulle in items 537 and 538 or among ready-made articles of clothing, according totheir characteristics.

Item 533.

This item includes two special categories of cotton fabrics : *(a)* cotton velvets and plushes ; *(b)* looped-pile terry cloths, which are in several tariffs grouped with velvets, owing to their resemblance to looped velvets.

It was originally intended to create two basic items for these articles, but it was decided that two sub-items would be sufficient.

By looped-pile terry cloths are understood fabrics made with two warps and a ground weft ; the ground warp is plain and taut, while the second warp is loose and forms the loops, which gives the surface a more or less velvety appearance.

With regard to cotton velvets and plushes, it was decided to indicate in which sub-items they were to be distributed, and the three tertiary items comprise the three main categories of cotton velvets—that is to say, weft velvets, warp velvets and chenille velvets.

It is understood that, in each class of velvet covered by *(a)*, the unbleached may be distinguished from the bleached and from the dyed, etc., and the plain from the figured, goffered, etc.

The classification of cotton velvets mixed with other textiles shall be governed by the rules contained in the general note 3*(c)* and *(f)* to Section XI. The classification of looped-pile terry cloths of cotton, whether mixed with other textiles or not, will be governed by the rules applicable to the fabrics coming under item 529.

Item 534.

This item comprises carpets which, according to the rule contained in the general note 3 *(d)* to Section XI, are to be classified in Chapter 48.

The principles of classification laid down for similar items in the preceding chapters also apply to this item, for which it was not thought necessary to create sub-items.

Item 535.

This item, which contains all ribbons of cotton, pure or mixed with other textile materials, which come under this chapter, has been divided into two sub-items : *(a)* ribbons of velvet or plush ; and *(b)* other kinds of ribbons.

This second sub-item has been further subdivided into three groups :

(1) Ribbons composed only of sized warp threads ;
(2) Plain woven warp and weft ribbons ;
(3) Figured woven warp and weft ribbons.

Ribbons formed of cotton fibres stuck together are assimilated to ribbons of sized cotton thread.

The rules laid down for the classification of velvets and plushes coming under item 533*(a)* also apply to the classification of velvet ribbons ; the rules adopted for the classification of the fabrics coming under items 527 and 528 also apply to the classification of the ribbons coming under *(b)*, 2 and 3.

Item 536.

This item comprises all kinds of trimmings which, in virtue of the general notes on Section XI, are to be regarded as made of cotton. Thus, the present item includes trimmings made entirely of cotton and those which, while containing neither silk materials coming under Chapter 46 nor wool or fine hair, do contain a larger percentage (by weight) of cotton than of the other textile materials of which the trimmings are composed.

* * *

The next three items comprise tulles and netted fabrics and lace of cotton, either pure or mixed with other textile materials, except the textile fibres coming under Chapter 46 and except also wool and fine hair, provided that the cotton predominates (in weight) as compared with the other textile fibres.

Two basic items have been introduced for tulles and netted fabrics, according to whether they are plain or figured.

As regards lace, one basic item was deemed sufficient.

Item 537.

This item, which comprises non-figured tulles and netted fabrics, has been divided according to whether the articles in question are unbleached, not dressed or dressed, bleached, dyed, etc.

Sub-item *(a)* should therefore include tulles and netted fabrics as they leave the loom.

Item 538.

This item comprises the same articles as the preceding item, but figured.

It has been divided into two sub-items, in order to separate from other figured tulles and netted fabrics the kind of figured tulle known as bobbinet-tulle. Each of these two sub-items is divided into two tertiary items as in item 537, in order to distinguish between articles unbleached, not dressed, and all the others.

Item 539.

In view of the great importance of cotton lace in world trade, it was thought necessary to provide for these laces a basic item without, however, suggesting any sub-items, since laces are classified in many countries according to whether they are made by hand or by machine, and machine-made laces are further classified according to the kind of loom employed.

Item 540.

Item 540 comprises such embroidery as is to be regarded as made of cotton, in accordance with what has been said with regard to the analogous items of Chapters 46 and 47.

Whereas, in the case of silk and woollen embroideries, it was deemed sufficient to separate aérienne embroidery and embroidery without visible ground from other kinds of embroidery, it was thought necessary in this case to divide embroidery with visible ground into two categories, according to whether the ground on which the embroidery has been executed is either of tulle or lace, or of another kind of cotton fabric, cotton felt, velvet, etc. As regards these two qualities of embroideries—viz., *(b)* on a ground of tulle or lace, and *(c)* on a ground not specified—it was also found necessary to make a further distinction according to whether the embroidery is chain-stitched or satin-stitched, and other.

The five subdivisions thus created for item 540 are regarded as sufficient for an international Customs nomenclature.

It was decided to include under cotton embroidery embroidery executed on fabric without visible ground and aérienne embroidery, into which cotton thread enters in any proportion, even if mixed with threads of other textile material, except those coming under Chapters 46 and 47.

Chapter 49.

FLAX, HEMP, JUTE, RAMIE AND OTHER VEGETABLE TEXTILE MATERIALS.

This chapter comprises all vegetable textile materials, except cotton, both in the raw state and in the semi-manufactured or manufactured condition.

It deals with a number of textile materials which, while less important than cotton, are put to many different uses.

It comprises textile fibres of flax, hemp, jute, ramie or china-grass, abaca, *phormium tenax*, sunn, agave, sisal, aloe, pineapple, coconut, etc.

This chapter also includes textilose fibres (a combination of paper or cellulose with other textiles), vegetable downs other than cotton, which are used like the latter in the textile industry, fibres of ligneous peat and so-called pine wool.

On the other hand, esparto, alfa, diss, kapok and raffia, raw, are included in Chapter 14 ; but yarns and fabrics made of kapok are comprised in the present chapter.

As explained in the previous chapter, certain special manufactured products or products used for technical purposes, composed of textile materials coming under this chapter, have been excluded from this chapter and placed in Chapter 50. These products are, among others : wadding ; felt ; cabling ; cordage and twine ; fishing, hunting and similar nets ; ropemakers' wares ; transmission or conveyer belts ; fabrics specially prepared for bookbinding, drawing and painting ; waxed, oiled, asphalted, tarred and rubbered cloths, and the like ; linoleum, lincrusta and similar articles ; elastic fabrics and other articles used for technical purposes.

As in the case of other chapters, the order of the items in Chapter 49 is as follows : raw materials in their original state and semi-manufactured ; yarns fabrics and other articles enumerated in the order of the raw materials of which they are composed.

Item 541.

This item comprises flax fibres in any form of make-up.

Accordingly, the item has been divided into three categories : *(a)* flax raw, in stalks, also retted ; *(b)* scutched flax ; and *(c)* combed flax.

It was originally intended to group all kinds of tow derived from the combing or carding of the textile materials of the present chapter under a single basic item ; but as in several tariffs the textile fabric and its tow are treated in an identical manner, and as to provide a basic item for tows would have meant compelling all countries to make that distinction, it was decided that each of the items relating to flax, hemp and jute should be divided into sub-items—two or three for the different states of the fibre and the last for tow.

In the case of the item, which comprises other textile materials, it was not thought necessary to make this distinction.

Sub-item *(d)* of item 541 is thus reserved for flax tow.

By " tow " is to be understood waste derived from the hackling, carding and combing of the fibres, as well as spinning and weaving waste and waste-yarn which cannot be used as yarn. Carded and combed tow also comes under the sub-item " tow ".

Item 542.

This item comprises hemp fibres and is divided into four sub-items, as was proposed in the case of flax.

Item 543.

This item, which is divided into three sub-items, comprises jute fibres and tow.

Item 544.

In the preceding items are grouped the three textile fibres which, owing to their great importance to industry, had to be separated from the main group of other vegetable textile fibres.

Item 544 thus comprises all vegetable textile fibres with the exception of cotton, flax, hemp and jute, in all forms of make-up, including tow.

In view of the large trade in ramie, it was considered advisable expressly to mention it in sub-item *(a)*. Under sub-item *(b)*, " Other ", are to be included : abaca (Manila hemp), *phormium tenax* (New Zealand hemp), sunn or Indian hemp *(Crotalaria juncea)*, pita hemp (American hemp), Gambo hemp *(Hibiscus cannabinus)*, Mauritius hemp, common nettle fibre, agave fibre, sisal fibre, aloe fibre, Syrian asclepias fibre, fibres of vegetable wool (Scotch pine fibre), pineapple, coconut, ligneous peat fibres, etc.

Naturally, these fibres and ramie, as indicated in the heading of the item, come under item 544, whether raw, carded, combed or in the form of tow.

* * *

Items 545 to 548 relate to yarns of the textile materials included under Chapter 49.

For each fibre expressly mentioned in the nomenclature, whether in a basic item or in a sub-item, a corresponding item or sub-item has been provided for the yarn.

In view of the increasing quantity of ramie yarns being used in place of flax yarn, and since it did not seem necessary to propose a basic item for ramie yarns, it was decided to group these with flax yarns in the same item 545. It was also thought advisable to provide a sub-item for coconut fibre yarns, in order to separate them from yarns made of other vegetable textile fibres not elsewhere specified.

It should be observed that the items relating to yarns include yarns used for weaving, trimmings, embroidery, ribbons, velvets and the like, for the sewing of fabrics, shoes, leathers, etc., but do not include yarns that have the appearance of string, etc., which come under Chapter 50.

Item 545.

This item comprises flax and ramie yarns, pure or mixed with other textiles (with the exception of those which, in virtue of their composition, are classified among the yarns coming under previous chapters), in which the flax or the ramie predominates in weight over the other component textile materials.

The item is subdivided into two groups : *(a)* single yarns, and *(b)* twisted yarns. Each of these is subdivided into two categories, according to whether the yarns are unbleached or scoured, bleached, dyed, or clouded, printed, etc.

It was considered that, for the purposes of the Customs nomenclature only, the above-mentioned four divisions were needed, each country being free to introduce any further subdivision which it required—for instance, to separate flax yarns from ramie yarns.

Item 546.

This item comprises yarns of hemp, pure or mixed with other textiles, in so far as they are regarded as hemp yarns according to the general notes to Section XI.

The secondary and tertiary items are the same as for item 545.

Item 547.

This item comprises yarns of pure jute, or yarns regarded as made of jute according to the general notes to Section XI. This item is divided into four categories, as in the case of flax and hemp yarns.

Item 548.

This item comprises yarns of vegetable textile materials, except those classified as cotton, flax, ramie, hemp or jute yarns, manufactured from the fibres coming under item 544 *(b)*, pure or mixed with other textiles, in so far as, according to the general notes to Section XI, they are to be regarded as belonging to this item. Kapok yarns are also included in *(b)* of the present item.

The item is divided into two sub-items: the first comprises yarns of coconut fibre, and the second " Other Yarns ". It was not thought necessary to create further subdivisions.

It should be pointed out that *(b)* also comprises yarns of sisal and of other similar materials made up into balls for the binding of sheaves and for other agricultural purposes.

Item 549.

This item comprises paper yarns, for which it was decided to create a basic item, in order to avoid having to place these yarns in the same items as textile yarns in the strict sense of the term.

This item covers, of course, both yarns made of twisted strips of paper and yarns made by any other process, even when waste of textile fibres is added to the paper pulp, or when the paper yarn is made parchment-like, etc.

This item thus includes the yarns known in the trade as textilose yarn, cellulose yarn, xylolin yarn, xylodin yarn, silvalin yarn, licella yarn, etc.

The yarns coming under the present item are still grouped therein even when put up for retail sale.

Item 550.

This item includes the yarns classified or grouped in items 545 to 548, when they are put up for retail sale. In view of the great difference in value between the yarns of this kind consisting of flax and those consisting of hemp or of ramie, a special sub-item has been introduced, due account being taken of the fact that the yarns made from these materials are generally put up in balls, etc., for retail sale.

* * *

In the case of articles made of yarns included under Chapter 49, it was considered that the nomenclature should be based on the following principles :

(1) Special items or sub-items should be created for fabrics of the more important textile fibres—viz. : for pure flax, hemp and ramie; for flax, hemp and ramie mixed with cotton or other textile materials, and for pure or mixed jute ;

(2) Articles made of the textile materials included under Chapter 49 should be grouped in a single item, it being left to each country to introduce such sub-items as it may require.

Item 551.

This item comprises fabrics of flax, hemp or ramie not mixed with other textile materials.

The item is divided into two sub-items : *(a)* non-figured fabrics ; *(b)* figured fabrics.

The first group is divided into four categories : (1) unbleached fabrics ; (2) scoured or bleached fabrics ; (3) dyed fabrics ; (4) printed fabrics or fabrics woven with threads of different colours.

The second group comprises figured, damask or broché fabrics ; this sub-item could be divided into tertiary items to meet the requirements of the different countries.

Item 552.

Item 552 comprises all fabrics composed of flax, hemp or ramie mixed with cotton or other textile materials, which, according to the general notes to Section XI, should be included in Chapter 49.

This item thus comprises fabrics which have their whole weft or their whole warp of flax, hemp or ramie, and respectively the warp or weft of cotton or other vegetable textile materials. In exceptional cases, warps or wefts composed of these textiles with bands, stripes and fancy threads of cotton are regarded as entirely composed of flax, hemp or ramie.

This item also includes fabrics not comprised above in which flax, hemp or ramie predominates in weight over the other textile materials and which do not come under the items relating to mixed fabrics dealt with in other chapters.

The item is subdivided into secondary and tertiary items, as in the case of pure flax, hemp and ramie fabrics (item 551).

Item 553.

This item includes fabrics of jute, pure or mixed with other textiles—that is to say, fabrics having a weft or warp made entirely of jute, and respectively the warp or weft made of vegetable textile materials other than cotton, flax, hemp, ramie or paper.

The item also includes mixed fabrics made of jute and other textiles which are not to be classified in the items relating to mixed fabrics in the other chapters and in which jute predominates in weight over the other textile materials of which the fabrics are composed. The item is divided into two groups : *(a)* non-figured, unbleached fabrics ; *(b)* other fabrics.

Item 554.

This item comprises all fabrics made of other textile materials coming under Chapter 49 not elsewhere specified, whether pure or mixed with other textile materials, provided that they are not covered by the items of the other chapters or of the present chapter.

It was not considered necessary to make any subdivisions, this being an item which includes very dissimilar products, for which each country may establish such distinctions as it may deem necessary.

Fabrics composed of raffia or kapok are, by assimilation, to be classified in this item, although these fibres are mentioned in Chapter 14.

Item 555.

This item comprises velvets and plushes of flax, hemp, ramie, jute and other textile materials mentioned in Chapter 49, pure or mixed, in so far as they are not, in virtue of their composition and manufacture, to be classified in the corresponding items of the other chapters of Section XI.

It was not thought necessary to make any subdivisions.

Item 556.

This item comprises carpets made of textile materials coming under Chapter 49 and carpets which are to be classified in this chapter in accordance with the general notes to Section XI.

It is understood that all the principles already laid down for the classification of the carpets referred to in the preceding chapters likewise apply to this item, under which are further

included door-mats, matting and boot-wipers, woven or plaited, and, in the latter case, both closely plaited (whether or not shaggy) and openwork.

This item also includes matting the edge of which is formed of thick woollen or coarse hair threads, and carpets and door-mats composed of yarns of the vegetable materials referred to in Chapter 49, mixed with paper yarns.

The item is divided into three groups : *(a)* carpets of jute ; *(b)* carpets of coconut, agave, aloe, sisal and similar fibres ; and *(c)* carpets of other vegetable textile materials coming under Chapter 49.

Item 557.

This item comprises ribbons made of the textile materials coming under Chapter 49. As in the case of cotton ribbons, those which are manufactured without weft with parallel sized threads are separate from other ribbons. Ribbons of velvet and plush have also been dealt with separately.

All the observations made with regard to velvet in the piece naturally hold good with regard to ribbons of flax, hemp or ramie velvet, and, generally speaking, the rules adopted for the classification of ribbons of cotton and of other textile fibres also apply to ribbons coming under the present item.

Ribbons which are manufactured, not of yarns, but of twine are to be classified in item 568 (Chapter 50).

Item 558.

This item, which has been divided into two sub-items, comprises trimmings of flax, hemp and ramie *(a)* and trimmings of other textile materials coming under Chapter 49 *(b)*.

Trimmings of pure textile materials coming under Chapter 49, and those of such materials mixed with other textile materials not coming under corresponding items of the other chapters according to the general notes to Section XI, are to be included here. Plaited articles having the characteristics of twine, small-cord, cordage and the like, and used as such, are to be classified, not in this item, but in item 566 (Chapter 50).

Item 559.

This item comprises lace, tulles and netted fabrics, plain or figured, made of the textiles coming under Chapter 49, in so far as they are not to be classified under the items appearing in Chapters 46 to 48 and relating to these articles.

The advisability of separating tulles and lace of flax, hemp and ramie from the same articles composed of other textiles was considered, but it was thought sufficient merely to separate lace from the other articles, while leaving the various countries free to make any other distinctions. The classification of the articles coming under this item composed of flax or hemp, pure or mixed with other textile materials, is governed by the rules laid down in the general notes to Section XI.

Item 560.

This item comprises all embroidery which is not to be classified in Chapters 46 to 48.

It was thought sufficient to divide this item by separating chemical or aérienne embroidery and embroidery without visible ground from other kinds of embroidery.

Item 561.

This item comprises all fabrics and other articles, including twines, made of paper yarn, not elsewhere specified or included. This item should accordingly include fabrics manufactured with paper yarns coming under item 549, and composed of said yarns either entirely or in combination with yarns of other textiles, except such fabrics and other articles as, according to the general notes to Section XI, are included under the other items relating to mixed articles, mentioned in Chapters 46 to 49.

Chapter 50.

WADDING AND FELTS ; ROPE AND ROPEMAKERS' WARES ; SPECIAL FABRICS AND ARTICLES USED FOR TECHNICAL PURPOSES.

As stated elsewhere, a number of articles have been included in the present chapter which it was not desired to include in the previous chapter, in view of the fact that, in many cases, their Customs classification does not depend on the nature of the textile fibres of which they are composed.

It was thought that the logical course was to arrange the articles contained in the chapter in the order they fall under as a result of the increasingly complicated processes to which they are subjected from the time when they begin to differ from the raw material.

It was, therefore, decided that wadding and articles made of wadding should come first, being followed by felts and articles made of felt, which are distinguished only by a special method of preparation from the textile fibres of which they are composed.

After wadding and felts come twine, cordage and cabling, all of which are made of thread. Then naturally come nets and other ropemakers' wares.

Next come articles made by weaving yarns, but differing from woven fabrics, in the strict sense of the term, by the special process to which they have been subjected ; such are tubing for fire-hose and the like, and transmission and conveyer belts.

Then come special articles made of fabrics, followed by waxed fabrics or felts and by articles assimilated thereto or manufactured on similar lines.

After that come elastic fabrics or articles and rubbered or rubber-mixed fabrics and felts, incandescent mantles and, as a last item, other articles used for technical purposes.

Item 562.

This item is devoted to cotton purified, washed and freed from grease, called absorbent cotton. It was first intended to give absorbent cotton a sub-item in the basic items for cotton and cotton waste. It was, however, considered that it would be better to place this special kind of cotton in an item by itself, so as to separate it from other cotton preparations, especially as, in many cases, it would be very difficult to determine whether absorbent cotton was made of new cotton, cotton waste, devilled cotton, or of linters.

In order to eliminate all these difficulties, a basic item was introduced for absorbent cotton, irrespective of the nature of the material of which it is made.

By absorbent cotton is, therefore, to be understood new cotton, cotton waste and devilled cotton, purified, washed and sufficiently freed from grease to make it absorbent ; absorbent cotton is also generally bleached.

It should be noted that this item includes absorbent cotton in the mass, since absorbent cotton in the carded state comes under the next item, *(b)* 1.

Item 563.

This item includes wadding and articles of wadding manufactured from all kinds of textile fibres.

With regard to this item (which includes articles made of various textile materials intermixed), a proposition was put forward—as in the case of other very complicated, similar items of this chapter—purporting to introduce such subdivisions as appeared most practical in view of the general nature of the fibre of which the articles are composed, and adhering to the rule that, in the absence of provisions to the contrary, any article containing silk in whatever proportion is to be regarded as a silk article ; any article not containing silk but containing wool in whatever proportion is to be regarded as a woollen article ; any article not containing silk or wool but containing cotton in whatever proportion is to be regarded as a cotton article, and so on.

Consequently, the item has been subdivided into four sub-items : *(a)* wadding of natural or artificial silk or of artificial textile fibres ; *(b)* wadding of cotton ; *(c)* wadding of cellulose ; and *(d)* wadding of other textile materials.

It was decided that by "wadding" should be understood assemblages of fibres in the form of laps or bands of even thickness and distribution of fibre, obtained by combing and pressing the textile materials, whether such fibres are in the raw state, or bleached, dyed, etc.

This item also includes wadding coated with glue on one or both sides, wadding pasted on paper, and articles such as strips, pads and similar products for listing or padding.

The item further includes wadding printed, even by a chemical or mechanical (dry) process, and also articles which have been subjected to processes of stitching necessary for adapting them to their intended use.

It is understood that wadding made of cellulose includes wadding printed with words, figures, etc., to be used for the packing of special articles, such as medicaments, scents, fruits, etc.

Sub-item *(b)* (cotton wadding) has been subdivided into two tertiary items : one for absorbent or aseptic wadding (cotton-wool) and the second for other kinds of cotton wadding. It seemed necessary to make the same distinction for cellulose wadding, which is often used instead of cotton wadding, and is placed on the market in the same forms as the latter.

Finally, it may be noted that wadding impregnated with pharmaceutical or chemical products comes under item 292 (Chapter 28).

Item 564.

This item covers non-woven felts of all kinds—that is to say, an assemblage of fibres obtained by fulling and pressing and having the same appearance as woven stuffs.

This item also covers felts of all kinds, for all uses (felts for carpets, clothing, furnishing, footwear, filtering felts, etc.), even if strengthened by threads, networks of textile materials or metal threads, or stuck on cardboard or in the form of fabrics or of sleeving, cylinders, tubing or the like, of a fixed length or to be cut to measure.

The item has been subdivided into four classes, according to the fibres used in the manufacture of the felts. Sub-item *(a)* comprises felts which contain natural or artificial silk or artificial textile fibres in any proportion.

This principle also applies to the felts coming under *(b)*, *(c)* and *(d)*—that is to say, felts of wool or fine hair, coarse hair, cotton or other vegetable textile materials.

Any countries wishing to do so may subdivide sub-item *(d)*, separating cotton felts from those made of other textile fibres, on the understanding that " other vegetable textile materials " shall be taken to include felts made of peat, sponge waste, etc. This item thus includes non-woven felts of all kinds that do not come under the subsequent items of this chapter as having been subjected to a special process or preparation for a specific purpose, or under the items of the previous chapters, such as embroidered felts, or in the following chapters, such as discs for hats *(plateaux)*, hat cones and hat hoods or shapes, etc.

Item 565.

Articles of felt may be manufactured in different ways :

(1) The felt may simply be cut into a piece to a particular shape ;
(2) The different pieces may be cut and then glued or sewn together ;
(3) The textile fibre may be felted direct in special shapes and, if necessary, the article can be completed by fastening the various pieces together with glue, thread, pieces of metal or wood, etc.

This item comprises the various kinds of articles of felt mentioned above, with the exception of those obtained by cutting the felt into pieces and sewing the various pieces together, as is done in the case of ready-made clothes made of fabric.

This item includes more particularly felt articles obtained by cutting the felt into a piece, otherwise than in square or rectangular shape, as, for instance, felt discs, glass or bottle mats, saddle-pad felt, saddlecloths, felt sleeving in one piece, felt filters and felt padding blocked into a single piece, etc.

Blocked felt limbs, such as hands, forearms, feet, are contained in item 924 (Chapter 77).

It is agreed that, where these articles come under this item (as not coming under the special items for felt articles contained in the other chapters), they may have accessories made of various materials, such as leather, wood, metal, paper, cardboard, rubber, etc.

Item 566.

This item includes all kinds of twine, cordage and cabling, whether plaited or not. It was deemed sufficient to provide three sub-items : *(a)* articles made of cotton ; *(b)* articles made of one or other of the more important textile fibres enumerated in Chapter 49 (hemp, flax, jute, abaca, agave, aloe, sisal and similar fibres) with the exception of coconut fibres, which come under sub-item *(c)*, owing to their similarity to the articles belonging to the latter item ; *(c)* articles made of other vegetable fibres (coconut, rush, lime, alfa and other similar fibres) as well as animal fibres.

Each country may subdivide the third sub-item by separating twine, cordage and cabling made of animal products from the others ; by separating the latter according to the nature of the fibre ; by distinguishing twine from cordage and cabling; and, finally, by distinguishing between plaited cordage and cabling and non-plaited cordage and cabling.

By twine are understood *polished* yarns, single, twisted or cabled, unbleached, bleached, or dyed. For the purpose of the manufacture of this twine, the fibres are damped, the threads being then soaked in a preparation with a basis of starch, smoothed and polished on the machine and finally dried and placed in hanks, balls or bobbins. The following are also regarded as twine : unpolished threads, twisted or cabled, with a diameter of more than 2 millimetres and clearly intended for packing, for the manufacture of nets, whip-lashes, fishing-lines, etc.

In the case of articles made of coconut fibre, twine only includes such articles as are composed of more than two threads, while those composed of two threads or less are to be regarded as yarns.

In respect to plaited articles, the present item should include only articles which are of the nature of cordage proper (cabled cordage) and are used for similar purposes.

Cordage composed of a core made of textile yarns, covered with plaited threads, whether made of another textile material or not (covered thread), belongs to the category of trimmings.

This item also includes the above articles tarred, greased, impregnated with graphite, also if reinforced with metal threads.

Item 567.

This item includes all kinds of nets the object or use of which is indicated in the heading itself, whereas nets for other purposes and those made of other than vegetable textile materials are to be classified in the items of the various chapters relating to trimmings.

Thus, for instance, nets for the hair, of whatever textile material made, are not included in this item, nor are nets made of silk, wool, hair or other animal products.

The item is divided into two sub-items, in order to separate nets of cotton, whic hare considerably more important than those made of other vegetable textile materials.

It is clear that further subdivisions of *(b)* will prove to be necessary according to the various fibres of which the nets may be composed. It was thought that the two sub-items proposed would be sufficient, especially as, in most tariffs, the duty applicable to nets of vegetable textile materials depends on the nature of the threads of which they are made.

Moreover, nets which include accessories made of fabrics, galloons, etc., of leather, cork, wood, metal and the like, as well as those which, for completing, required a simple process of stitching, will, of course, still be covered by this item.

Again, nets which have been immersed in a bath of vegetable or mineral substances to render them impervious to the action of air or water, and which have been coloured through the process, will naturally not be considered dyed.

Item 568.

This item includes all articles manufactured from the materials mentioned in item 566, in so far as they are not specified in other items by reason of their nature, use or purpose.

This item includes bridles, reins, halters, harness, hammocks, rope-ladders and knotted cords, rope sandal soles, furniture webbing and horse-girths and other saddlers', harness-makers' or similar wares, even with accessories made of leather, metal and the like, and even with any stitching work necessary to complete the article.

It was not considered expedient to propose subdivisions, either for the various articles or for the various kinds of fibres of which they are made.

Item 569.

This item comprises tubing of textile materials for fire-hose and the like, for which it was considered not superfluous to introduce a basic item, these articles differing considerably from other articles manufactured on the loom with warp and weft.

The tubing can be coated with oil, fatty substances or tar.

It likewise includes tubing which has been subjected to another preparation with the same object—that is to say, to render it watertight—as, for instance, tubing coated with rubber solution, chemical products or metal soaps.

The tubing fabric may be indiscriminately unbleached, dyed, or woven with coloured threads. Tubing strengthened either within or without by a spiral metal wire is not classified separately. The same applies to the metal accessories fixed at the end of the tubes to fasten them together.

Item 570.

It was intended to include under this item all transmission and conveyer belts—that is to say, strips woven or plaited, of various materials, which are used for the transmission of power or the transport of materials. As these are divided into two main classes—those chiefly composed of animal fabrics and those made entirely of vegetable fabrics—a sub-item was provided for each of these two classes.

In order to avoid any disputes as to the classification of belts having the appearance of ribbons or webbing, it was decided that belts less than 3 millimetres thick would not be regarded as belts, and should be included among ribbons in the chapter dealing with the textile material of which they are composed, unless they appear under another special item—such, for instance, as webbing.

Belts included under this item may be unbleached, dyed, impregnated with oil or other fatty vegetable or mineral substances, tarred, varnished or externally coated with a substance having a base of minium, iron oxide, or siccative oil ; stitched with several rows of lengthwise —or only edgewise—stitching ; strengthened with skin, made of several thicknesses of fabric, made of tubular fabrics, strengthened with metal threads or strips, or made of plaits or trimmings.

This item is not to include transmission and conveyer belts rubbered—that is to say, belts in the manufacture of which rubber plays a sufficiently important part for the belt to be regarded as of rubber—inasmuch as it is made of layers of rubber between several layers of fabric. This type of belt comes under item 374*(a)* (Chapter 39—" Rubber and Articles made of Rubber ").

Belts made of camel-hair or other animal textile materials include both belts mainly composed of these materials and those containing a lesser quantity of them.

Belts coming under *(b)* may be composed of the materials indicated, either pure or mixed.

Item 571.

This item comprises, in its sub-items, three groups of special fabrics : *(a)* percaline, glazed or sized, etc., for bookbinding, cardboard-box making, sheath-making and similar uses ; *(b)* tracing or transparent cloths ; *(c)* canvas prepared for painting. These are fabrics in which the special preparation or process of manufacture is generally more important than the nature of the textile fibres composing the fabric itself. Sub-item *(a)* comprises cotton or flax fabrics unbleached, dyed, bleached, printed, thoroughly impregnated with dressing, plain, goffered, shagreened, etc., used for covering bookbinding boards, cardboard wares, sheaths, etc.

Under *(b)* are comprised fabrics called " architects' tracing-cloth "—that is to say, more or less transparent fine cotton or flax fabrics, covered with a colourless transparent coating made of a solution of resin in benzol or in alcohol, or with any other substance.

Finally, *(c)* comprises canvas prepared for painting and painted canvas for theatre scenery, studio backgrounds and similar uses.

These are two types of fabric variously classified or assimilated in different tariffs, which it has been decided to place under one sub-item.

By " canvas prepared for painting " is understood fabrics generally of flax or cotton, covered with several coatings of a mixture of boiled and siccative linseed oil and of raw linseed oil, the latter being pure or mixed with other substances to give it body—as, for instance, zinc white, sulphate of lime, etc.

For painted canvas for theatre scenery, studio backgrounds and similar purposes, see the explanatory notes to item 986 (Chapter 86).

Item 572.

It was intended to include under this item fabrics of any textile material, rendered impermeable by imbibition or by a coating of an oily or fatty matter, known in the trade as waxed cloths or oiled cloths, not including the fabrics coming under items 573 to 575.

In view of the fact that several countries treat waxed cloths and oiled cloths in the same manner, it was thought that it would suffice to place them under the same basic item, while separating coarse oiled cloths for packing, tarpaulins and the like mentioned in sub-item *(a)* from oiled fabrics of natural or artificial silk comprised in sub-item *(b)*, and from other similar fabrics, including waxed cloths for furnishing, etc.

By oiled cloths are understood fabrics steeped in an oily fatty substance—as, for instance, raw or boiled linseed oil and the like.

By waxed cloths are understood fabrics of which one or both sides are covered with a coating of pasty material having a basis of wax or paraffin, of siccative oils combined with glutinous substances (resin, tallow, etc.), with filling materials (baryta sulphate, china clay, talc, etc.) and with dyestuffs (lampblack, iron oxide, lithopone, zinc white, etc.).

This item also includes fabrics called " leather cloth "—that is to say, the above-mentioned fabrics covered with a coating of oxidising oil (preferably linseed-oil varnish) combined with organic dyestuffs and, in particular, fatty lacquers. Leather cloth treated with rubber comes under item 577 of the present chapter.

Waxed cloths are sometimes covered with a transparent, opaque or translucent varnish.

This item includes waxed coths of all kinds, comprising, therefore, cloths of one or more colours, also cloths printed or not in colours or designs or dry-stamped (goffered).

Waxed or oiled cloths made of natural or artificial silk, expressly mentioned in sub-item *(b)*, are those known in the trade under the name of waxed taffetas, consisting of a sort of very thin, transparent and impermeable waxed cloth usually made of extremely fine silk fabric, both sides of which are covered with a thin transparent elastic coating either with a basis of oil, or formed of a solution of resin and camphor in a mixture of alcohol and ether.

Fabrics rendered impermeable by immersion in a suitable bath so as to cause, by a special process, the formation on the fabric of insoluble compounds (such as resinous soaps, basic acetates of alumina, iron or copper) are neither to be included amongst waxed cloths nor among oiled cloths or other fabrics covered by the following items, but should be classified as fabrics according to the quality and the textile material of which they are composed. These fabrics sometimes remain coloured as a result of immersion in a bath, but this is not in itself to be regarded as constituting a process of dyeing.

Item 573.

It was intended to include in this item fabrics and felts called " pegamoids " or artificial leathers—that is to say, fabrics covered on one or both sides with a coating having a basis of

cellulose (nitrocellulose, etc.) mixed with castor oil or other oils, camphor and other substances dissolved in a mixture of alcohol or other solvents to render them plastic and to colour them.

Item 574.

This item comprises well-known articles characterised by a coating of paste made of a mixture of powdered cork with oxidised linseed oil, colophony, resin, zinc oxide, lithopone and with various dyes, said coating being applied to the fabric (generally of jute), felt, cardboard, etc.

It includes linoleums of all kinds and qualities with designs obtained by the use of variously coloured pastes, printed on the surface, dry-stamped (goffered), with inlaid patterns, with patterns in relief, etc.

In view of the various forms taken by linoleum, which are mainly determined by the substance forming the foundation of the paste, the item has been subdivided into two classes according as the paste has a foundation of fabric or felt of any textile material (linoleum), or of cardboard or paper (lincrusta) or has no foundation at all. Linoleum is used for covering floors and lincrusta for covering walls.

By articles similar to linoleum are understood in general articles which are imitations of real linoleum and are known in trade under the names of congoleum, balatum, corioleum, triolin, etc.

Item 575.

This item includes fabrics and felts known by the name of tarred cloths, produced by impregnating or covering felts or cloths, generally made of hemp or jute, with tar previously freed from volatile substances, and employed to protect goods, to cover sheds and roofs, as packing material to protect goods from damp and for other similar purposes.

It was decided that articles of this kind, whether stuck on paper or not, which are not in the piece, but cut out in a special shape for particular purposes, were to be classified under this item.

Item 576.

This item comprises elastic fabrics, ribbons and trimmings in the piece, and all articles of textile material manufactured in combination with elastic rubber threads, except articles of hosiery (other than fabrics and ribbons in the piece) and articles coming under item 593 (Chapter 52) : " Corsets, Corset-belts, Bust-bodices, Braces, Suspenders and Similar Articles ".

The item was subdivided on the basis of the textile material used in the composition of the elastic fabrics—viz., *(a)* of natural silk, pure or mixed ; *(b)* of artificial silk or artificial textile fibres ; *(c)* of wool and *(d)* of other textile materials.

Elastic articles made of a mixture of silk in any proportion are to be classified under *(a)*, and the same applies to articles mixed with artificial silk or artificial textile fibres, wool or other textile materials, which are to come under *(b)*, *(c)* and *(d)* respectively. It is also clear that articles which are unbleached, bleached, dyed and printed, etc., are included in this item. On the other hand, rubber thread covered with textile thread is not so included, being classified under item 372 *(b)*, 1 (Chapter 39).

Item 577.

This item includes all fabrics and felts impregnated, covered or coated with rubber or gutta-percha, including those stuck together by an intermediate layer of rubber and not mentioned in the items of Chapter 39. This item thus includes rubbered fabrics and felts, which are generally used for the manufacture of clothing and similar articles, in the same way as are non-rubbered fabrics.

It includes rubbered fabrics and felts, to whatever finishing process they have been subjected, and consequently those having a surface unbleached, bleached, dyed, printed in colour, with designs, or dry-stamped (goffered).

This item is divided into three sub-items according to the textile material used in the manufacture of the fabrics and felts.

Sub-item *(a)* is reserved for fabrics and felts containing natural silk, artificial silk or artificial textile fibres in any proportion.

Sub-item *(b)* comprises fabrics and felts containing wool, even in very small quantities, while *(c)* comprises all other rubbered felts and fabrics.

* * *

Item 577 completes the list of fabrics and other special articles which, on account of their importance, were allotted basic items.

For the other technical articles of textile materials to be included in this chapter, the next two basic items were regarded as sufficient.

Item 578.

It was intended to include under this item all incandescent mantles, whether or not immersed in a solution of salts of thorium, cerium, zirconium, etc., or annealed and treated with collodion.

This item includes mantles for gas-burners and for paraffin-gas and spirit lamps and for similar purposes.

This item is divided into two groups : *(a)* comprises mantles not impregnated, in tubular bands, whether cut or not, while *(b)* comprises mantles impregnated or prepared, also annealed.

Mantles provided with supports are also classified here.

Item 579.

This item comprises all other technical articles of textile materials, not elsewhere specified or included.

It was thought desirable expressly to enumerate in three sub-items certain articles which are very variously classified in the different Customs tariffs.

Sub-item *(a)* comprises felts and felted fabrics stuck on rubber, on fabrics, whether rubbered or not, or on leather, for the manufacture of card fillets or for all other technical uses.

These articles are well known and easy to identify, so that special explanations can be dispensed with, it being intended to include in this item all varieties of fabrics used as card-clothing, and also similar fabrics used for all other technical purposes. It was not intended, however, to depart from the principle, several times enunciated, of not classifying an article according to its purpose ; in this case, the purpose plays only a secondary part in the classification, which is determined by the specific characteristics of the articles.

Sub-item *(b)* is devoted to straining-cloths *(étreindelles)* and coarse fabrics for oil refineries and similar purposes, and has been further subdivided into two classes : the first, for such articles composed in any proportion of animal textile materials, and the second, for those composed of vegetable textile materials.

Sub-item *(b)* comprises all special fabrics : thick, heavy, of wool, of camel-hair, of goat-hair, of horse-hair, of human hair or of vegetable textile materials, pure or mixed, employed for the pressing of tallow and fatty materials for the extraction of oils and for other similar uses in sugar refineries, the chemical industry, etc.

This item includes both piece goods and fabrics which have been cut out or manufactured in special shapes—in discs, in squares with rounded corners, etc., also stitched or hemmed at the edges, or strengthened by metal threads or rods, and also straining-cloths made of rectangular pieces of fabric sewn together.

Sub-item *(c)* comprises lamp and candle wicks made of threads of cotton or other textile materials, whether woven in tape-form, on a cloth loom or hosiery loom, or plaited, tubular, round or flat, or made of unbleached thread or of bleached or coloured thread.

This sub-item also includes large tubular or flat wicks for stoves burning spirit, paraffin, petrol, benzine or other mineral oils. Cotton wicks containing a few threads of silk or of silk materials are deemed to be made of cotton. Cotton wicks made of single threads are not to be included here, but classified as threads according to their quality and to the textile material of which they are composed.

Finally, sub-item *(d)* includes all the other technical articles of textile materials not elsewhere specified or included. It may, in the various countries, be subdivided according to the special interests of each, so as to distinguish articles to be subjected to special Customs treatment.

This sub-item includes healds of textile materials for weaving-looms, pads for grease-boxes, lubricating-rags, braids for spindles, machine parts almost entirely composed of fabrics, pickers of fabric, pads and wheels for polishing-machines, etc.

Chapter 51.

HOSIERY.

This chapter comprises articles of hosiery—that is to say, fabrics in the piece and finished articles (gloves, stockings, etc.) which are not manufactured, like ordinary fabrics, with warp threads and weft threads, but are generally produced by means of a thread which, running from end to end of the material, does not follow a straight line but a sinuous line parallel to the thread of the previous length ; the lower waves of that thread being interlaced with the upper waves of the previous thread and the two waves thus forming a knot, called net-stitch.

This kind of material, which is characterised by its elasticity, can be made by hand or by machine. In the former case, two or more straight needles are used, which taper and are rounded at the ends (knitting needles), or a single needle is used, which tapers at the end and is curved in a hook (crochet needle).

In the latter case, hosiery looms are used, in which the principal working parts are specially shaped needles, ending in a rigid or jointed hook. These needles, by passing the thread through the looped waves of the thread of the preceding length, join it to the latter thread by means of knots which, as already observed, are called net-stitches.

Netted fabrics may be made in flat or tubular pieces, either by hand or by machine, by means of ordinary (rectilinear) looms (tricot in flat strips) or circular looms (tubular tricot).

Ready-made articles can be produced with these tricots in the piece, by cutting out the tricot into pieces of a special shape adapted to the various parts required to make up the article, and then joining the pieces together.

Made-up articles, however, can be produced without leaving the fabric—that is to say, by weaving on the knitting-loom or making by hand the various parts of the article in the shape they would have been given if the fabric had been cut out in the piece.

This can be done in the case of hosiery, the number of net-stitches being, for each length of thread or row of material, increased or decreased in relation to the previous row, thus increasing or decreasing the width of the material and so giving it the desired shape.

This method of obtaining pieces of a specific shape, intended, when assembled, to form the article, gives the latter the name of " article shaped (made up) by hand or on the loom ".

It is clearly also possible to produce, either by hand or by machine, articles formed of a single piece, which are thus entirely finished or only require a very simple process of sewing, consisting in joining up the ends, as in the case of certain kinds of stockings, certain makes of gloves, etc.

This chapter thus includes both knitted fabrics in the piece (flat and tubular strips) and articles ready for use, such as gloves, stockings, socks, underwear, ready-made garments, shawls, scarves, caps, berets, bonnets, ties and other similar articles.

The following, however, are not included in this chapter : wicks of hosiery (item 579) ; travelling-bags, market bags, hand-bags and sheathmakers' wares made of hosiery (item 596), and caps, bonnets and berets of fulled hosiery (item 616).

Nor are articles made by a braid-making machine included—that is to say, articles the ground weave of which is made exclusively by means of " hooks " (without lateral weave of the meshes) in which pattern threads are introduced as wefts—these articles being classified as trimmings.

On the other hand, the item includes articles of elastic or rubbered hosiery, with the exception of elastic fabrics and ribbons (item 576) and articles of hosiery coming under item 593 (corsets, corset-belts, etc.).

It also includes articles of hosiery sewn or made-up, and hosiery fabrics woven in a particular shape or cut out for a particular purpose in other than square or rectangular shape, which are to be classified with the articles of which they form a part.

In establishing the nomenclature for hosiery articles, there were two principles which could be followed :

(1) To take as a basis for the items the kind of article—that is to say, fabrics, gloves, stockings, underwear and other articles not specified—and divide these items according to the nature of the textile materials of which they are composed ; or

(2) To take as basis for the items the nature of the textile fibres composing the articles of hosiery and subdivide these groups according to the articles.

For various reasons, and especially with the view to complying with the desires expressed by the hosiery manufacturers' associations, the latter system was chosen, as, in order to adopt it, all that is necessary is to set up four basic items corresponding to the principal groups formed by the different textile fibres used in the manufacture of hosiery, viz. :

(1) Hosiery of natural silk ;
(2) Hosiery of artificial silk or artificial textile fibres ;
(3) Woollen hosiery ;
(4) Hosiery of vegetable textile materials.

Naturally each of these groups includes hosiery manufactured from the textile material belonging to the group, pure or mixed with other textile materials.

For the classification of hosiery composed of two or more textile materials, rules have been drawn up, and these are set out in 4 of the general notes to Section XI.

Lastly, hosiery of metal threads or yarns should be classified under item 492 (Chapter 46), according to the same rules as those governing the classification of fabrics of metal threads and yarns.

Item 580.

Subject to the exceptions provided for, this item comprises all hosiery articles manufactured of natural silk, pure or mixed.

The item has been divided into two sub-items : *(a)* hosiery of natural silk, pure ; and *(b)* hosiery of natural silk, mixed.

Sub-item *(b)* includes hosiery articles containing more than 8 per cent (in weight) of natural silk or in all more than 8 per cent of natural silk, artificial silk or artificial textile fibres.

Natural silk also includes schappe and natural floss-silk waste.

Each of the main categories of hosiery is divided into five tertiary items : (1) hosiery fabrics in the piece ; (2) gloves ; (3) stockings and socks; (4) underwear; and (5) articles not specified.

It was not considered necessary for purposes of an international Customs nomenclature to introduce other sub-items.

Hosiery fabrics in the piece, *(a)* (1), also include tubular fabrics, double fabrics, even if joined together with rubber, and rubbered hosiery fabrics.

Any countries which desire to do so may subdivide the fabrics into plain netted fabrics (which can be unravelled) and complex netted fabrics (which cannot be unravelled) and further separating fabrics with stripes running lengthwise or crosswise, with effects obtained either by threads of several colours, stitches or broché work or by the use of additional threads, openwork patterns, embroidery, etc.

Tertiary item *(a)* (2) : " Gloves " comprises gloves cut out and gloves proportioned by hand or on the loom, whether or not containing ornamentation, such as embroidery, trimmings, braid, lace, printing, pyrographically produced patterns, patterns formed by openwork, or whether being or not composed of fabrics which themselves constitute ornaments, as is the case of hosiery in the piece.

In any case, in classifying gloves, no account should be taken of stripes on the back, called forkets, produced by sewing or by embroidery with a plain chain-stitch.

Tertiary item *(a)* (3) comprises stockings and socks, whether manufactured on a round loom " without sewing " or made by hand or by machine, by decreasing or increasing the number of stitches—that is to say, " proportioned ".

This tertiary item includes stockings and socks which contain ornaments such as those mentioned in the case of fabrics in the piece, embroideries called " clocks ", openwork known as " grisottes ", and *appliqué* ribbons, lace, trimmings, and the like.

Tertiary item *(a)* (4) relates to underwear of hosiery, whether manufactured by cutting out the various pieces from a hosiery fabric and then assembling them, or manufactured by hand or by machine in a single piece by increasing or decreasing the number of stitches (proportioned articles) or, finally, manufactured from pieces woven by hand or by machine in a special shape, these various pieces being then assembled.

These articles may be ornamented, the ornaments either being executed on the fabrics in the piece or on the pieces of which the articles are composed or being produced after manufacture on the articles themselves ; these are the ornaments mentioned in the case of fabrics in the piece, gloves, and stockings or socks.

By underwear is to be understood, *inter alia*, shirts (or chemises), camisoles, drawers, vests, petticoats, combinations ; night-caps and bathing costumes are assimilated to underwear.

Tertiary item *(a)* (5) comprises all other hosiery articles which do not come under the four preceding tertiary items.

It includes, in particular, clothing for men, women and children, shawls, scarves, ties, curtains, furniture trimmings, etc.

For these articles, see the observations on the preceding tertiary item, both as regards the way in which they are manufactured and the ornamentation which they may have.

As regards all hosiery articles, it should also be noted that they may be unbleached, bleached, dyed, made of threads of different colours, printed, plain, figured, broché, embroidered, trimmed, ornamented, sewn, mixed with metal thread or yarn, provided that they do not come under item 492.

Subject to the exceptions provided for the classification of underwear and made-up articles of hosiery, the rules laid down for the classification of made-up articles of fabric coming under Chapter 52 should be followed.

Sub-item *(b)* has exactly the same tertiary items as sub-item *(a)* ; consequently, the remarks on sub-item *(a)* apply in their entirety to sub-item *(b)*.

Item 581.

This item comprises the same articles as item 580, provided that they are composed of hosiery of artificial silk or artificial textile fibres, pure or mixed.

Sub-item *(a)* comprises articles of artificial silk or artificial textile fibres, pure or intermixed, while sub-item *(b)* comprises articles containing more than 20 per cent (in weight) of artificial silk or artificial textile fibres, without admixture of natural silk, schappe or natural floss-silk waste.

The remarks on the articles coming under item 580 also apply to this item.

Item 582.

This item comprises hosiery articles contained in the previous items, composed of wool, pure or mixed.

Hosiery of fine hair must, of course, be regarded as woollen hosiery.

This item is subdivided, like the previous ones, into two classes, according to whether the hosiery is made of pure wool or mixed wool, the latter term covering articles containing at least 10 per cent (in weight) of wool or fine hair, including those also containing up to 8 per cent (in weight) of natural silk or in all up to 8 per cent (in weight) of natural silk, artificial silk or artificial textile fibres, as well as those containing up to 20 per cent (in weight) of artificial silk or artificial textile fibres, without admixture of natural silk.

For the articles coming under this item, see the remarks on the preceding items.

Item 583.

This item comprises all the hosiery articles mentioned in items 580 to 582, when they are made of cotton or other vegetable textile materials.

It was not thought necessary to separate articles of pure cotton, flax, ramie, hemp, etc., from those which are mixed with other vegetable textile fibres.

This item is also intended to comprise hosiery composed of vegetable textile materials mixed with natural silk (natural floss silk and floss-silk waste), artificial silk, artificial textile fibres and wool in such proportions as, while inferior to those indicated in 4 of the general notes relating to Section XI, do not permit of the articles in question being regarded as hosiery of mixed silk, mixed artificial silk and mixed wool, coming under items 580*(b)*, 581*(b)* and 582*(b)*.

As regards the hosiery articles composed of vegetable textile fibres mixed with the said animal textile materials, any countries which require to do so may introduce special sub-items, and a distinction can be made between fabrics in the piece, gloves, stockings and socks, underwear and other hosiery articles of cotton, from the same articles made of other vegetable textiles.

The item is subdivided into five sub-items, lettered *(a)* to *(e)*, corresponding to the tertiary items 1 to 5 of the previous items.

The remarks on similar articles coming under items 580 to 582 apply also to fabrics of hosiery in the piece, gloves, stockings and socks, underwear and other hosiery articles, of cotton, and of the other vegetable textile fibres.

Chapter 52.

CLOTHING, UNDERWEAR AND MADE-UP ARTICLES OF ALL KINDS.

If there is any chapter of Section XI that involves consideration, in all its aspects, of the problem of classifying goods made of different materials, it surely is the chapter relating to clothing, underwear and made-up articles of all kinds.

Almost every Customs tariff has adopted, for the classification of made-up articles, the principle of taking as a basis the most highly taxed of the textile products of which the made-up article is composed. It was necessary to reject *a priori* this principle and, accordingly, to choose a system of items and sub-items under which it would be equally possible to have *ad valorem* and specific duties, apart from any surtax coefficients that might be imposed on the fabrics used in the manufacture of the made-up article, in order to tax the process of converting the fabrics into the made-up article.

It is considered that a solution was found in grouping made-up articles into well-defined classes quite distinct from one another and then subdividing these classes according to the textile material of the fabric wholly or chiefly composing the articles included in them.

As explained in 5 and 7 of the general notes to Section XI, the articles contained in this chapter are to be regarded as made of fabric of silk, natural or artificial, of wool, of cotton, or of flax or other vegetable textile materials, when they are manufactured from a fabric which, according to the rules laid down for their classification, is to be included in the chapter on silk, wool, cotton or flax or other textile materials, as the case may be. The classification of clothing and other made-up articles consisting of fabrics, felts or stuffs of different composition (for instance, an article composed of silk fabric and woollen fabric) is determined by the element (fabric) specially characterising the articles. Linings, ribbons, piping, buttons, labels, tacking thread and all other trimmings which are only an accessory to the garments are always excepted.

Subject to the exceptions specially provided for, the articles contained in the present chapter may be wholly or partly made up—*i.e.*, hemmed, pierced (pinked), whipstitched, bound or otherwise sewn by hand or by machine—and may be composed of fabrics of all kinds, including embroideries, tulle, lace, velvet, felt, rubbered or elastic fabrics, oil cloth and other special fabrics.

Subject to the same reservation, this chapter further includes articles made of fabrics cut out and then put together by means of basting, pasting or by fasteners.

Similarly, square or oblong shaped articles with added-on, sewn or knotted fringes are also regarded as ready-made.

Fabrics of all kinds simply cut out in other than square or oblong form pieces for a particular purpose should be classed in the item relating to the finished articles which they are intended to compose, when such purpose is obvious ; if not, these cut-out fabrics are classified under the item of sewn or made-up articles not elsewhere specified or included.

Finally, trimmings simply affixed provisionally on made-up articles are to be considered as not belonging to those articles and consequently follow their own classification.

Item 584.

This item comprises men's clothing. It was considered sufficient to subdivide this item into three sub-items—the first, for clothing of fabrics of natural or artificial silk, pure or mixed ; the second, for clothing composed of fabrics of wool or fine hair (or horsehair), pure or mixed ; and the third, for clothing of fabrics of other textile materials, pure or mixed.

This item includes outer garments and various articles of clothing taken separately, such as jackets, blouses, waistcoats, trousers, greatcoats, overcoats, etc. It also includes dressing-gowns and indoor jackets.

Men's clothing includes boys' clothing, clerical garments, military uniforms, etc.

In the case of clothing composed of two or more articles (jacket, waistcoat, trousers), each of the articles is to be considered separately for the purpose of classification. This also applies to women's clothing.

Item 585.

This item, which comprises women's clothing, includes girls' clothing and baby clothing, when the latter is difficult to classify.

It comprises outer garments and, like the previous item, parts of outer garments such as blouses, skirts, etc., and also overcoats, cloaks, jackets, dressing-gowns and indoor garments, etc.

It was thought necessary to introduce five sub-items, in view of the great variety of fabrics employed in the manufacture of women's clothing. Clothing made of fabrics of natural silk materials were separated from clothing made of fabrics of artificial silk or artificial textile fibres, and a special sub-item was introduced for clothing made of fabrics of metal thread or yarn mentioned in item 492.

Item 586.

This item comprises clothing and underwear of rubbered, oiled and similar fabrics mentioned in items 572, 573 and 577.

These constitute waterproof clothing and underwear.

It was not considered necessary to make any distinction between such articles intended for women and those intended for men or children, but in sub-item *(a)* the said articles of rubbered or oiled fabrics are separated from articles made of waxed cloths covered with a coating having a base of oil or of cellulose derivatives, which come under sub-item *(b)*.

In view of the great difference in value between made-up articles of rubbered fabrics made of silk materials and made-up articles of rubbered fabrics of wool and other textile materials, sub-item *(a)* has been divided into three tertiary items.

Items 587 and 588.

These items comprise underwear for men (587) and for women (588). By underwear is to be understood under-garments as opposed to outer garments, and in particular shirts (or chemises), shirt fronts, collars and cuffs, drawers, camisoles, brassières, bibs, swaddling cloths, vests, nightcaps, petticoats, knickers, combinations, pyjamas, corset covers, sanitary towels, bathing costumes, bathing wraps made of fabrics (tulle, lace, etc.), unbleached, bleached, coloured, dyed, printed, plain, figured, broché or embroidered, also trimmed with ribbons, pipings, passementerie, lace, tulle, etc.

By underwear for men is to be understood linen used for under-garments for men and boys, even if it may occasionally be worn by women, as in the case of collars.

By underwear for women is to be understood under-garments for women and girls, and also baby clothing (including layettes), which may be worn by either sex.

Underwear made of fabric also comprises underwear made of fabric glued on paper or of fabric covered with celluloid (shirt fronts, collars, cuffs, etc.).

Each of these two items has been subdivided into four sub-items, according to whether the underwear is made *(a)* of fabrics of natural silk, pure or mixed ; *(b)* of fabrics of artificial silk or artificial textile fibres, pure or mixed ; *(c)* of fabrics of wool, pure or mixed ; *(d)* of fabrics of vegetable textile materials, pure or mixed.

Item 589.

This item; which comprises table linen, bed linen and toilet linen, also includes kitchen linen and house linen, but not articles of the nature of underwear or garments for personal wear.

It covers : sheets, pillow-cases, table-cloths and napkins, including afternoon tea (coffee) cloths and napkins, dusters, bedspreads and dressing-table covers (subject to the exceptions provided), etc.

It includes bleached linen as well as linen made of fabric unbleached, dyed, coloured, printed, goffered, plain, figured or broché, also linen trimmed with lace, tulle, pipings, ribbons, passementerie, furnished with fringes whether separately added on or not, etc.

The item has been subdivided into four sub-items, based on the textile material composing the fabric of which the linen is made. Owing to the importance of cotton, flax and hemp in the composition of table linen, a special sub-item—viz., *(b)*—has been introduced for linen of cotton ; another—viz., *(c)*—for linen of flax or hemp, pure or mixed with cotton ; one—viz., *(a)* —for linen of pure or mixed natural or artificial silk materials ; and, lastly, a fourth—viz., *(d)*— for linen composed of fabrics of other textile materials.

Item 590.

It was decided to place in a basic item handkerchiefs, kerchiefs and neckerchiefs, as these are very simple articles, generally made of a fabric cut in a square or rectangular shape with a seam along the edge or with a simple hem, or even hem-stitched.

This item, therefore, includes pocket handkerchiefs, neck-wraps, head-kerchiefs, neckerchiefs and kerchiefs and mufflers, whether of unbleached, bleached, dyed, coloured, printed, plain, figured, broché or embroidered fabrics.

This item is subdivided into five sub-items based on the textile material of which the fabric forming the handkerchiefs, kerchiefs and neckerchiefs is composed.

Item 591.

As shawls and scarves bear a certain resemblance to the articles contained in the previous item, it was thought expedient to introduce a special item for these, the more so as in some countries shawls and scarves are of great importance both as a part of the wearing apparel and also as a protection against cold in the same way as cloaks, greatcoats and fur coats (pelisses).

By a shawl is to be understood a piece of fabric, generally large, which is worn on the shoulders and often has fringes which are either separately added on or obtained with the threads of the fabric. By a scarf is understood a band of cloth worn on the shoulders or round the waist. Like shawls, scarves may have fringes either obtained with the threads of the fabric or separately added on.

As regards woollen shawls, this item also includes travelling shawls weighing not more than 400 grammes per square metre if they are sewn or deemed to be sewn. Unsewn shawls, whether cut to measure or not, are to be classed as woollen fabrics according to their kind.

In the case of shawls and scarves also, it is immaterial whether the component fabric is unbleached, bleached, dyed, coloured, printed, plain, figured, broché or embroidered.

This item is divided into four sub-items based on the nature of the textile material forming the fabric of which the shawl is made.

Item 592.

This item refers to neckties of every shape and quality except, of course, those of hosiery.

It comprises neckties properly so called—*i.e.*, those in which the knot has to be tied and those already knotted (made-up neckties), both for men and women, and ties to be worn with military uniform. There is of course no distinction based on the quality of the fabric or the process to which the articles have been subjected.

This item has been subdivided into three sub-items, in order to separate neckties of natural silk, pure or mixed *(a)*, and those of artificial silk or artificial textile fibres, pure or mixed *(b)*, from neckties of other textile materials *(c)*.

Item 593.

This item comprises articles which, though of varying shape, are used for the common purpose of holding certain parts of the human body in place or of holding up or attaching to the body special articles of apparel.

This group of articles is characterised by the fact that they very often contain parts made of elastic fabric or hosiery, or are almost entirely made of these special fabrics or elastic hosiery.

This item covers :

(a) Corsets, corset-belts, bust-bodices, abdominal belts, buskless corsets for women, girls and children, suspensory bandages, stockings, socks and leggings for varicose veins, etc.

(b) Braces, garters, suspenders, hygienic belts, armlets, belts of elastic fabric or hosiery, suspender belts, etc.

Articles of the category in question come under this item even if embroidered, trimmed with ribbons, passementerie, tulle or lace, reinforced with hide, also with accessories of metal, rubber, bone, horn, etc.

The two sub-items have been divided into tertiary items based on the textile materials of which these articles are usually made.

Item 594.

It was considered essential to introduce a basic item for packing bags or sacks.

This item comprises all packing bags or sacks, irrespective of their size and shape, and includes bags or sacks which are parallelepiped in shape, with a square or rectangular base.

The essential characteristic of a packing bag or sack is that, before being filled, it is in itself a receptacle. Thus packing-cloths used for wrapping or covering goods cannot be regarded as bags, even if their edges are joined together with coarse stitching at the corners and opening.

The classification of bags will not be affected by the presence of ribbons and other accessories of textile materials, even if different from that of which the bag is composed, and of leather, metal, etc., accessories, which are sewn on or fastened in any other way, in order to reinforce the hems or for some similar purpose.

Nor should account be taken, in classifying a bag, of the fact that it is lined or reinforced with paper, or tarred or lined with waterproof fabric, or that the unbleached fabric of which it is made bears coloured stripes either as a distinguishing mark or for some other purpose, even if such stripes are made of textile materials different from the one composing the bag.

The item is divided into three sub-items : *(a)* bags or sacks of jute fabrics ; *(b)* bags or sacks of cotton fabrics ; and *(c)* other bags or sacks.

Item 595.

This item comprises tilts, awnings and ships' sails and the like.

It was thought well to reserve a basic item for these articles, as, if they were placed with the articles comprised in the subsequent items, they would be confused with made-up articles of quite a different character.

By tilts are understood fabrics cut to measure and joined together at the edges by stitching in order to form covers for protecting goods and objects of all kinds against the weather, more particularly such as are loaded on open wagons, lorries or carts. Tilts are usually made of thick fabrics of cotton, hemp or jute, rendered waterproof by means of a solution of rubber, metallic or insoluble soaps, tar, asphalt, animal or mineral fats, heavy mineral oils, chemicals (copper hydrate), etc. These tilts have hems and are fitted with eyes, hooks, twine, etc., to fasten them to the vehicle.

Besides tilts, awnings and ships' sails, this item comprises hammocks made of fabric, craft made of fabric, rescue sheets for use in case of fire, knapsacks, umbrella-shaped awnings, shop-blinds, outside window-blinds, in so far as these articles consist of the same fabrics as tilts, awnings and ships' sails, and are so made that, even without being rendered waterproof by means of the materials mentioned above, water cannot easily penetrate them owing to the actual texture of the fabric or its thickness and the nature of the fibre employed.

Item 596.

It was considered advisable to group under this item a number of articles which, in the various existing tariffs, are included under most dissimilar items.

These are travelling-bags, market-bags, handbags, cases and other sheathmakers' wares, made of any kind of fabrics or of felt or hosiery.

The item also comprises rucksacks, haversacks, so-called alms-bags, laundry-bags, umbrella-cases and, in general, articles of a similar kind to those enumerated in the item, provided that they are flexible, this quality being due to the fact that they are made of fabric, felt or hosiery, without any stiff framework made of esparto, thin strips of wood, etc.

Articles included under this item may also have accessories, fastenings, clasps, buckles, hinges or handles, rigid or otherwise, of hide, metal, bone, horn, plastic materials, wood and the like, without the classification being affected thereby.

The same applies to simple fittings or accessories of precious metals, countries so desiring being at liberty to insert tertiary items with a view to assessing these articles separately.

The item is divided into three sub-items : *(a)* for fine articles—that is to say, articles manufactured of fabrics of pure or mixed natural or artificial silk materials, or of fabrics of metal thread or yarn coming under item 492 ; *(b)* for articles composed of special fabrics coming under items 571 to 573 and 575 to 577 ; and *(c)* for articles made of other fabrics.

Item 597.

This item comprises sewn or made-up articles of fabric, felt or stuff, not elsewhere specified or included, and thus constitutes the collective item necessary to complete the nomenclature of the chapter.

This item, of course, includes all made-up articles of felt and fabric of all kinds, other than hosiery, which do not appear in special items or in the previous items of the present chapter, and which are to be regarded as sewn or made up.

Thus, for instance, woollen blankets or coverings, simply hemmed or with a ribbon border, should not be included under this item, having been already placed under item 509 ; it does, however, include woollen blankets or coverings which, being sewn in a different way, are real made-up articles.

For this item, which covers numerous articles, it was thought advisable to introduce seven sub-items, three of which are allotted to articles composed of fabrics coming under groups A, B and C of Chapter 46, each of the other sub-items being allotted to articles made of the fabrics referred to in the corresponding chapters—47, 48, 49 and 50.

The item includes in particular the following articles : coverlets ; down-quilts ; antimacassars ; friction pads ; dress-shields ; mattresses ; cushions ; blinds and vitrage curtains of muslin, etamine, tulle and lace ; flags, banners, standards and fanions ; bandoliers ; sewn bandages for dressings ; cartridge bags ; cockades ; pincushions ; hat and cap linings ; gaiters or spats ; saddle-covers ; saddle-cloths ; leggings ; portières and house curtains ; chasubles, copes, stoles and other sacerdotal ornaments ; tidies ; handkerchief sachets ; purses ; newspaper racks ; glove sachets ; brush stands ; comfit boxes (bonbonnières) ; soles ; hatbands ; lamp shades ; horse camails and caparisons ; hat crapes ; lamp mats ; keyboard, furniture, piano and like covers ; cases for arms, etc.

The following are not to be regarded as sewn and therefore not to be classified in this item : fabrics in the piece (ribbons, lace, tulle, embroidery) formed of two or more pieces of fabric of the same quality sewn together at the ends so as to form a longer piece.

Nor are to be regarded as sewn fabrics in the piece, one or both ends of which are folded over and sewn, or simply whipstitch hemmed, or reinforced with strips of fabric of another kind attached by sewing.

The same applies to fabrics produced by the lengthwise partition or cutting of pieces of greater width having only one selvedge or no selvedge at all, and the opposite edge or the edges of which, whether folded over or not, have been provisionally or roughly seamed in order to prevent the unravelling of the fabric.

* * *

In the explanations of the items of the present chapter, the commonest cases of classification have merely been examined. The examination of less important or less usual cases has been purposely avoided, these necessarily requiring to be ruled by special provisions of the Repertorio or General Index or by assigning the articles of doubtful classification to the items apparently most suitable in view of the purpose and nature of the articles in question.

Chapter 53.

RAGS AND SCRAPS OF TEXTILE MATERIALS.

If all the recommendations made regarding the nomenclature of this chapter had been adopted, the chapter would have contained many more items and sub-items than the two items proposed.

In the case of cotton scraps alone, nine sub-items and fifty-five tertiary items were proposed !

For the sake of simplicity, it was considered enough for the purposes of an international nomenclature to create only two basic items : one for new waste of fabrics, felt and hosiery, and the other for every kind of scraps from *worn* articles, also for articles of textile material which are so *worn* as to be unfit for the purpose for which they were made and to be only or mainly suitable for unravelling, paper-making, machine-greasing and other similar purposes.

Item 598.

This item comprises *new* waste of fabrics, felts and hosiery, produced at the time of the manufacture of made-up and other wares composed of these articles (including, for example, tailors' clippings and selvedges), the small size of such waste precluding its being used as the fabrics from which it originally came.

The value of this new waste fully justifies the insertion of a basic item separate from rags and scraps.

Item 599.

This item comprises all materials derived from textile articles which are adapted for nothing except unravelling, paper-making, etc. It includes, in particular, rags and scraps properly speaking,—whether of flax, hemp, wool, silk, cotton, etc.—derived either from old linen articles (rags) or from old fabrics; old rope and cordage, tarred or not, including the tow derived therefrom ; old worn-out nets ; packing material of fabric unfit for use ; rags for dressings and lint in threads (old unravelled linen), etc.

The above-mentioned two items do not include pieces of stuff, whether used or not, which can still be employed for the manufacture of certain articles.

It was originally intended to subdivide the two items in such a manner as to distinguish between rags and scraps of vegetable, animal or mixed origin, but it was decided to leave each country to introduce any sub-items which it might find necessary.

Section XII.

FOOTWEAR, HATS, UMBRELLAS AND PARASOLS; ARTICLES OF FASHION.

Chapter 54.

FOOTWEAR.

From the point of view of Customs nomenclature, footwear is treated very differently in the tariffs of the various countries. Some tariffs class it with leather articles. In view, however, of the diversity of the component materials of footwear, it was deemed preferable to classify the latter in a single chapter covering footwear of all kinds.

In some tariffs, footwear has a very detailed nomenclature, while in others it accounts for only a very small number of items. Those two extremes were avoided, but, in the nomenclature, due account has been taken of the possible taxation requirements of the different States.

One point to be examined was whether gaiters should not be classed with footwear, but, as gaiters for outdoor wear are really articles of clothing, it was decided to class gaiters in the chapters to which they belong, according to the material of which they are made.

At first sight, the best classification for footwear seems to be that based on the material of which it is made. This is the method which has been adopted, but two special items have been placed at the beginning of the chapter for groups of footwear of a specific character.

Item 600.

This item includes workmen's footwear of rough make-up, but generally strong and heavy and often with hobnailed soles. Such footwear, for which " crusts " are frequently employed, and the value of which is materially less than that of footwear for ordinary outdoor use, can hardly be classified with the latter, and many tariffs give it a special place.

This item covers not only half-boots, but boots, in order to take into account the habits of certain countries. Common peasants' boots may be lined but not laced. Fine-quality boots are classified with other leather footwear. For the rest, this item only includes articles made of leather of natural colour or waxed, which serves to restrict its scope fairly exactly.

Common half-boots with wooden soles are not included in this item, but in item 605*(a)*.

Item 601.

Slippers and house footwear form a special group in the footwear chapter, which should be dealt with separately. This item, therefore, includes all slippers and house footwear, whatever the material of which they are made, and whether the sole is of leather, rubber, textile or other materials. In view of the diversity of these articles, three sub-items have been introduced to take into account the material utilised, which also determines the value. For classification in one or other of these sub-items, the material of which the sole is made is not taken into account. For example, slippers of woollen tissue with a leather sole come under sub-item *(b)* and not sub-item *(a)*. As regards slippers and house footwear of textile materials mentioned in sub-item 601*(b)*, a note after item 603 indicates the amount of leather disregarded for purposes of classification when such footwear also includes leather parts.

The possibility was, of course, considered of giving a definition of slippers and house footwear, as is already done in certain Customs tariffs, which generally take as a basis the absence of heels or a limitation in the height of the heels. It is quite true that, as a rule,

footwear of this kind has no heels ; usually, too, it has no fastening. But there are frequent exceptions to this rule, and some house shoes which could obviously not be used outdoors have quite high heels (" mules ", for example) and a special fastening. Generally speaking, no difficulty exists in distinguishing house from outdoor footwear. Any footwear unsuitable for out-of-door use is excluded from this item 601.

Sub-item *(a)* will also include moccasins and basil footwear called " kroumirs ".

Sub-item *(b)* will include, among others, slippers known as " chaussons de Strasbourg " and cloth list slippers, but not sports- or tennis-shoes with leather or rubber soles.

In sub-item *(c)* will be classified, for example, footwear of straw, raffia, etc.

Item 602.

This item is the most important in the chapter. It includes all footwear with leg or upper made of leather or with important trimmings of leather. The footwear comprised in this item has soles of leather or rubber. It may also have seams, edgings, bows and other minor accessories of natural or artificial silk, without this involving any difference in the classification.

This item also includes, not only footwear with the upper and golosh of leather and only the leg of cloth, but footwear with an upper and golosh of cloth trimmed with larger pieces of leather than are necessary for strengthening the toe, the heel, or the part where the eyelet holes or hooks are fixed.

The subdivisions in this important item may be made in different ways. It being hardly possible to take as a basis the quality of the leather, the various tariffs, in order to estimate the value of the labour involved in these articles, usually take either the weight per pair or the size —*i.e.*, the length of the sole. It was considered that it would be better to establish a special sub-item for children's footwear, and not to introduce other subdivisions in footwear for adults, in order to give the different countries the option of introducing whatever subdivision they think fit. In order to distinguish children's, boys' and girls' footwear from " other " footwear, the basis taken should be the length of the sole, which is the most convenient method of differentiation both for the Customs and the trade. The size-number cannot be taken as a basis, as it varies in different countries. The limit between children's and adults' footwear was fixed at a sole-length of 23 centimetres, which is already taken as the limit in a number of countries. This corresponds to a size of about 34, according to the French numbering.

If thought desirable, sub-item *(b)* could be further subdivided according to weight per pair, size, shape, nature of leather, etc.

Leather sandals are also included in this group.

Item 603.

This item includes all footwear of textile or similar materials, with leather or rubber soles, which has not the characteristics of slippers or house footwear, as understood in item 601. In this group, two sub-items are sufficient to differentiate fine footwear from more or less common footwear ; the distinction depends on the nature of the cloth. A separate sub-item has, therefore, been made for footwear of natural or artificial silk or of mixed fabric containing natural or artificial silk, footwear made of fabric woven of metal threads of the kinds specified in Chapter 46, and lastly footwear of embroidered fabric.

The footwear in items 601, 602 and 603 frequently includes small accessories of natural or artificial silk which do not increase its value and would not justify its classification in the sub-item for footwear of silk. A note has therefore been added after the item, to the effect that footwear of this kind having only seams, edgings, button-holes, pompons, bows, and other small accessories, of natural or artificial silk, is not included under sub-item 603*(a)*. Generally speaking, therefore, footwear with trimmings or accessories of materials more heavily taxed is treated like articles of clothing with similar ornaments or accessories, in accordance with note 7 at the head of Section XI : " Textile Materials and Textile Goods ".

Horsehair footwear is also included in this item.

Item 604.

In certain tariffs, rubber footwear is classified with other rubber articles. As another method was adopted for the reasons stated above, the question arose whether bathing-shoes, which are made of sheets of pure rubber, should also be included here. Although these shoes have the character of rubber articles, it is clear that exceptions to the rule would only complicate the classification of these articles, which may exist in different conditions ; and it was therefore considered preferable to include here all rubber footwear indiscriminately. This item therefore includes ordinary rubber shoes worn over outdoor shoes, footholds with elastics for ladies, snowboots, and, generally speaking, articles the upper and golosh of which

are chiefly made of or covered with rubber, but not cloth footwear with rubber soles, of the nature of sports- or tennis-shoes, in which the sole is stuck to the cloth with a rubber band.

Footwear of leather and rubber is included, not in this item, but under leather footwear.

The first sub-item includes only footwear which is of pure rubber—*i.e.*, without combination or intercalation of tissue or other materials—but in which the rubber may contain the ordinary weighting materials.

Item 605.

This covers all footwear not included in the previous items. It should be noted, however, that made-up or knitted footwear for babies, which is not produced by the boot and shoe industry, is included, not here, but among articles of clothing (Chapter 52) or under hosiery (Chapter 51).

Sub-items have been provided for the most typical articles, which need to be differentiated according to their special character. The first sub-item, *(a)*, includes all footwear with wooden soles, whatever may be the material of the upper or leg, including fur-lined footwear.

Sub-item *(b)* comprises wooden sabots, and sub-item *(c)* covers all other footwear, which does not, in point of fact, form a very large group. It includes, for example, rope-soled shoes *(espadrilles)* which are not house shoes, rubber boots with leather soles, straw footwear, etc.

Asbestos footwear is an exception to the general rule, and is classified under item 642*(d)* (Chapter 58), where it is specified.

Item 606.

A special item (item 358), " Leather Parts for Footwear ", was provided in Chapter 37 of Section VII : " Hides, Skins, Leather, Fur Skins, and Manufactures of these Materials " ; but it was considered that the uppers, legs, and other *ready-made* parts of footwear, either of cloth or leather, in which there is a considerable trade, and which are also typical products of the footwear industry, would be better classified in the footwear chapter than in the leather chapter. Hence, for these special articles only, a separate item has been provided at the end of this chapter, with subdivisions according to the material. All other leather parts of footwear remain classified in Chapter 37, and those of other materials in the various sections to which they belong according to their material and condition. Only ready-made articles of this kind, which are usually lined with leather or cloth, are included in this item 606.

Chapter 55.

HATS AND CAPS.

The most varied materials are used for making hats and caps : fur felt, wool felt, fabrics, horsehair, artificial silk, straw, wood-chip, plaits consisting of the most different materials ; while hat trimmings may be made of leather bands, ribbons, artificial flowers and foliage and even jewellery.

In view of the difficulty of logically classifying such various products in the chapters of the Customs nomenclature relating to materials used for hat-making, it has been thought advisable to include the whole of these articles in one chapter comprising hats of all kinds for men, boys, ladies, girls and children, whether they are in the form of hats to be shaped (shapes or hoods) or of wholly made- up hats.

It should be noted, however, that caps, bonnets and bérets which are knitted or made of non-fulled hosiery are not included in this chapter ; these articles are classified in Chapter 51, with hosiery.

The articles included in this chapter are divided into ten basic items, three of which are reserved for semi-manufactured products used for hat-making—*i.e.*, shapes or hoods ; six items comprise hats of all qualities and kinds, and the last item is devoted to caps, bonnets and bérets.

The items relating to hoods or shapes, whether the latter are intended for making men's or women's hats, are distinguished from each other by the nature of the raw material.

Of the six items comprising hats, three relate to men's hats and are distinguished from each other by the raw material of which the hood or shape is made ; the other three items comprise

women's hats of any form and material and are also distinguished from each other by the nature of the raw material of which the hoods are made.

Item 607.

This item, which comprises felt hoods or shapes for hats, is divided into two sub-items : *(a)* of hair-felt or wool- and hair-felt ; *(b)* of wool-felt. This distinction is justified by the great difference in price between these two kinds of felt.

Hoods or shapes are understood to be :

(1) The cone—that is to say, the first stage in the preparation of felt for hats. By the process of cone-forming, the hairs and wool fibres are laid upon each other on a mould which gives them the form of a cone (hood, shape).

When the forming is completed, the hairs and fibres are sprayed with a jet of boiling water or steam, which gives them the necessary consistency to enable removal of the cone from the mould. As the hairs have not been fulled during this forming process, this cone has no solidity, but has merely the consistency of down, so that it can easily be broken up by hand.

(2) The simple hood or shape—that is to say, the cone having undergonef ulling, which causes it to be felted, thereby giving it the requisite strength. The hood or shape may therefore be said to be the completely felted cone.

The hood or shape is more or less conical in form.

(3) The actual hood or shape—that is to say, the article referred to in (2) above, which, by means of machinery, has been given a more regular form at the top of the cone and the edges of which have been turned up by stretching the lower part.

There may be two kinds of such hoods or shapes :

(a) Hoods the crown and brim of which have not yet been finally shaped ; the horizontal plane of the crown is practically circular and not oval ; the impression made by the cord which marks the line separating the crown from the brim is indistinct, so that its ultimate position cannot yet be clearly indicated ;

(b) Hoods which have been adjusted on a block for oval crowns after being attached to it by means of a cord and after the edges have been stretched.

Hoods of the latter category may be regarded as blanks of the form to be given to the hat and must be included under this item, particularly as the crown has not become entirely regular in all directions.

Certain very thin hoods or shapes called " chemises ", which are intended to be fixed to rigid bodies, must be regarded as hoods or shapes.

" Plateaux "—namely, felt discs intended for hat-making—must also be regarded as hoods or shapes.

The item under review includes hoods or shapes that are unbleached, bleached, dyed or printed, even sized—*i.e.*, treated with gum-lac or a substitute ; on the other hand, hoods or shapes having been given proper hat form and of which the brims — have been properly shaped come into the category of hats.

By felt hoods or shapes are understood hoods made of the fur of rabbits, hares, musk-rats, nutrias, beavers and the like.

By wool-felt hoods or shapes are understood hoods made of wool, camel-hair and hair similar to wool.

By hoods or shapes of wool-felt and hair-felt are understood hoods or shapes made either of a mixture of hair and wool or of wool-felt covered with a layer of hair.

Item 608.

This item includes hoods or shapes for hats made of vegetable strips, chips, fibres and filaments (straw, bark, palm fibre, esparto, luffa, the pith or stems of aquatic plants, wood, rush, reed, rattan, bamboo, etc.) unless such vegetable fibres are included among the vegetable textile fibres under Chapter 49.

The item is subdivided into two classes : *(a)* hoods or shapes plaited in a single piece ; *(b)* other hoods or shapes.

By hoods or shapes plaited in a single piece are understood those made directly from blades or strips of vegetable matter without sewing, tying or stitching up.

By " other " hoods or shapes are understood hoods made of plaits of the above-mentioned vegetable materials assembled either by sewing the edges of superimposed plaits or by stitching up or threading the edges of the plaits with a thread which passes alternately inside the meshes of the juxtaposed plaits and is visible only on examining the hood against the light. This sub-item also includes tied hoods or shapes made of juxtaposed bits of tube straw kept in position by coarse thread or string.

In the same way as for the felt hoods or shapes of item 607, a distinction must be made in the articles belonging to this item between hoods or shapes for hats which have not been sized or shaped and articles which have undergone a further operation.

This item, therefore, comprises exclusively hat blanks—that is to say, hoods or shapes neither sized nor shaped, generally conical in form or only imperfectly resembling a hat in shape.

Hoods or shapes coming under this item may be raw, bleached or dyde.

Item 609.

This item includes hoods or shapes for hats made of plaits, ribbons, bands or threads of textile material, paper or other materials derived from cellulose.

It also comprises hoods or shapes made of plaits of the materials referred to in the previous item, mixed with plaits, ribbons, bands or threads of textile material.

The explanations given in respect of the previous item also apply to the hoods or shapes referred to in the present item.

Item 610.

This item comprises hats of hair-felt, of wool- and hair-felt, and of wool-felt, for men, boys, diplomats, soldiers, ecclesiastics, etc., and hats the form, size and trimming of which do not show whether they are intended for women or men. It also includes hats made of a body covered with a thin hood or " chemise " of felt, hat crowns and shaped brims.

It has been thought necessary to create a special item for hats made of the hoods or shapes referred to in item 607, in view of the great importance of these articles in world trade.

The item has been divided into two sub-items as in the case of the hoods or shapes from which these hats are made : *(a)* hats of hair-felt or of wool- and hair-felt ; *(b)* hats of wool-felt.

Each of these sub-items is divided into two tertiary items : (1) untrimmed hats ; (2) trimmed hats.

Untrimmed hats include felt hoods or shapes which have been given proper hat form or of which the brims have been properly shaped either by hand or by machine, or which have undergone both operations. The crown or brim of the untrimmed hat has thus been given its ultimate shape as it appears in the finished hat.

By " trimmed " is understood a hat with a leather or artificial leather sweatband, a lining, a ribbon (hatband) or a cord at the base of the crown. One of these elements of trimming is alone sufficient for the hat to be regarded as trimmed ; the existence of a binding made by stitching or by applying a ribbon is not sufficient for the hat to be regarded as trimmed if there is no lining, hatband, cord or sweatband.

The existence of a paper lining or of a trade mark, even when it is of fabric stuck on the bottom of the hat, is not sufficient for the hat to be regarded as trimmed.

Item 611.

This item includes hats made of the hoods or shapes referred to in item 608. It is divided into two sub-items according to whether the hat is trimmed or not.

Untrimmed hats belonging to this item are understood to be not only dressed or shaped hoods or shapes, but also hoods or shapes sewn or plaited on the mould or plaited in one piece, which have assumed their ultimate form or may be worn as they are, without shaping or dressing, a simple trimming being added as in the case of real Panama hats and hats of the " Panama " type.

Dressed hoods or shapes are understood to be articles which have been pasted, gummed, dyed or varnished after having been plaited, sewn, stitched up or tied together. Hoods or shapes made of dyed or bleached plaits must not be regarded as dressed.

Shaped hoods or shapes are understood to be hoods which have been formed on the mould either with an iron or by hand or by means of lathes or special presses.

By trimmed hats under *(b)* are understood hats which are bound, lined, fitted with leather or artificial leather sweatbands and with a ribbon (hatband) or cord. Hats with either of these trimmings are regarded as trimmed.

On the other hand, hats of the kind in question are not regarded as trimmed if they have no other trimming beyond a wire covered with textile material or wrapped in paper, and sewn on the brim for the purpose of strengthening the hat, whether the wire is visible or not.

Item 612.

This item comprises all men's hats which are not classified in the two preceding items. It is subdivided into three groups :

(a) Hats of natural or artificial silk, whether pure or mixed ;
(b) Hats of leather ;
(c) Hats of other materials.

Sub-item *(a)* includes hats made of a body to which is attached a crown of fabric or plush containing natural or artificial silk in any proportion.

In classifying hats in this sub-item, no account is taken of any silk contained in the accessories (hatband, binding, lining) with which the hat is trimmed.

It also includes men's hats made of plaits composed of ribbons, of stuck threads of natural or artificial silk, and of horsehair and strips of artificial silk.

Silk hats known as " opera hats " (collapsible hats), together with hats made of long fibres (of natural or artificial silk), known as " top-hats ", are classified in this sub-item.

Sub-item *(b)* comprises men's hats made principally of skin or leather, even when waxed. It includes helmets for the military, for airmen (crash helmets), for firemen, also leather hats for motorists, cyclists, etc. Hats of this kind may also have a body of fabric, esparto, cardboard, metal, etc.

Sub-item *(c)* comprises men's hats other than those coming under items 610 and 611 and not classified in the two preceding sub-items. It includes in particular hats made of cloth, canvas, velvet, fabrics with metal, oilcloth, canvas coated with a substance having a base of derivatives of cellulose, asbestos, cork, elder-pith or other similar products, even when covered with fabrics, furs, etc.

Hats coming under this item may be soft or may be mounted on a rigid body, in whatever manner ; they may be finished or not and trimmed or untrimmed.

Item 613.

This item includes felt hats for women ; it is the parallel item to 610, and has the same sub-items and tertiary items.

All the remarks on item 610 also refer to the present one.

Women's hats are regarded as including hats for girls and children, as well as toques ; trimmed women's hats are regarded as including both hats trimmed after the style of men's hats (hatters' trimmings) and those with milliners' trimmings, such as ribbons, pins, slides, flowers, feathers, made-up trimmings *(fantaisies)*, motifs, ornaments, paintings, *appliqué* work, embroidery, lace, etc.

Hats with trimmings of the same material as the hat itself must also be regarded as trimmed.

There are hoods or shapes of felt which by their colour and the work done on their surface (pouncing, velveting, glossing, etc.) are obviously intended to be made into soft hats for women by means of a simple adjustment on the part of the milliner ; these hoods or shapes must be classified, not in item 607, but in the present item, as women's untrimmed hats.

As in the case of the crowns and brims of men's hats, this item includes shaped crowns and brims for women's hats.

Item 614.

This item includes women's hats made from the hoods or shapes classified under item 608, and forms a parallel item to item 611.

All the remarks made in respect of those two items and the preceding item also refer to the present item.

Item 615.

This item comprises women's hats of textile materials (with the exception of felts) and hats not covered by the previous item.

It includes in particular hats made of the hoods or shapes coming under item 609 and hats made of the same materials as men's hats included in item 612. It also comprises hats made entirely or mainly of ornamental feathers or artificial flowers or leaves ; these hats must be regarded as trimmed.

Item 616.

This item comprises caps, bonnets and bérets of all kinds and for all purposes, whether finished or not. It is divided into four groups of articles :

(a) Fabric, felt and fulled hosiery ;
(b) Leather or skin ;
(c) Rubber ;
(d) Any other material.

Caps, bonnets and bérets of non-fulled hosiery or of underwear material are classified, under hosiery or underwear, in so far as they are not articles of hosiery or underwear material mounted on a rigid body.

In classifying articles of this kind furnished with a peak, the material of which the crown is made should alone be taken into consideration.

Sub-item *(a)* includes in particular workmen's caps, uniform caps, képis, toques for judges and barristers, the square toques and bonnets of ecclesiastics, skull-caps used as head-protectors with or without ear-flaps, bonnets (caps) for wear in offices or in church, bathing caps, bonnets and bérets of fulled hosiery, such as fezes, chechias, Basque bérets, Alpine bérets, sailor caps, etc.

Sub-item *(b)* includes caps and bonnets of leather and skin for cyclists, motorists, for sport, etc.

By bérets or bonnets of rubber under sub-item *(c)* are understood articles of this kind made exclusively of rubber, even if the accessories are of other materials, but not bérets or bonnets of rubbered fabrics, which are included in sub-item *(a)*.

The last sub-item, *(d)*, comprises caps, bonnets and bérets made of any materials other than those mentioned in the previous sub-items.

It includes in particular articles of this kind made of the plaits classified in item 411 and of plaits of any other materials.

It also comprises caps, bonnets and bérets made entirely or mainly of fur, artificial flowers or ornamental feathers, even if stuck on fabric.

For the purposes of classification of the articles included in this item, cardboard, leather, metal, horn, bone, etc., accessories or trimmings are not taken into account, nor are the bodies of whatever material on which they are mounted, nor are the linings, leather or artificial leather sweat-bands, ribbons covering the edges, bindings, buttons or similar accessories.

In addition to the explanations given in respect of the items of this chapter, it may be stated that trimmings and accessories of all kinds for hats, caps, bérets and bonnets, when they appear alone, must be classified under the items of the nomenclature to which they belong ; fabric bodies must be classified among made-up articles (item 597) and springs for opera hats under item 732 (Chapter 63).

Chapter 56.

UMBRELLAS, PARASOLS, WALKING-STICKS.

This chapter comprises three kinds of articles which, being made of the most various materials, could not logically be classified in the chapters on the materials of which they are made or in that on the material predominating in weight over the other components.

It is therefore much more practical and logical to place umbrellas, parasols, walking-sticks and parts thereof in one chapter and also to include whips, riding-whips and parts thereof, since these articles are very similar to walking-sticks, at any rate for purposes of Customs classification.

* * *

Item 617.

This item comprises umbrellas and parasols of all kinds.

Almost all Customs tariffs base their classification of these articles on the material with which the frame is covered and which also serves as a protection against rain or sun, while, at the same time, taking into account the textile products with which the cover is trimmed or the trimmings with which the handle is ornamented.

For this reason, umbrellas and parasols have been separated into two classes in special sub-heads according to the material of which the cover is made.

Sub-item *(a)* comprises umbrellas and parasols the cover of which is made of natural-silk or floss-silk fabric, or of artificial silk or artificial textile fibres, pure or mixed in any proportion.

Sub-item *(b)* includes umbrellas and parasols the cover of which is made of any kind of fabric except the fabrics included in the preceding sub-item.

Umbrellas and parasols may be classified in these respective sub-items if the cover is made even only in part of the fabric in question, and an article may be included in sub-item *(a)* if the fabrics containing silk form only one element of the various fabric parts making up the cover.

Sub-item *(c)* includes umbrellas and parasols in which the cover, of whatever material it is made, is trimmed with lace or embroidered. It also includes umbrellas and parasols of all kinds of which the handle, the tip and the tips of the ribs are made entirely or partly of ivory, tortoiseshell, mother-of-pearl or amber, or of precious metals or precious or semi-precious stones, even when these materials are mere ornaments.

Sub-item *(d)* refers to umbrellas and parasols which have a cover of paper or other material except fabric, unless they must be classified in sub-item *(c)* through having trimmings referred to in the latter sub-item.

In the classification of umbrellas and parasols, no account must be taken of any cords, tassels, ribbons or similar articles of textile material, including silk, which may be appended to the handles of such umbrellas or parasols.

Umbrella and umbrella-walking-stick cases, when imported at the same time as the umbrellas to which they belong, are classified in the same way as the latter articles.

Lastly, it should be noted that umbrella-walking-sticks or walking-stick-umbrellas are also classified in this item.

Item 618.

This item comprises walking-sticks of all kinds and the shafts and sticks of umbrellas and parasols.

It has been thought advisable to group these two articles in one item, although walking-sticks are finished articles, while the shafts and sticks form only a part of umbrellas and parasols, because in some cases it is not possible to determine whether shafts and sticks are intended to become walking-sticks or to be used for umbrellas.

There are shafts of wood without handles or knobs and also shafts with handles which are used indifferently for making walking-sticks or umbrellas. In order to avoid any difficulty in the classification of these articles, it has been deemed necessary to include them in one item.

By shaft is understood the umbrella or parasol stick on which the frame is to be fixed, without the handle.

By umbrella stick is understood the shaft furnished with a curved or straight handle, with or without a knob.

This item includes shafts or sticks with or without decorations, but without frame.

The sticks and shafts made of iron or steel tubes in the raw state—that is to say, merely cut in lengths without any other working—are classified among iron or steel tubes in Chapter 63 ; all others are included in the present item.

In order to classify these articles logically, three groups have been created, each of which forms a sub-item ; the basis taken for each group is either the material of which the articles are entirely made or the material with which they are decorated or forming one of their components. A fourth sub-item has been created for articles which cannot be classified in the preceding groups.

Sub-item *(a)* thus comprises walking-sticks, umbrella and parasol shafts and sticks made entirely of wood, bamboo, rattan, cane and similar materials.

It should be noted here that the above-mentioned articles of wood, simply rough-shaped, rounded or not, are classified in item 388.

A note provides that ferrules, tips and other similar small accessories in materials other than mother-of-pearl, tortoiseshell, ivory, amber, precious metals, precious or semi-precious stones do not affect the classification of these walking-sticks, shafts and sticks.

Sub-item *(b)* includes articles of this kind of any material combined with horn, bone or artificial plastic materials.

The word " combined " is deemed to include also walking-sticks, shafts and sticks having the handle or knob made even entirely of the said materials.

Sub-item *(c)* comprises the same articles combined with mother-of-pearl, tortoiseshell, ivory or amber, or furnished with decorations of precious metals, precious or semi-precious stones.

The expression " decorations " also extends to handles or knobs.

Sub-item *(d)* is a collective sub-item comprising walking-sticks and the shafts and sticks of umbrellas and parasols which are not classified in the preceding sub-items.

It includes, in particular, articles made of base metals, natural leather, artificial or imitation leather, artificial plastic materials, wood, bamboo, rattan, cane and the like combined with materials other than those mentioned in sub-items *(b)* and *(c)*, etc.

The following articles are classified together with walking-sticks : bludgeons, sticks for mountaineers, ski-sticks, measuring-sticks, shooting-sticks. Sword-sticks, loaded sticks, gun-sticks and pistol-sticks are included in Chapter 80.

Item 619.

This item includes handles and knobs of all kinds for walking-sticks, umbrellas and parasols—that is to say, articles to be fitted at the end of the shafts and sticks of umbrellas or walking-sticks.

The item has been divided into six groups according to the material of which these articles are entirely or partially made.

Sub-item *(a)* includes articles made entirely of wood, bamboo, rattan, cane and similar materials.

Sub-item *(b)* comprises articles of this kind made entirely of base metals, even gilded, silvered or plated with precious metals.

Sub-item *(c)* includes handles and knobs made entirely or partially of bone, horn or artificial plastic materials.

Sub-item *(d)* refers to articles entirely or partially made of mother-of-pearl, tortoiseshell, ivory or amber.

Sub-item *(e)* includes knobs and handles made of other materials, except those made of precious metals, which latter come under Chapter 61.

It also includes handles and knobs made of wood, bamboo, rattan, cane and similar materials and base metals, with parts of other materials, except the materials referred to under *(c)* and *(d)*, provided they have no decorations of precious metal or precious or semi-precious stones.

Sub-item *(f)* comprises the handles and knobs referred to in the previous items if they have decorations of precious metals or precious or semi-precious stones.

Item 620.

This item includes :

(1) Stems and ribs used for making umbrella mountings, with the exception of steel stems and ribs in the raw state—that is to say, those which have not undergone any operation except cutting in lengths. The stems and ribs of iron or steel, round, solid, flattened, hollow, grooved, without any other work than cutting to size, are classified under Chapter 63, according to kind.

(2) Mountings for umbrellas or parasols without stick or shaft and without fittings—that is to say, the system of stems and ribs which slides along the stick and enables the umbrella to be opened and closed, while, at the same time, stretching and supporting the cover ;

(3) Assembled mountings with stick or shaft—that is to say, the frame of the umbrella, with or without fittings ;

(4) Fittings for umbrellas, parasols and walking-sticks—namely, rings, tips, slides, cups, runners, ferrules and other similar articles, with the exception of the springs, which are classified in item 732 (Chapter 63).

The item has been divided into two sub-items : the first *(a)* includes assembled mountings, with or without shafts, together with stems and ribs ; the second *(b)* includes fittings for umbrellas, parasols and walking-sticks, not specified or included elsewhere.

This item does not include covers for umbrellas and parasols, of fabric or other material, cases of fabric or skin, tassels, cords or similar articles of textile material, skin, etc., these various articles being classified in their respective items.

Item 621.

This item includes whips, riding-whips, riding-canes and the like, of all kinds and of whatever material they are made, together with their parts and accessories, including handles and knobs.

It also includes articles of this kind made of wood, even when partially covered with leather or skin or with a covering of textile fibre ; of cane, leather or skin with or without plaits or covering ; of any material with accessories or fittings of metal, including precious metals, of ivory, tortoiseshell, mother-of-pearl, amber, precious or semi-precious stones, etc.

* * *

In terminating these explanatory notes on the items of this chapter, it should be observed that umbrellas, parasols, walking-sticks, whips, riding-whips, handles, crooks and knobs having affixed to them, or containing in a cavity of the handle, one or more objects of personal use such as watches, or cigar- or cigarette-holders, matchboxes, cigar-lighters, scent-bottles, powder-boxes or other toilet articles or the like, are classified in their respective items.

Further, this chapter includes umbrellas and parasols intended to be fixed in the ground for the use of artists, tourists, etc., but not tent-umbrellas—that is to say, umbrellas with the stems or ribs more than one metre in length. Such tent-umbrellas are classified in item 595 (Chapter 52).

Chapter 57.

PREPARED ORNAMENTAL FEATHERS AND ARTICLES MADE OF FEATHERS ; ARTIFICIAL FLOWERS ; ARTICLES OF HUMAN HAIR ; FANS.

The feathers of native or exotic birds intended for ornament come under Chapter 5, item 33, when unworked or cleaned. Articles which have been prepared or shaped for the requirements of fashion, or articles made of feathers, together with birds prepared as ornaments, are classified in the present chapter.

In order to avoid classifying in different chapters artificial foliage, flowers and fruit intended for fashion or decoration, they have been included in this chapter, together with the articles required for their manufacture.

The present chapter also comprises articles made of human hair, together with fans, which latter could hardly be classified in any other chapter, since they are often made of or decorated with flowers and feathers.

This chapter comprises six items : two items are reserved for dressed or mounted ornamental feathers or articles made of feathers ; two refer to artificial flowers, foliage and fruit and parts thereof ; one is devoted to prepared human hair and articles made of human hair not elsewhere specified or included ; while the last item refers to fans of all kinds.

* * *

Item 622.

This includes the feathers, throats, heads, wings and skins of birds, dyed, prepared, dressed or mounted, for ornamentation.

By ornamental feathers are understood, in particular, the feathers of the eagle, the aigrette or heron, the argus-pheasant, ostrich, bittern, cassowary, stork, cock, trogon, swan, crow, eider, pheasant, falcon, flamingo, jay, grebe, wagel-gull, the American crane, ibis, lophophore, marabou, sea-mew, humming-bird, bird of paradise, peacock, pelican, parrot, magpie, penguin, guinea-fowl, toucan, vulture, etc., and the feathers of the duck, turkey, goose, partridge and pigeon, except the small feathers used for mattresses and down.

The skins of the same birds, together with their feathers, humming-birds and birds of paradise, follow the classification of the feathers imported separately, together with the throats, heads, wings, breasts, tails, etc. Entire birds prepared for ornamentation are also included herein.

By " prepared and dressed " are understood the feathers, wings, throats, skins, etc., which have been bleached, coloured, curled or goffered, or have merely undergone treatment to remove the frayed parts of vanes (clipping) and thus to improve the outline and give them a certain shape or to remove the shaft, etc.

By mounted feathers are understood feathers fitted with a wire, feathers having their shafts joined together in order to give the top feather a richer appearance, feathers pasted on paper, etc.

The item is divided into two sub-items : *(a)* feathers of the ostrich and bird of paradise ; herons' originals and aigrettes ; *(b)* all other ornamental feathers.

Item 623.

This item comprises ornamental articles made of feathers of all kinds.

It includes, in particular, feathers tied in a bunch ; feathers and down pasted on cloth or fixed on a canvas or fabric ground ; feather trimmings for hats ; clothing, ready-to-wear articles, stoles, boas, feather capes, carpets, foot-muffs, artificial flowers and parts thereof, made of feathers—all these articles combined or not with other materials, artificial flowers, etc.

Item 624.

This item includes the elements and parts of artificial flowers, foliage and fruit.

It is divided into three sub-items, according to whether the articles included consist of textile materials, paper or cardboard, or other materials, provided they are not specified or included elsewhere.

The articles consisting of textile materials, paper or cardboard comprise those which have an accessory of some other material, as, for instance, a leaf made of fabric, together with a wire stem, covered or not with textile thread.

Sub-item *(c)* does not include articles of this kind, when made of metal or of sculpturing or carving materials of ceramic ware, glass or sugar—these should be classified in the items relating to articles of their component materials.

On the other hand, these articles should be classified in the present item if they are combined with those mentioned in sub-items *(a)* and *(b)*. Sub-item *(c)* includes the elements and parts of artificial flowers, foliage and fruit made of plaiting materials, skin, artificial plastic materials and the like, rubber, wax and similar materials.

By parts of artificial flowers, foliage and fruit are understood the calices, pistils, stamens, petals, stalks, leaves, whether united or not, etc.

Item 625.

This item includes artificial flowers, foliage and fruit—that is to say, articles which are imitations of natural flowers, foliage and fruit and may be substituted for them for ornamenting clothing, hats, rooms, etc.

The item is divided into four sub-items according to the component materials of these articles : *(a)* textile materials, *(b)* paper or cardboard, *(c)* plastic artificial materials, rubber or wax, *(d)* other materials not elsewhere specified or included.

In classifying articles of this kind, the material of which the stems, stamens and pistils are made is disregarded.

This item does not include artificial flowers, foliage and fruit made of metal, of sculpturing or carving materials, of ceramic ware, glass or sugar, which should be classified in the items relating to articles of their component materials, while flowers, foliage and fruit made of the said materials in combination with the materials mentioned under sub-items *(a)*, *(b)* and *(c)* must be classified in sub-item *(d)* of the present item.

The same applies to articles of this kind combined with the elements or parts referred to in sub-items *(a)* and *(b)* of item 624 and to articles made of the materials mentioned in sub-items *(b)* and *(c)* of item 625, combined with textile materials.

Artificial flowers, foliage and fruit made of straw and other plaiting materials, skin and leather, are classified in sub-item *(d)*.

The textile material with which artificial flowers and fruit are stuffed is disregarded in classifying these articles.

This item includes, in particular, buds, palms and bouquets for altars, artificial plants, wreaths, garlands, etc., and, lastly, all articles in which the artificial flowers, foliage and fruit do not merely form a trimming.

Item 626.

This item comprises prepared human hair, articles of human hair not elsewhere specified or included, and human hair pads (postiches) of all kinds. It has not been thought necessary to suggest any sub-items.

The item includes, in particular, bracelets, necklaces, cords, nets, with or without trimmings or accessories of other materials ; human hair affixed to fabric, paper or skin ; wigs and human hair pads (postiches), even when mixed with textile materials ; twisted fringes and other similar articles.

Item 627.

This item comprises fans and hand-screens of all kinds, together with their components and spares.

The item is subdivided into two classes : *(a)* fans of paper, and *(b)* fans of any other materials.

By paper fans and screens are understood articles of this kind of which the sheet is of paper, while the frame or handle is of wood, bamboo, cane or cardboard, with or without simple accessories of base metals.

Parts of fans and hand-screens must not include sheets made of ornamental feathers, artificial flowers, tulle or lace, which should be classified in the items relating to these articles.

It has not been thought advisable to propose other sub-items for an international nomenclature ; any countries which find it necessary may create such sub-items as they require and may classify fans and screens according to the component material of the framework (wood, artificial plastic materials, bone, horn, tortoiseshell, ivory, mother-of-pearl, etc.), or according to the component material of the sheet (tulle, lace, silk or other textile fabric, artificial foliage and flowers, ornamental feathers, etc.) with or without parts made of precious metals.

Section XIII.

WARES OF STONE AND OF OTHER MINERAL MATERIALS; CERAMIC PRODUCTS; GLASS AND GLASSWARE.

This section includes all wares of stone, earth and other mineral materials coming under Chapter 25, except certain wares classified for special reasons under other sections. Thus, the following are excluded from this section : precious and semi-precious stones and articles made of such stones, photographic plates, articles for electrical purposes, cut or polished optical glass, games and toys, Christmas-tree articles, buttons, pen-holders, pipes, cigar- and cigarette-holders.

As regards the classification of articles made partly of stone or other mineral materials, of ceramic products or of glass, and combined with precious or base metals, reference should be made to the general notes to Sections XIV and XV.

When, however, such articles are combined with materials other than precious or base metals, the classification is determined, except where otherwise provided, by the material predominating in weight in the combination.

Chapter 58.

WARES OF STONE AND OTHER MINERAL MATERIALS.

This chapter includes, apart from the articles already mentioned, all wares of stone and mineral materials in which the raw material has not been substantially changed by baking or glazing, as is the case with wares coming under the next two chapters.

The chapter begins with worked stone ; then follow wares of mineral materials entirely or partly prepared or mixed, such as wares of abrasives, heat-resisting materials, cement, concrete, plaster, asbestos and mica.

* * *

Item 628.

This item includes paving blocks and slabs (flagstones), roughly worked. This covers only paving blocks in cubes or pyramids with smooth surface, and ordinary flagstones, except kerbstones and similar stone having undergone subsequent working.

Item 629.

Amongst wares of stone, certain tariffs also include rough slabs, simply sawn, not exceeding a certain thickness. After considering the proposal for a limit of 20 cm. thickness, below which rough slabs, simply sawn, would be classed amongst wares, it was decided to bring all sawn slabs under Chapter 25, irrespective of thickness. As Chapter 25 comprises all rough slabs of stone simply sawn, Chapter 58 can include only worked slabs.

The wares of stone in item 629 may be classified according to the kinds of stones or according to the degree of work undergone. The most important criterion being the extent of the work performed on the article, this item is subdivided into four sub-items :

(a) Simply cut or sawn, with smooth or plain surfaces. These wares are sawn or worked with the chisel, pointed hammer or bush-hammer, and may be curved or rounded as required for their use.

(b) Shaped or turned, but not polished or carved. By shaped wares of stone are understood wares comprising splays, fillets, slots, plat-bands, plinths, volutes, conges, ogees, cymas, gorges, cavettos, etc., whether such mouldings are in relief or hollowed out,

Among the turned wares of stone coming under this item may be mentioned columns, balusters, etc.

(c) Polished, decorated or otherwise worked, but not carved. By polished wares are meant wares of stone the surface of which has been treated with sandstone, silicon carbide, steel filings or other abrasives (smoothed or ground) and wares of stone with bright or highly polished surface.

This sub-item also includes wares decorated or otherwise worked, but not carved, such as gilt, silvered, painted or inlaid wares, mosaics and wares ornamented with metal or other materials, etc.

(d) Carved. By carved wares are meant, not merely the products of the sculptor's art (statues, high and low reliefs), but also wares decorated with such ornaments as foliage, ova, garlands, chimeræ, etc. Plain inscriptions hollowed out or in relief are regarded not as carving but as a decoration bringing the article under sub-item *(c)*.

For the further division of sub-items *(a)* to *(c)*, according to the different kinds of stone, the same grouping was adopted as in Chapter 25, namely :

I. Marble, alabaster and serpentine.
II. Granite, porphyry, syenite and similar hard stones.
III. Other stones.

In sub-item *(d)*, " carved wares ", this subdivision does not seem necessary.

Item 630.

This item, which is divided into four sub-items, deals with worked slate ; by worked is meant planed, polished, cut into lengths, perforated, etc.

Under sub-item *(b)*, " roofing slates ", come slates cut into rectangles, squares or diamonds, also rounded, with worked edges, or pierced.

Among the other wares in sub-item *(d)* may be mentioned flags or slabs, enamelled, shaped or decorated with ornaments in relief, troughs, gutter-stones, sinks, fountains, tanks, etc. Slate pencils are also included.

The wares in this item may also be made of compressed slate (ardoisine).

Item 631.

Item 631 includes lithographic stones ready polished or shaped, also covered with writing or drawings, whether flush, hollowed out or in relief. Artificial lithographic stones (cement or calcium carbide) come under the same classification as natural stones.

Item 632.

This item includes grindstones unmounted. These may be of natural or artificial stone and formed of either one or more pieces. They may be fitted with bands of base metal.

It also comprises (sub-item *(b)*) grindstones covered with a layer of emery or silicon carbide, etc. With grindstones are also classified stones for preparing paper-pulp (fibre extractors) ; blocks of buhrstone ready for assembling into millstones, together with lava segments for mounting stones for paper-mills, are classified under the same heads as the grindstones themselves.

Items 633 and 634.

These items include grindstones, whetstones and polishing-stones of all shapes, made of natural stone, sandstone or other stones not artificially compressed and of natural or artificial abrasives—*i.e.*, of natural or artificial emery, of other natural stones artificially compressed, of silicon carbide, quartz, baked clay and similar materials. All such wares may be mounted or not.

Items 635 and 636.

These items include other wares of natural or artificial abrasives—that is, paper, board or fabrics covered with natural or artificial emery, silicon carbide and similar materials, or with glass, pumicestone, flint, etc., cut into bands (also glued in circular strips), sheets, rings, discs, also combined with wood or base metals.

Item 637.

Item 637 includes wares of heat-resisting materials made of pure or mixed kieselguhr, in so far as such mixtures come within Chapter 25. Wares of heat-resisting materials with a mixture of cork are classified under Chapter 41 : " Articles made of Cork ". Wares of heat-resisting materials with a mixture of asbestos come under item 642 : " Manufactures of asbestos ".

Item 638.

The wares coming under this item are as a general rule composed of asphalt or similar materials (petroleum pitch, resin, etc.) in combination with other substances, such as sand, chalk, plaster, cement, sawdust, etc. This applies to such articles as flags, bricks, piping, receptacles, artificial pigeons for shooting, etc.

Item 639.

This item comprises blocks, building-bricks, tiles, flags, piping, posts, reservoirs, statues, architectural ornaments and other wares of cement, reinforced concrete or artificial stone, combined or not with other materials.

Item 640.

This item includes under two sub-headings all manufactures of plaster—*i.e.*, simple manufactures such as boards, plates, tiles and panels, not ornamented, also casts and other more complex objects in plaster. These manufactures may be combined with other materials or may have a core of other materials.

Items 641 and 642.

For the classification of manufactures of asbestos under these items, the proposals of the manufacturers were followed in general, but all the details were not adopted, as these cannot be reproduced in an international nomenclature. The first of these two items, covering manufactures of asbestos cement—*i.e.*, composed of a mixture of cement and asbestos (fibro-cement or eternit), such as plates, tiles, pipes, etc.—can well be connected with the preceding items. The other item includes manufactures of asbestos proper, whether pure or mixed with other materials, except, however, manufactures of asbestos and rubber, which are classified in the chapter entitled " Articles made of Rubber ". Manufactures of asbestos may be combined with other materials—for instance, metal framework, core or fittings, etc.

Manufactures of asbestos are classified in four sub-items. Sub-item *(a)* also includes asbestos board, hardened by means of solutions of rubber, resin and similar materials (asbestonit, etc.).

Sub-item *(b)* also comprises packing (even when consisting of a tube filled with insulating material). The articles in this sub-item and the next may also be impregnated with grease, talc, graphite, white-lead, etc., and coloured in the mass.

Sub-item *(d)* also includes clothing, caps, footwear and all technical articles.

Item 643.

The manufactures of mica in this item are classified under three sub-items. Under sub-item *(b)* come the sheets known as " micanite " or " meghomite ", which are formed of plates of mica stuck together, also on paper or tissue.

Item 644.

This item, which corresponds to the similar items in the chapters on articles made of wood, ceramic products and base metal manufactures, includes statuettes, fancy goods, ornamental and decorative articles. Under this item come luxury articles, statuettes, desk and mantelpiece ornaments and various minor objects of a similar kind, together with articles of adornment and personal wear, which in some tariffs are given a special item. It is difficult to draw a hard-and-fast distinction between the present item and item 629*(d)*, which includes carved articles and in which the majority of the above-mentioned objects might easily be incorporated. The only means of distinguishing between the two—and even that is somewhat arbitrary—is to be found in the size or weight of the articles ; on this basis, item 629*(d)* would include fairly large carved objects only—*e.g.*, architectural ornaments, gravestones, etc.—while item 644 would comprise small objects not exceeding 10 kilogrammes in weight.

Item 645.

This item is a collective one, which includes all wares of mineral materials not elsewhere specified or included.

Chapter 59.

CERAMIC PRODUCTS.

This chapter includes all classes of ceramics—*i.e.*, wares of common baked clay, fireproof wares, common and fine stoneware, faïence and porcelain.

In each of these large classes, the draft provides several special items for the most important wares and includes other wares under collective items.

According to the work undergone, a distinction may be made in most of the items of this chapter : on the one hand, wares which are neither glazed nor enamelled and glazed or enamelled wares, and, on the other hand, wares of one colour and multicoloured or decorated wares.

By glazed or enamelled wares are understood both those which have undergone simple salt glazing (glazed) and those which have received a plumbiferous or stanniferous coating (enamelled) or a coating of other enamels with a base of feldspar, borax, etc., coloured or not with ceramic colours.

General note 3 to this chapter gives a definition of wares of one colour ; despite a proposal to treat as wares of one colour those with a uniform colour on the outside surface, it was decided that this condition should be extended to the whole surface, both inner and outer. The natural colour of the paste and the small irregularities due to the composition of the raw material are not taken into consideration. In the same way, in classifying wares of one colour, no account is taken of marks or names of the manufacturer or vendor, or of the inscriptions and ornaments in relief described in general note 2.

General note 1 to Chapter 59 does not refer to wares partly made of ceramic products and belonging, in virtue of either their nature or composition, to other chapters of the nomenclature. See, on this subject, the preliminary remarks above, dealing with Section XIII.

Pottery debris and potsherds are classified under Chapter 25.

* * *

The wares of common baked clay coming under items 646 to 649 are ceramic products manufactured from soft argilloarenaceous paste made from impure clay (brick clay). They are porous with a terreous fracture, generally red, yellow or black in colour. *The common baked clays* differ from fine clays in that they are not made from finely washed, ground, or sifted materials.

Item 646.

This item is subdivided into three sub-items : *(a)* bricks in the rough ; *(b)* bricks coated with coloured clay, including smoked bricks ; and *(c)* bricks, glazed or enamelled. By bricks coated with coloured clay are meant those covered with a thin layer of terreous material, white or coloured, which conceals the colour of the paste. Bricks treated with smoke (smoked or flamed) are assimilated to bricks coated with coloured clay.

Bricks in the rough may be solid, of ordinary shape (including facing bricks) or hollow, perforated, grooved (briques évidées), porous, shaped, radial, etc. This item includes also bricks of slag, silicocalcareous substances, etc.

Item 647.

This item is subdivided in the same manner as the previous one. The sub-item, " roofing-tiles in the rough ", also has two tertiary items for ordinary, non-interlocking and interlocking tiles, respectively. By " interlocking roofing-tiles " are meant tiles provided with ribs, grooves or overlaps enabling them to fit into each other.

Item 648.

Pipes of common baked clay include, in particular, drainpipes, and may also be salt-glazed.

Item 649.

Amongst wares of common baked clay not mentioned elsewhere, the draft contains special sub-items for paving- and facing-tiles and architectural ornaments (building terracotta), also glazed or enamelled ; all pottery properly so called, such as crockery, flower-pots, etc., comes under the last sub-item.

Items 650 and 651.

The fireproof substances included under these items are products made of special materials employed in the construction of the inner walls of ovens used in chemical and metallurgical operations, for glass-making, in the ceramic industry, etc , or employed in the manufacture of special receptacles and utensils for these industries. For this reason, they must have a high fusing or decomposing point (as a rule higher than 1,480° C.), must be impervious to the action of substances placed in the ovens, must withstand reasonable pressure, must have a low coefficient of expansion, a low degree of porosity, and must be unaffected by sudden changes of temperature. Such products are made of chamotte, bauxite, magnesite, dolomite, graphite, coke and special products of silicon carbide, chromite, corundum, alundum, diamantine, corrafine, dynamidone, alurite, electrone, sillimanite, cyanite, siloxicon, of materials combined with silicate of zirconium, thorium, cerium, etc.

Some tariffs distinguish these products by the composition of the raw material ; owing to the great diversity of these materials and their compounds, it was not thought desirable to adopt this criterion, and a distinction has been established, based merely on the form, which is also fundamental and the most important for commercial purposes. Thus item 650 includes bricks and structural parts of all shapes, not merely parallelepiped, but also wedge-shaped : keystones and special stones for building and facing, also perforated (for instance, ingot moulds). Item 651 includes all other wares such as pipes, tuyères, retorts, crucibles, etc., for the metal, glass and ceramic industries, etc. Wares of graphite, even when combined with other

materials, are placed under a special sub-item. Mortars for pottery are included, not in this chapter, but with other mortars in Chapter 25.

Items 652 to 654.

Stoneware includes ceramic products made from a hard sonorous impermeable paste with a moderately fine grain, consolidated by incipient vitrification, completely opaque or only slightly translucent at the edges, by which characteristic it may be distinguished from porcelain. A distinction may be made between ordinary stoneware and fine stoneware ; but, as it is difficult to make this distinction in certain cases, it was not thought desirable to incorporate it in the nomenclature. Articles of stoneware have, therefore, been classified according to their shape and purpose.

The products included under items 652 to 654 are, as a rule, of ordinary stoneware : bricks and slabs for paving, more than 30 mm. thick, for which a basic item was thought necessary, distinguishing them clearly from tiles for paving and for facing in item 655 ; pipes, joints and other parts for water conduct and similar uses ; utensils and apparatus for chemical products and other technical uses, troughs, tubs and other receptacles for use in farming. The other wares, as a rule also of ordinary stoneware—sanitary appliances, jugs and crockery—are classified, according to their use, partly with appliances for sanitary or hygienic purposes in item 657 and partly with articles, not elsewhere specified or included, under item 659.

* * *

Amongst the other classes of wares of stoneware, fine earthenware, faïence and porcelain, the draft mentions first, in items 655 to 657, certain clearly defined products of special importance, which may be manufactured from all ceramic materials.

By products of *fine earthenware* are meant articles made from clay mixed with water and passed through a fine sieve. Baking is more prolonged than in the case of articles of ordinary earthenware, though not sufficiently to produce semi-vitrification.

In *faïence*, the paste is opaque and porous. It is made either from a more or less coloured clayey paste or from a white or slightly tinted paste. This paste is finely worked and covered with an enamel or glaze, not transparent in common faïence and generally translucent in high-quality faïence. The products described as *majolica* belong to the faïence group. Wares of *fireclay* are also grouped with those of faïence.

As a rule, *porcelain* is made from a mixture of kaolin, quartz and feldspar. Porcelain paste is finer and harder than that of faïence ; it is, moreover, vitrified and translucent. Whether coated (covered with its enamel) or not coated—*i.e.*, in the biscuit state—porcelain is distinguished from other pottery, and more particularly from high-quality faience, by its paste and its translucency. In coated porcelain, the paste and the glaze form a single whole and give an appearance of complete homogeneity.

Item 655.

This item includes paving and facing tiles of stoneware, less than 30 mm. thick, of faïence or fine earthenware (fine terracotta). Tiles of common baked clay come under item 649 ; porcelain tiles are classified with other porcelain wares.

This item includes not only tiles proper, but also finishing pieces of various shapes for facing (borders, friezes, corners, etc.). It is subdivided into two sub-items : *(a)* tiles neither glazed nor enamelled, which are generally stoneware paving-tiles ; and *(b)* tiles glazed or enamelled, including, in particular, facing-tiles in faïence or fine earthenware and also in stoneware. Due consideration was given to the question of a further subdivision either according to material, into stoneware or faïence tiles, or according to the work performed, into single or multi-coloured tiles ; it was decided, however, not to propose any further subdivision of the tertiary items, but to leave the various countries free to introduce such subdivisions as they might severally require. Some tariffs provide for further subdivisions according to the thickness of the tile ; but it was not thought desirable to adopt this distinction for the international nomenclature.

Item 656.

Stoves and parts of stoves in item 656 may be made either of common baked earth or of other ceramic materials ; but Dutch tiles (catelles) are the parts of stoves principally to be taken into account in international trade.

Item 657.

Fixed appliances for sanitary or hygienic purposes in this item are appliances connected with running water, such as baths, wash-basins, water-closets, urinals, sinks, etc. These appliances are generally made of fine stoneware, faïence or fireclay, sometimes also of porcelain ; the appliances made of common stoneware also fall within this item.

* * *

In discussing the collective items for articles of stoneware, faïence, fine earthenware and porcelain, the question of creating special items or sub-items for certain classes of these wares

was discussed. This concerns, in particular, electricity insulating parts, other articles for technical purposes (chemistry, pharmacy, photography, perfumery, etc.), crockery and household articles, smoking- pipes—already classified under Chapter 85—adornment, ornamental and decorative articles, also artificial teeth.

Of the technical articles, the most important class is that of electricity insulating parts, which have been placed in Chapter 73, " Electrical Machinery and Apparatus, etc." (for reasons, see the report on items 876 and 877).

As regards other wares, it was considered desirable to introduce two special items for statuettes, fancy, ornamental, and decorative articles and for artificial teeth.

Item 658.

This item covers wares of this description of all ceramic materials—that is to say, of ordinary or fine earthenware, of stoneware, faïence and porcelain.

(For the articles to be included in this item, see the report on items 811 and 819, which are similar.)

Item 659.

This collective item includes all articles of stoneware—whether of ordinary or fine stoneware—which have not been placed in the previous items. It covers more especially crockery, household and toilet articles, jugs, beer-pots, small jugs for liqueurs, water-pitchers, butter-jars and milk-jugs, also glazed, decorated, etc.

Item 660.

This is a collective item, which comprises all articles of faïence or fine earthenware not elsewhere specified or included. It was considered desirable to introduce into this item a special sub-item *(a)* for crockery and household and toilet articles. All the other articles were classified in sub-item *(b)*. The two sub-items have been still further subdivided, according to colour or ornamentation, into two tertiary items containing respectively white articles or articles of one colour, and multicoloured articles or articles decorated in colour.

Item 661.

This item comprises artificial teeth of porcelain, with which are grouped teeth of enamel or other vitrified materials. As regards mounted teeth (ready fitted into dental appliances) see the report on item 924.

Item 662.

This item includes all porcelain wares not elsewhere specified or included ; corresponding for such wares to item 660 in regard to wares of faïence or fine earthenware, it has the same subdivisions as the latter.

Chapter 60.

GLASS AND GLASSWARE.

This chapter includes waste and broken glass and all categories of glass—that is to say, crude glass in the mass, sheet-glass, hollow and solid glass, of all kinds, special glasses used for certain specified purposes, vitrifications and articles made of vitrifications, together with all other glassware not included elsewhere.

* * *

Item 663.

This item includes cullet, waste and broken glass, which are classified in this chapter as they are also used as raw material for the manufacture of glass. Crushed glass (in powder, including chips) also comes under this item.

Item 664.

Rough glass in the mass and crude vitrifications come under item 664, with three sub-items. Under sub-item *(a)* come, not only rough glass in the mass, but also vitrifications in the mass (including glazing and enamel in cakes, sticks and powder), together with rough glass in the form of rods used for flashing. Sub-item *(b)* includes bars or rods of all kinds, not worked, which are used, cut into lengths, in various industries (artificial silk, the manufacture of furniture, etc.) or as semi-manufactured products for the making of beads, glass trinkets and other similar articles of glass. Under sub-item *(c)* are classified tubes of all diameters of drawn or blown glass, unworked, for all purposes, including the manufacture of glass beads and glass

trinkets. This sub-item also comprises neutral glass for the manufacture of phials, thermometers, etc.

The rods, bars and tubes mentioned above may also have ground ends, as stated in note 2 to this chapter.

* * *

The draft makes the following distinction, according to the preparation of the glass : glass uncoloured or coloured (in the mass), including flashed glass (in two layers) ; ground, muslined or frosted glass ; smoothed or polished glass ; cut, engraved, painted, gilt, silvered, decorated, etc., glass. The uncoloured glass (colourless) may be half white—that is to say, slightly tinged with green or brown on account of impurities in the mass—or white—that is to say, transparent without any trace of colour. Opal glass—that is to say, glass having a milky appearance—is treated like coloured glass.

Combinations of articles of glass with other materials are generally permitted and even referred to in certain items ; these are, in particular, accessories, mountings or ornaments in metal or other materials, including also simple ornaments and mountings in precious metals.

Glasswares containing several sorts or qualities of glass are classified according to their principal part, which gives the article its character ; these parts, if separate, would naturally be classified apart, in the same way as mountings or ornaments in other materials when separate.

Note 1, in common with most Customs tariffs, permits, without entailing on that account any change of classification of the wares, the placing thereon of trade marks, the name of the firm, indications of origin, dimensions or capacity, and gauge marks (in so far as the latter are permitted by the law of the importing country).

Note 2 gives a list of the preparatory work which unworked articles may undergo without their classification being changed. The following remain within the class of unworked articles : articles with emery-ground stoppers and necks, or with their ends, bottoms and edges simply ground, whether or not annealed or polished.

* * *

Items 665 to 669 comprise glass in sheets or plates. The first two items include glass in sheets or plates, unworked, while the last three comprise glass in sheets or plates, worked.

In certain tariffs, glass in sheets is divided according to dimensions (thickness, circumference, etc.), but it was not thought necessary to adopt this criterion for the International Nomenclature, and a distinction has merely been made according to the degree of working.

Item 665.

Item 665, which applies to glass *cast* into sheets or plates, has been divided into three sub-items : the first dealing with plate glass in the rough, the second with cast and rolled glass of all kinds, and the third with glass into which a reinforcement of wire, cloth or network of metal has been inserted during casting.

Item 666.

This item includes glass in sheets or plates, *drawn* (in accordance with the Fourcault and Libbey-Owens processes) or *blown*. The sheets or plates coming under this item are in the unworked state.

This item has been subdivided into two sub-items according as to whether the glass is coloured (or flashed) or not.

* * *

The classification of worked sheet-glass according to processes of production not being generally feasible, it has not been possible to take such processes into account in the next three items.

Item 667.

To this item belong worked glass in sheets or plates, with the exception of tinned, silvered or platinum-coated glass.

Sub-item *(a)* includes the elementary shaping or edge-finishing work ; sub-items *(b)* to *(d)* comprise work on the surface. Such work may extend to the whole surface or only affect a part, and may take the form of designs, motifs, etc.

Sub-item *(b)* includes unpolished glass—*i.e.*, glass rendered opaque by spraying with sand or by means of emery or acid ; muslined glass, a dull glass more finely worked ; frosted glass and crackled glass (also called *fendillé*), the surface of which is covered with irregular designs formed by natural cracks produced by a special process.

Sub-item *(c)* is the most important of the sub-items, and applies in general to plate glass, ground or polished.

Finally, sub-item *(d)* includes glass in sheets, engraved, gilt or painted.

Item 668.

This item includes sheet-glass, tinned, silvered or platinum-coated, and also looking-glasses and mirrors, tinned, silvered, platinum-coated, whether unframed or framed : the former are then subdivided according to the finishing of the edges, and the latter in accordance with the material used for the frame.

Small pocket and hand mirrors are also classified under this item.

Item 669.

This item deals with a special kind of glass in sheets—namely, safety glass, and safety plate-glass formed of two or more sheets between which sheets of celluloid, cellophane and similar substances have been inserted. The item includes glass and plate-glass of this kind, even when painted, decorated, etc.

Item 670.

This item comprises roofing tiles, paving slabs or blocks and facing tiles, in cast or moulded glass, whether wired or not. These articles may be worked at the edges, etc., or combined with an iron frame. Plain sheet-glass cut to size does not come under this item, but is classified in the preceding items.

* * *

As regards the other large group of articles of glass contained in items 671 to 676, it was difficult to find a common designation. These articles are classified in many tariffs as table glass or hollow glass, but this description not being usual in all countries alike, its use was avoided in the international nomenclature. It was preferred to enumerate certain sorts of these articles in special items and to include the rest under a collective item : "Blown or pressed glassware not elsewhere specified or included ".

Item 671.

Several tariffs give a special heading to bottles. Bottles serving as containers for liquids or for powders and such-like are generally classified according to their content, form, colour or use. The bottles comprised in this item are subdivided first according to capacity ; bottles proper—*i.e.*, holding up to 2½ litres—are subdivided into tertiary items according to colour, into bottles (1) of natural-coloured glass ; (2) of half-white glass ; (3) of colourless glass (white glass) and (4) of coloured glass. Bottles of natural colour are ordinary bottles generally used for wine, beer, mineral waters, etc., of greenish, brownish or blackish colour of every shade ; these colours are entirely or mainly due to impurities in the mass. Bottles of half-white glass which, in some tariffs, are classified with ordinary bottles, cannot be regarded as bottles of white glass ; to obviate this difficulty, they have been allotted a separate sub-item.

Carboys, bottles and flasks coming under this item may also be cased in wicker or covered with basket-work and may have a mechanical stopper.

Item 672.

Glass bulbs for electric lamps and valves are undoubtedly special articles which should be allotted a basic item. These bulbs may be in coloured or ground glass, etc.

Item 673.

For the other articles of this kind, the question arose whether a special item should be kept for lighting glass, which is specially mentioned in certain tariffs. This consists of chimneys, reflectors, lampshades, ornamental lamp glasses (tulips), gloves, *verrines* and similar articles, with their parts and accessories. It was pointed out that attempts to define the scope of the item would give rise to difficulties, especially as regards certain modern articles. Finally, however, it was decided to introduce this basic item for articles of lighting and their parts and accessories, except pendants, buttons, balls, beads, and other small articles of glass included under other items.

Lighting articles are subdivided according to the work performed thereon, and may be combined with other materials—for example, with accessories in metal.

Item 674.

This item is allotted to special glassware for laboratories and scientific purposes, including articles of cast quartz. Consideration was given to a proposal to include in this item fireproof glass (also kitchen glass) and common glass worked with the blow-lamp—such as phials, tablet tubes, thermometer tubes and such-like, also graduated, etc., naturally with the exception of beads and other small articles also prepared with a blow-lamp ; it was decided to confine this item to glassware of special shape proper, for use in chemical, physical and industrial laboratories, etc.—*i.e.*, all such articles in this category as are blown or worked with a blow-lamp (enameller's lamp). All these objects may be graduated or gauged. Other articles of blown glass or glass worked with a blow-lamp—*e.g.*, tanks, flasks for the preservation of chemical products, etc.—come under their respective items.

Sub-item *(a)* is to include articles produced with a glass-blower's pipe, also in a mould, and those worked with a blow-lamp or comprising parts manufactured by the latter process.

The item will include more especially balloons, retorts, test-tubes, capsules, pipettes, taps, and tubes with protuberances or constrictions, Woulf flasks and other special flasks for experiments, etc.

Sub-item *(b)* comprises all articles of cast quartz for scientific or technical use—such as tubes, crucibles, capsules, bulbs for lamps and valves, etc.

Item 675.

All other blown or pressed glassware, even drawn, in hollow or solid glass, is comprised in this item, which also includes crystal—*i.e.*, fine potash or lead glass—and other similar fine glass which could not be mentioned specially in the heading to the item on account of the different meaning of this word in several languages. In a few countries (*e.g.*, France, Italy, Belgium) the word " crystal " is used to mean a special product or a special quality of glass, while in other countries (*e.g.*, Germany and Czechoslovakia) it implies a special kind of cutting *(Kristallschliff)*.

Unworked articles coming in this category may be distinguished according to the methods of manufacture as blown (with a glass-blower's pipe or mechanically, either freely or in a mould) or pressed (moulded in a press without blowing), whereas, as regards worked articles, this distinction is not always possible. A distinction in regard to unworked glass has also been made in respect of colour ; flashed glass (in two layers) is assimilated to coloured glass, as is also the imitation of flashing by glazing. Iridescent glass has been assimilated to glass coloured throughout.

Articles in blown or pressed glass, worked, are divided, according to the work, into two tertiary items, namely : (1) ground and (2) other, this last item including, not only polished, cut or engraved glass, but also painted, gilt, silvered or otherwise decorated glass. This tertiary item could be still further divided by separating polished, cut or engraved glass from the rest, on account of the different processes ; but it was preferred to leave it undivided, the various countries being free to make any subsequent subdivision. As regards painted articles, a distinction between articles painted cold and those rebaked after painting might also be made, in view of the various methods of manufacture and the differences of value.

Item 676.

Bottles and other insulating receptacles (also uncovered), bottles and flasks for hunting, travelling or sport are contained in this item and may also be encased in leather, felt or metal, or furnished with accessories, goblets, or straps of other material.

Item 677.

Optical and spectacle glass is included here only in a crude state, cut and polished optical glass falling under Chapter 77 : " Optical, etc., Instruments and Apparatus, etc.". Optical and spectacle glass may have to be dealt with in the mass ; in sheets or plates, cast or blown ; in round, oval or square glasses simply cut out of sheets ; in moulded glasses, round, oval, etc., in shape, with parallel, concave or convex surfaces. No account is taken of polishing for the sole purpose of ascertaining the degree of purity of the glass.

By optical glass (sub-item *(a)*) is meant special glass with special optical qualities ; ordinary lenses of common glass for bicycles, automobiles, etc., roughly worked are, therefore, not regarded as optical glass, and, with other articles of solid glass, come under item 675.

Item 678.

The item " Glass for watches and clocks " includes glass for watchmaking, crude, in balls or segments, simply cut or worked.

This item also includes glasses for protective spectacles with parallel surfaces, convex glasses for frames, medallions, etc.

Item 679.

This item includes glass beads and other vitrifications, artificial precious stones for jewellery and lustre-drops. Although these products are somewhat varied, it was thought that a basic item without other subdivisions was sufficient, each country being left to make sub-headings if desired. Glass beads manufactured by any method, pressed, blown, cut or rolled, constitute the most important article in this item. As is done in some tariffs, the beads themselves might be subdivided, according to the work undergone, into white or coloured, painted, gilt or silvered beads or imitation pearls. The articles in this item are deemed to be unmounted, save that, in the case of stones for jewellery and of lustre-drops, no account will be taken of plain rings, stems or hooks of metal to be used for the subsequent mounting thereof. Beads and other similar vitrifications strung for transport or for the purpose of display are classified here.

Spun glass and glass wool are also assimilated to the articles in this item, which further includes small cubes or squares of enamel or glass, coloured, gilt, etc., for mosaic work.

Item 680.

This item includes all wares composed of articles coming under item 679 to the exclusion of the buttons mentioned in Chapter 85 and of the articles referred to in other chapters of the nomenclature. This item, for example; covers foliage and flowers of vitrifications, funeral wreaths of vitrifications, necklaces of vitrifications or of mounted beads, Japanese blinds or door curtains made of vitrifications, fringes of vitrifications for lamp shades, cameos, dress trimmings, hat ornaments, etc.

Among the wares of spun glass included here, special mention may be made of tissues, lace, lamp-shades, articles for whatnots, etc.

To articles covered by the present item are assimilated small figures of animals, artificial flowers and fruit, etc., of hollow or solid glass worked with a blow-lamp.

Mosaics, however, are not included, being dealt with in the next item.

Item 681.

This collective item includes all glassware which by its character cannot be comprised in the preceding items—namely, articles made from glass sheets or plates, with certain other articles not classified elsewhere. In the subdivisions of this item special mention is made of stained window-glass, paintings on glass (with the exception, however, of painted glass leaves), positive and negative photographic plates, glass mosaics, and artificial eyes for human beings or animals, made with a blow-lamp. All other articles fall within the last sub-item—for example, framed advertisements, souvenirs with views, microscopic preparations, etc. Glass knobs for walking-sticks or umbrellas are classified in Chapter 56.

Section XIV.

REAL PEARLS, PRECIOUS STONES, PRECIOUS METALS AND WARES OF THOSE MATERIALS; COIN (SPECIE).

Chapter 61.

REAL PEARLS, PRECIOUS STONES, PRECIOUS METALS AND WARES OF THOSE MATERIALS.

Under the method followed by the Customs tariffs of several countries, the products grouped in Chapter 61 are scattered over different sections or chapters. This form of classification is obviously inconvenient for consulting tariffs, and has, therefore, been abandoned in the draft nomenclature. It should also be pointed out that, apart from their composition, pearls, precious stones and precious metals form a completely homogeneous group because of their great value, their use, and especially the fact that combinations of them are used in jewelled ornaments *(bijouterie)*, jewellery *(joaillerie)*, and goldsmiths' wares.

General Notes.

A standardised nomenclature does not consist only in similarity in the wording of the headings ; above all, it is essential for the same principles to be followed in respect of the scope and extent of the items given. In other words, there must be no difference of interpretation as regards products which are intended to be covered by one heading or another in the nomenclature.

This is the reason for the heading " General Notes " at the beginning of Chapter 61.

Note 1.—Metals of the platinum group (osmium, rhodium, ruthenium, palladium and iridium) are so designated because they are generally found with platinum in the ore. Like platinum, they are metals of very great value, and their properties are closely related to those of platinum.

The assimilation made in the note is a rational one, and merely follows the example set by many Customs tariffs.

Note 2.—This note fixes the classification of alloys of precious metals.

The rules given are already followed by various countries, and they are easy to observe in Customs practice. In the present case, they appear preferable to the system of classing alloys in the group of the dominating metal, which system would have the disadvantage of classifying compounds of *gold, silver, etc., of a low standard of fineness* with base metals.

It was thought that the alloy of gold and palladium should be assimilated to gold and not to platinum. This alloy is a product known in commerce as *white gold*, and logically belongs to the gold group.

It is to be noted that the term " alloy " applies only to metals combined by fusion.

Base metals, gilt, silvered, coated with platinum, or plated with gold, silver or platinum are therefore excluded from Chapter 61.

The same applies to *chemical* combinations based on precious metals ; these products, such as salts of gold, silver, or platinum, appear under Section VI, " Chemical Products, etc."

Note 3.—Note 3 provides that jewellery *(joaillerie)* mentioned in several items of Chapter 61 shall refer to jewellery consisting of *precious* metals combined, in any proportions, not only with the materials covered by items 682 and 683 (real pearls and precious or semi-precious stones), but also with materials coming under other sections of the nomenclature (imitation or artificial gems, artificial pearls, coral, jet, etc.).

Note 4. — According to note 4, apart from the exceptions expressly provided for elsewhere, Chapter 61 also covers various articles, such as goldsmiths' wares, jewelled ornaments *(bijouterie)*, etc., composed entirely or in part of precious metals, on condition that, in the event of precious metals being combined with other materials, the former shall enter into the composition of said articles otherwise than as mere settings or accessories.

Wares of precious metals excluded from Chapter 61 are mentioned by name in several other chapters of the nomenclature. These wares include, *inter alia :*

Gold, silver and platinum watches and watch-cases (Chapter 78) ;

Gold or silver coin (Chapter 62) ;

Thread of precious metals combined with textile thread (metal thread) (Chapter 46) ;

Fabrics, ribbons, trimmings, lace, embroideries, and other textile articles, containing thread of precious metal (Section XI) ;

Fans with precious-metal mountings (Chapter 57) ;

Opera-glasses, lorgnettes, spectacles, eyeglasses, pince-nez, spy-glasses, and other optical wares with mountings in precious metals, including those mountings (Chapter 77) ;

Stylographic pens or fountain-pens with mountings or parts in precious metals (Chapter 85).

Apart from jewellery *(joaillerie)* and the articles mentioned above, there are many wares in which precious metals are combined with the most varied materials.

According to the draft nomenclature, wares with *parts* in precious metals will usually be placed in Chapter 61, without regard to the respective proportions (by weight or value) of their component materials.

Parts in precious metal obviously refer to those permanently fixed to other materials—*i.e.*, those parts which can only be separated from the whole by taking them to pieces or breaking them.

Articles merely placed upon one another, or put into one another, are to be classified separately and not as a whole. Such is the case, for example, with the following articles : crystal hors-d'œuvre dishes on a silver dish, a crystal bowl in a silver bowl, a crystal jar in a silver flower-stand, crystal bottles in a silver cruet-stand, etc.

Finally, the provisions of note 4 make it clear that, except for jewellery *(joaillerie)*, articles with only *mere settings* or *accessories* of precious metals are to be excluded from Chapter 61.

This applies to many articles of greatly varied materials : leather, marble, porcelain, glass, base metals, wood, ivory, mother-of-pearl, amber, plastic materials, etc., which have not lost their character as wares of leather, marble, porcelain, glass, etc., by the addition of a mere setting or a mere accessory in precious metal.

The following in particular are to be considered as having mere settings or accessories :

Moroccoed-leather wares (belts, purses, portfolios, money-holders, handbags, cigar-cases, cigarette-cases, etc.) with clasps, monograms, initials, etc., in precious metal ;

Crystal or porcelain goblets, vases, bowls, or plates, with the upper part limbed with a silver setting or circle as a border ;

Pipes, cigar-holders, cigarette-holders, of amber, amberoid, meerschaum, plastic materials, etc., with ferrules, rings, circles and other minor accessories of gold or silver ;

Knives, pocket-knives, carving-sets, razors, etc., whose handles, except of precious metal, are fitted with shields, ferrules, plates, or inlay of gold or silver (the same articles with handles of precious metal are to be classified under Chapter 61) ;

Walking-sticks and umbrella-handles with gold or silver crooks, knobs, ferrules, rings or inlays ;

Shoes, hats and ready-made clothing with buckles, buttons and other minor ornaments or settings in precious metals.

The foregoing list is far from complete, but further particulars will be given in the chapter dealing with products susceptible to receive such-like accessories or settings.

* * *

Item 682.

This item concerns only natural pearls, derived from the secretions of various sea or river molluscs—*e.g.*, the pearly avicula, the pearl-oyster or mother-of-pearl, the pinna marina, etc.

Cultured pearls are produced by the same molluscs, but by means of artificial devices.

Semi-pearls called " Japanese " are included under this item.

Pearls, *unworked* (sub-item *(a)*), mean pearls in the state in which they are gathered ; pearls, *worked but not mounted* (sub-item *(b)*), include pearls ground, polished, pierced, even simply strung to facilitate transport or presentation, but without settings—*i.e.*, without any jewellery ornaments of any kind.

Item 683.

This covers not only natural stones, called *precious stones* or *gems*, *fine stones* or *semi-precious stones* (in German : *Edelsteine, Halbedelsteine*), used mainly in jewellery *(joaillerie)*, jewelled ornaments *(bijouterie)*, and watch- and clockmakers' wares, etc., but also their

imitations, called *synthetic or artificial stones*, obtained by chemical synthesis, the use of which corresponds to that of precious stones.

Regenerated stones (so-called), formed from fragments of natural stones (sapphires, rubies etc.), pulverised and then fused together under the blow-pipe, are assimilated to synthetic stones.

Other imitations of precious stones (false stones of glass, strass, etc.) do not belong to item 683.

Sub-item *(a)* deals with *unworked* precious, etc., stones—*i.e.*, stones in the condition in which they were found.

Stones merely *sawn*, *split* or *rough-polished*, so far uncut or unpolished, are also considered to be *unworked*.

Sub-item *(b)* includes stones that have been cut, polished, rounded, faceted, pierced, engraved, etc. ; also those merely threaded to facilitate preservation or transport, but without any mountings or settings of metal or any other material.

Sub-item *(c)* comprises wares of precious or semi-precious stones, not elsewhere specified or included, and, in particular, those combined with materials other than precious metals.

The following are usually grouped as preciuos stones proper :

(1) *Diamonds* of different colours with crystallised carbon basis ;

(2) *Corundum* stones of all colours (rubies, sapphires, etc.) with crystallised alumina basis ;

(3) *Emeralds*, with crystallised alumina, silica and glucine basis ;

(4) Certain other stones, the list of which varies according to countries.

There is, in fact, no very clear line of demarcation between precious stones proper and semi-precious stones.

The following alphabetical list indicates most of the precious or semi-precious stones employed in jewellery *(joaillerie)*, jewelled ornaments *(bijouterie)*, goldsmiths' wares, watch and clockmakers' wares, etc. :

Agate
Alexandrite
Almandine (garnet)
Amazon-stone (microcline)
Amehtyst, oriental (violet sapphire)
Amethyst (violet quartz)
Andalusite
Aqua marina (beryl)
Aventurine, natural
Balas ruby (red spinel)
Beryl
Cat's-eye (fibrous quartz)
Cat's-eye, oriental (cymophane)
Ceylonite (spinel)
Chalcedony
Chrysoberyl (cymophane)
Chrysolite (peridot)
Chrysoprase (apple-agreen chalcedony)
Cornelian (red chalcedony)
Cyanite (blue silicate)
Cymophane
Diamond
Emerald, (emerald properly so called ; beryl ; aqua marina)
Emerald oriental (corundum)
Feldspar
Fluorspar (fluorite)
Garnet, ordinary (pyrope)
Garnet, Syrian (almandine)
Grossular (garnet)
Heliotrope (jasper agate)
Hematite (oligist iron)
Hyacinth, occidental (quartz)
Hyacinth, oriental (zircon)
Idocrase (garnet)
Iris (iridescent quartz)
Jade
Jadite
Jargoon (zircon)
Jasper
Labrador-stone (labradorite)
Lapis lazuli (lazulite)
Malachite
Marcasite (iron pyrite)
Moonstone (feldspar)
Obsidian (vitreous lava)
Olivin (green garnet from the Urals)
Onyx
Opal, common
Opal, fire
Opal, noble or oriental
Peridot
Peridot, Ceylon (tourmalin)
Plasma (green chalcedony)
Prase (green quartz)
Prehnite
Rhodonite
Rock crystal (quartz)
Rose quartz
Rubicelle (yellow spinel)
Ruby, Brazilian (red topaz)
Ruby, oriental (corundum)
Ruby, Siberian (red tourmalin)
Ruby, spinel
Sapphire, Brazilian (blue tourmalin)
Sapphire, oriental (blue corundum)
Sapphire, water (cordierite)
Sapphire, white (uncoloured corundum)
Sapphirine (blue chalcedony)
Sardonyx (brown chalcedony)
Spinel (ruby)
Starstone (asteriated corundum)
Sunstone (oligoclase)
Topaz, Bohemian (quartz)
Topaz, Brazilian
Topaz, Indian (quartz)
Topaz, oriental (corundum)
Topaz, red
Topaz, Spanish (quartz)
Topaz, white
Tourmalin
Triphane
Turquoise, oriental
Turquoise, osseous (fossil ivory)
Zircon

Items 684, 685 and 686.

These three items are reserved for *unworked silver, gold and platinum—i.e.*, in lumps, ingots, cast bars, grains, powder, scrap, waste and ash.

Precious metals in the state of *ores* are not classified here. They belong to Chapter 26, Section V.

Ores mean metals in their natural state—*i.e.*, separated neither from their gangue, sand, nor other matter with which they are mixed.

Ores which have been washed (for example, *gold dust*) or prepared in any other way are no longer regarded as ores, but as *unworked* metals.

Native silver, gold and platinum—*i.e.*, silver, gold and platinum as gathered directly and in a free condition in the form of lumps, nuggets, crystals, grains or shreds—are also regarded as *unworked* metals.

It should further be noted that items 684 to 686 include scrap from old articles, only good for refounding, and all scrap, residue and ash (goldsmith's dross) from the workshops of goldsmiths or workers in precious metals.

The provisions of general notes 1 and 2 to Chapter 61, of course, apply to the above-mentioned items.

Item 687.

The partly worked products included under this item have been classified as follows :

(a) *Silver rolled or drawn, in bars, threads, sheets, plates, bands, strips, wire, tubes, etc., not shaped.*—The term " not shaped " excludes from sub-item *(a)* silver rolled or drawn in bars, threads, sheets, etc., having undergone no workmanship other than the simple rolling or drawing out. In particular, it excludes the following : sheets and plates cut out according to outlines (otherwise than in squares or rectangles) or die-stamped, or pressed, or covered with designs, polished, etc. ; bars, bands, etc., covered with designs, reliefs, etc., even obtained by laminating.

Threads, strips and wire combined with textile thread are treated in Section XI, Chapter 46.

(b) *Silver beaten into foil without consistence ; in impalpable powder.*—This sub-item deals with booklets of very thin foil and with impalpable powder chiefly derived from the waste of such foil. Pulverised *shell silver* is assimilated to silver in impalpable powder.

(c) *Purl, spangles and cut-out shapes.*—Purl refers to the twisted silver wire used for embroidery or trimmings. Spangles and cut-out shapes are employed in the same industries; they are little plates of different shapes (circular, stelliform, etc.), usually pierced with a hole through the middle.

(d) *Cast, die-stamped or pressed wares, in the rough ; blanks of articles intended to be further worked.*—The main category of articles covered by this heading is formed by *preparations* or *die-stamped articles* for jewelled ornaments *(bijouterie)*. Many articles (such as *bezels, ring bodies, folding joints, laminated casings, emblems, flowers, animals, figures,* etc.), which are handed over to jewellers to be transformed into finished articles, are manufactured by die-stamping.

Blanks of articles are not excluded from sub-item *(d)* by the fact that they have been soldered.

Item 687 applies to silver and its alloys, to silver, gilded or platinum-coated, and also to silver plated with gold or platinum.

Item 688.

The three sub-items *(a)*, *(b)* and *(c)* correspond to sub-items *(a)*, *(b)* and *(d)* of the preceding item : " *silver, partly worked* ", and the same comments apply to them.

It should be noted that, in this case, it has not been thought necessary to have a special sub-item for *purl, spangles and cut-out shapes,* as these articles are almost entirely made from silver or silver-gilt.

Gold purl, spangles and cut-out shapes are to be classified under *(c)* of item 688.

Item 689.

The articles regarded as " platinum, partly worked ", correspond in point of workmanship to those coming under " silver, partly worked " or " gold, partly worked ".

The classification has been simplified, however, by omitting from this item sub-item *(b)*, which appears under items 687 and 688.

Item 690.

Silver-gilt refers to silver gilded or plated with gold.

This item has three main sub-items :

(a) *Jewellery (joaillerie) and jewelled ornaments (bijouterie).*—The expression " *jewelled ornaments* " *(bijouterie)* includes, in particular, small articles employed in attire, and also those for pocket or personal use.

The main kinds of article may be enumerated as follows :

Bracelets, brooches, rings, earrings, and drops, watch-chains, neck-chains *(sautoirs)* and other ornamental chains, necklaces, tiaras, combs and casings for combs, tiepins, hatpins and other ornamental pins, slides and ornaments for ties, ornamental buttons and sets of shirt-studs, collar-studs and cuff-links, fobs worn by men and women, pendants, sacred medals, hearts and crosses, etc. ;

Purses, cases for gold coin, mesh purses, handbags, reticules, pocket boxes and *bonbonnières*, thimbles, rosaries, cigar- and cigarette-cases, snuffboxes, pocket or office pencil-cases, penholders, pencilholders, etc. ;

Small articles and accessories used in making or ornamenting cloaks, furs, shoes, hats and other articles of apparel—viz., buckles, clasps, hooks and small chains for cloaks, garter- and suspender-clasps, shoe-buckles and slides, ornaments for hats, etc.

Detached parts and pieces of the above-mentioned articles are also to be included under the denomination of *jewelled ornaments (bijouterie)*.

It should be noted that so-called *fancy jewellery*, in base metals, even when silvered or gilt, is classified under Chapter 71 (Section XV).

Jewelled ornaments (bijouterie) of precious metals are called *jewellery (joaillerie)* when combined with precious stones, pearls or other precious materials, whether real or imitation.

(b) *Silversmiths' wares.*—Silversmiths' wares include various articles in precious metal manufactured by silversmiths ; these may be classified in one or other of the following groups :

Table-plate or *silversmiths' wares for the table*, such as table-knives, carving-sets, spoons, forks, ladles, leg-of-mutton holders, trays, dishes and plates, tureens, salad-bowls, vegetable-dishes, sauce-boats, compote-dishes, sugar-basins, cream-jugs, coffee-pots, teapots, porringers, cups, mugs, egg-cups, decanters, liqueur-services, drinking-cups, fruit- and cake-baskets, fish-slices, cake-slices, strawberry-shovels, ice-pails, cruets, oil and vinegar stands, sugar-tongs, knife-rests, serviette-rings, etc. ;

Toilet-services, including ewers, water-jugs, hand-mirrors, flasks, powder-boxes, pomade-boxes, soap-cases, etc., combs, brush-boxes, clothes-brushes, hairbrushes, hatbrushes, toothbrushes, nailbrushes, etc. ;

Office requisites, such as inkstands, writing-stands, paper-weights, hand-blotters, pen-trays, letter-openers, paper-knives, seals, etc. ;

Smokers' articles, cigar- or cigarette-boxes, matchboxes, ashtrays, etc. ;

Household ornaments, such as busts, statuettes, animal figures, frames, shelf ornaments, jewel-caskets, flower-stands, table-centres, flower-vases and other ornamental vases, flower-pot cases, lamps, candelabra, candlesticks and stands, mantelpiece ornaments, etc. ;

Church plate—candlesticks, crosses, lamps, reliquaries, chalices, and other objects used in church services.

The classification of silversmiths' wares is not altered by the fact of their being combined with stones, pearls or other precious materials, whether real or imitation.

Sub-division *(b)* 1, for knives, forks and spoons, is justified by the fact that there is a considerable trade in these articles, and that they are classified separately in many Customs tariffs. This sub-item is intended to include all knives for table service, without regard to cheir shape, dimensions, or use ; the same applies to forks and spoons.

As regards other silversmiths' wares, it seemed reasonable to separate articles made entirely of silver from those combined with materials such as glass, stone, marble, etc. (sub-divisions 2 and 3).

(c) *Other wares.*—This last sub-item embraces all wares of silver or silver-gilt not coming under the groups of jewelled ornaments *(bijouterie)*, jewellery *(joaillerie)* or silversmiths' wares, subject to the reservation mentioned in the text.

In particular, it includes certain articles for industrial or technical use, or for laboratories.

Item 691.

The explanatory notes to item 690 concerning *jewellery (joaillerie)* and *jewelled ornaments (bijouterie)*, *silversmiths' wares* and *other wares of silver*, apply also to the corresponding subdivisions of item 691.

It will be noted that jewellery *(joaillerie)* and jewelled ornaments *(bijouterie)* in gold, *containing diamonds, emeralds, sapphires, rubies* or *real pearls*, have been treated separately under *(a)* 1. The articles in question are of very great value and therefore have been specially provided for in the nomenclature.

Item 692.

As goldsmiths' wares in platinum represent only a very small proportion of the working of this precious metal, it did not seem necessary to treat them separately. They have therefore been grouped together with jewellery *(joaillerie)* and jewelled ornaments *(bijouterie)*.

As with gold, a tertiary item has been made for articles in platinum containing *diamonds, emeralds, sapphires, rubies* or *real pearls*.

The explanatory notes to item 690 apply also to this item.

Chapter 62.

COIN (SPECIE).

With a view to simplification, all coins have been included in this chapter—both base-metal coins and precious-metal coins—with the exception, however, of antique coins, which belong to " Works of Art and Articles for Collections " (Section XXI).

Gold coin and silver coin, which are given separate items in most of the Customs tariffs, are shown separately.

A third item groups together the various base-metal coins, as these are not of much importance in international trade.

Section XV.

BASE METALS AND ARTICLES MADE THEREFROM.

Preliminary Observations.

The notes inserted at the beginning of Section XV lay down the rules to be followed for the classification of articles belonging to the various chapters on " Base Metals and Articles made therefrom ". It will be realised that the strict observance of these rules is a *sine qua non* for a unified Customs nomenclature.

Note 1.—The first note relates to the classification of alloys of two or more base metals ; in fact, it reproduces the provisions found in the majority of Customs tariffs.

The question of alloys of base metals with precious metals is governed by a note at the beginning of Chapter 61.

Naturally, the term " alloy " only applies to metals combined by melting.

Chemical combinations with a base-metal basis are therefore excluded from Section XV. These products, of which there is a large number, will generally be found under Section VI, " Chemical Products, etc."

Base metals and articles made therefrom, which are gilt, silvered, platinised, or gold-, silver- or platinum-plated, are included in Section XV, with the exception of certain articles which will be found specifically mentioned in other sections of the nomenclature.

Note 2.—A. Note 2A relates to the classification of articles composed of two or more base metals without other materials.

It was deemed advisable to adopt what, in this case, appeared to be the most rational method—viz., the system of classification according to the heaviest component. This corresponds to the practice at present followed in a large number of tariffs.

B. A much more complicated question is the classification of articles composed of base metals combined with materials other than precious metals, such as leather, wood, stone, glass, pottery, porcelain, carving or moulding materials, etc.

Study of current tariffs shows that the rules in force for the classification of the articles in question differ considerably.

Certain countries have adopted the system of classification according to the heaviest component ; others classify according to the most valuable component, and others again according to the most highly taxed material or to the material which seems mainly to determine the character of the article.

Owing to the diversity—not to say uncertainty and lack of precision—in the rules followed, the Customs clearance of these combinations gives rise in practice to numerous difficulties, which have been the subject of well-founded protests on the part of international trade.

A question of such primary importance obviously required to be settled in the nomenclature.

After careful examination, it was decided to adopt the system of classification according to the heaviest component, as being the only system calculated to ensure uniformity in the nomenclature and to avoid the disputes or the uncertainty resulting from the other methods of classification—*i.e.*, according to the most valuable component, to the material which seems mainly to determine the character of the article, or to the most highly taxed material.

Note 3.—The products of the metallurgical industry are sold in trade at different stages of completion. Some are *unworked*—that is to say, in the form in which they come out of the moulds, forge, rolling mill, drawing machines or stamping or swaging presses. Others have undergone a more advanced process of preparation—*i.e.*, have been further worked on the surface, changed in shape or improved in appearance. These are *manufactured* or *worked*.

As the distinction between *unworked* products and *worked* products appears in the majority of Customs tariffs, the draft nomenclature was obliged to conform to this method of classification.

But the terms " unworked " and " worked " are understood differently in the various countries, and the object of the present note is to lay down the guiding lines obtaining in all cases where the items or sub-items of the draft expressly specify *unworked* and *worked* products.

Some of the *worked* articles have received simple or slight treatment only, and, with a properly arranged classification, cannot be mistaken for highly worked articles. The draft nomenclature, therefore, provides for certain items which have been divided into *unworked* articles, *simply finished* articles, and *others*.

Accordingly, note 3 further contains a definition of *simply worked* articles.

Chapter 63.

IRON, CAST IRON, STEEL.

It will be seen that the method of classification adopted in the chapters relating to base metals rests on the greater or lesser amount of work represented by the articles ; in other words, the raw materials are taken as the base and the semi-manufactured and manufactured products are classified in relation thereto.

The subdivisions of the various items in the draft nomenclature are somewhat summary ; but they are in all cases adapted for insertion, as they stand, in tariffs which shall adopt the unified nomenclature.

It would really have been desirable further to subdivide the items and sub-items by creating separate categories graded according to dimensions (thickness, diameter, etc.) or the weight of the articles.

Such categories are in fact to be found in most tariffs with specific duties, but they are far from being uniform, varying greatly between one country and another.

As agreement in this matter would no doubt be impossible, it was thought preferable to leave it to the countries to subdivide the items and sub-items of the draft in accordance with the requirements of their respective industries and trade.

* * *

Item 696.

Cast iron is the combination of iron and carbon resulting from the melting of iron ore in the blast furnace. In addition to carbon, cast iron contains other substances (silicon, manganese, sulphur, phosphorus, etc.) which come from the ore or from impurities in the fuel.

The iron content varies as a rule from 90 to 94 per cent ; it is very rarely less than 90 per cent, and only exceeds 94 per cent in exceptional cases.

The carbon content varies from 2.5 to 4 per cent according to the variety of cast iron, amounting to as much as 5 per cent in very exceptional cases ; the other elements (silicon, manganese, sulphur, phosphorus, etc.) may be present either alone or together in a proportion not exceeding 6 or 7 per cent.

Certain ordinary kinds of cast iron, foundry cast iron or converter-pig, contain up to 6 per cent of manganese ; such cast iron with a very small phosphorous content is known as " hematite " cast iron.

So-called " cast iron for steel " has a manganese content of 4 to 6 per cent.

Certain kinds of crude cast iron, the so-called crude nickel cast iron, have a nickel content of 0.5 to 2 per cent.

The preceding figures relate to cast iron proper or *ordinary* cast iron, which is quite distinct from *special* cast iron classified under item 697 as *ferro-alloys* or *ferro-metallic alloys*.

The designation *crude cast iron* applies to pig iron in the form of rough lumps, pigs or ingots ; it also includes pig iron more or less purified (by a further smelting in coke-fed furnaces) called *pig iron for refining* or *fine metal*, which occurs in the same forms.

So-called *semi-steel* cast iron differs from ordinary cast-iron only by its having a slightly smaller carbon content (2 to 3 per cent) ; it is classified with the latter.

Crude cast iron may be white, mottled, grey or black.

White cast iron is of a silvery-white colour when its fracture is fresh and clean. It melts at a temperature of 1,050 to 1,070° ; it is hard and brittle and is obtained with a low proportion of coke. Its density varies from 7 to 7.8. This is the type of *converter-pig* used for the manufacture of *iron* and *steel*.

Grey cast iron fuses at a temperature of 1,200 to 1,220°, and is obtained when there is a predominance of coke in the melting of the ore. This kind of cast iron has a fracture of a grey colour, with more or less large grains containing chips of graphite in varying quantities or grains of various degrees of fineness.

Grey cast iron generally has a density not exceeding 7. It can be filed or perforated and, being readily liquefiable (it becomes fluid at 1,250°), is admirably suited for casting.

Black cast iron is grey cast iron with large grains, whose fracture reveals large quantities of black graphite.

Mottled cast iron is a heterogeneous cast iron ; it consists of grey pig iron disseminated in the white, producing a grey-mottled or white-mottled cast iron according to the colour which predominates. This mottled cast iron is generally used for *puddling*.

In certain Customs tariffs, crude cast iron is divided, according to the purpose for which it is to be used, into two classes—viz., *(a)* foundry cast iron ; *(b)* converter-pig.

Foundry cast iron is that from which cast-iron articles (pottery, tubing, cast iron for building or ornamentation, mechanical parts, etc.) are obtained, by means of a second melting. Its fracture shows grains of a black, greyish or bluish-grey colour. Its silicon content may vary up to 6 per cent.

Converter-pig is cast iron intended to be transformed into iron or steel. White pig iron is the usual form of converter-pig ; but *mottled* cast iron and grey cast iron with a low carbon content, the best-known form being the so-called *Bessemer*-pig, are also used as converter-pig.

As it is not always easy to determine the ultimate use to which certain varieties of cast iron are to be put, it was decided not to retain this distinction between foundry cast iron and converter-pig.

Item 697.

Ferro-alloys are not cast iron properly speaking—*i.e.*, the material from which iron and steel are made. They are special varieties of cast iron employed for subsidiary purposes in foundries and steel works—namely, to purify, refine or improve iron and steel—and, by their very use, they disappear as alloys entirely or almost entirely.

Ferro-alloys are not malleable and cannot therefore be rolled or forged.

The preponderating element of ferro-alloys is not iron (as in the case of ordinary cast iron), but some other metal (manganese, chromium, vanadium, tungsten, etc.) or metalloid (silicon, phosphorus, etc.).

In these alloys, iron is only a fortifying or dissolvent element employed for the reason that it is too difficult to obtain these metals in a pure state, or because their use in a pure state for metallurgical operations would be impracticable or extravagant.

In most ferro-alloys the iron content is below 90 per cent, while the content of the other component metals or elements is often greater than that of iron, though rarely more than 90 per cent. The maximum limit may be taken to be 90 per cent (96 per cent for ferro-silicon).

The term " ferro-metallic alloys ", sometimes used to describe certain ferro-alloys, is applied to the group of alloys known as " iron—other metal "; the more general expression " ferro-alloys " comprises both the " iron—other metal " alloys and the iron metalloid alloys.

The following table shows, as an indication only, the various proportions (maximum and minimum contents) of special substances contained in the most generally used ferro-alloys :

	Percentage contained
Spiegel cast iron	6 to 25 Mn
Ferro-manganese	26 to 80 Mn
Ferro-silicon	6 to 96 Si
Ferro-aluminium	10 to 90 Al
Ferro-silico-manganese (silico-spiegel)	10 to 30 Si 20 to 75 Mn
Ferro-silico-mangano-aluminium	20 Si 20 Mn 10 Al
Ferro-chromium	50 to 80 Cr
Ferro-tungsten (ferro-wolfram)	78 to 90 Tu
Ferro-molybdenum	30 to 90 Mo
Ferro-nickel	15 to 50 Ni
Ferro-vanadium	50 to 80 Va
Ferro-titanium	15 to 50 Ti
Ferro-phosphorus	15 to 25 P
Ferro-tantalum	70 to 80 Ta

Apart from the ferro-alloys given in this table, there are others which are less generally used, such as ferro-boron, ferro-uranium, etc.

Special kinds of cast iron include some which are normally manufactured in blast furnaces, though most of them are produced in electric furnaces.

Blast-furnace products are as follows :

Spiegel,
Ferro-manganese,
Ferro-silicon (silicon content up to 15 per cent),
Ferro-silico-manganese (silico-spiegel), with about 15 per cent of silicon and about 20 per cent of manganese.

The other ferro-alloys are manufactured by the electro-chemical industry in electric furnaces.

In a few Customs tariffs, ferro-manganese whose manganese content does not exceed a certain limit (25 or 30 per cent), and is called in that case " spiegel cast iron ", is classified under ordinary unworked cast iron.

The same applies to ferro-silicon with a low silicon content.

It should be noted that the various Customs tariffs are not in agreement as to the proportions which unworked cast iron must have in order to be regarded as a " ferro-alloy ".

For the purposes of the present nomenclature, the following rule has been laid down for distinguishing between ferro-alloys and ordinary unworked cast iron :

The ferro-alloys coming under item 697 comprise all non-malleable unworked cast iron containing more than 10 per cent, but not more that 90 per cent, of alloy materials (metals

other than iron, metalloids—rare substances). These limits reach 15 and 96 per cent respectively for ferro-alloys containing silicon.

It follows that unworked cast iron containing up to 10 per cent of these alloy materials (15 per cent in the case of silicon) belong to item 696.

Ferro-alloys whose alloy content exceeds 90 per cent (96 per cent in the case of those containing silicon) come under the classification of these materials in a pure state.

Item 698.

This item includes waste and scrap iron, crop ends, iron turnings, iron filings, and all waste or refuse of iron, cast iron or steel, solely fit for re-smelting or re-forging.

Item 699.

Crude iron covered by this item is the metal obtained from converter-pig after decarburisation.

Steel is a combination of iron and carbon, with a lower proportion of carbon than that of cast iron. It is produced either by refining cast iron to remove the carbon (puddled steel, Bessemer steel, Thomas steel, etc.), or by the recarburisation of the iron (cement steels), or by the simultaneous fusion of iron and pig (open-hearth steels obtained by the Martin-Siemens process, etc.).

With certain exceptions, steel is generally treated as iron in the nomenclature.

It will be observed that the so-called special steels have been grouped together in item 707, provided they take the form of (1) blocks or ingots, (2) blooms, billets or flat bars, or (3) bars, wire, sheets or hoops.

Item 699 comprises ordinary iron and steel in a crude state—that is to say, in a more or less rough form, still requiring to be re-worked by hammering, forging or rolling.

Iron, when it comes out of the refining furnace, is separated from its slag by vigorous hammering. This hammering produces the *loops* or *lumps* which constitute the *puddle balls*.

Crude steel is in the form of *blocks* or *ingots* cast in block or ingot moulds direct from the converter or from the Martin-Siemens open-hearth furnace. Ordinarily crude ingots are of a roughly square or occasionally rectangular section, but rarely octagonal, this section being slightly larger at one end that at the other.

Item 700.

These are semi-manufactured products obtained by the rolling, forging or hammering of the crude puddle balls, blocks or ingots referred to in the previous item.

The crude ingot, with a square base, is placed in the *blooming mill*, which turns out products of more or less regular square sections with rounded corners ; these are the blooms.

There are also flat blooms, sometimes called *slab blooms*, produced by the hammering or rolling of crude ingots of rectangular section.

Blooms are used for the manufacture of large merchant bars or forgings. Slab blooms are used for the manufacture of thick iron sheets.

Billets are obtained in the same way as blooms, but their section is smaller. They are rolled more or less regularly and are usually of a square section (though sometimes of a rectangular section), with rounded angles, the side varying from 40 to 100 mm. Billets are used in re-rolling merchant bars.

Flat bars are flat rolled iron or steel, without sharp edges, in narrow plates or in bands, usually 150 to 300 mm. wide and 7 to 50 mm. thick. Flat bars are mainly used for the manufacture of thin sheets.

Item 701.

This item covers merchant iron and steel in bars of various forms or sections, whether hot forged or hot rolled, or whether cold drawn or cold rolled.

These articles include :

(1) Bars of ordinary circular, square or rectangular section, but, more rarely, hexagonal or octagonal section ;

(2) Ordinary profiles, such as L, T, U, I shapes, etc. ;

(3) Special profiles (semicircular, cross-shaped, hollow, convex, biconvex section, etc.) ;

(4) Rolled articles of the nature of pilings, etc.

It will be noted that various rolled or drawn articles of the kind enumerated in item 701 are specially referred to under other items of the nomenclature. This is the case with rails and sleepers for railways and tramways, also with wheel-tyres of railway and tramway rolling-stock.

In most existing tariffs, iron and steel in bars, wire or sheets are subdivided, in the first place, according to the method of manufacture—that is to say, according to whether they are obtained by forging or hot rolling or by cold drawing or cold rolling.

This principle was accordingly adopted by distinguishing sub-items *(a)* and *(b)*.

Hot-rolled and cold-drawn bars are often sold as such and used without additional working.

Sometimes these bars receive further work on the surface after they have been rolled or drawn (polishing, zincking, lead-coating, tinning, plating with another metal, etc.) to enable them to be used for the special purposes for which they are intended.

Bars which have undergone such additional work are classified under sub-item *(c)* of item 701.

Sub-item *(c)* might, of course, be further subdivided to distinguish, *e.g.*, articles produced by hot rolling from those which have been cold drawn or cold rolled.

It will again be noted that bars with designs produced in the rolling are not on that account classified under *(c)*. Further, the straightening or cutting of bars to length does not affect their classification ; nor are to be taken into account the traces of copper or bronze left by the draw-plates, which are observed on the surface of certain kinds of drawn iron or steel.

Item 702.

The various Customs tariffs have separate items for iron and steel *bars* and *wire* ; but the rules adopted for the differentiation of these forms do not always agree.

For the purpose of the present nomenclature, the following are to be regarded as wire : all rolled, drawn or forged iron and steel :

(1) Of round or square section, and of a diameter or thickness of not more than 10 mm. ;

(2) Whose section is other than round or square and does not measure more than 10 mm.

The subdivision suggested in the case of *bars* (item 701) is also proposed for *wire*.

Sub-item *(c)* is again divided into three tertiary items to show separately (1) *zincked (galvanised)* or *lead-coated wire* and (2) *tinned* wire—in view of the importance of these two products in international trade.

The third tertiary item includes, for example, polished, varnished, enamelled, coppered or nickelled wire, or wire plated with other metals (including precious metals), etc.

Wire whose surface bears traces of copper or bronze from the draw-plates through which it has passed is not regarded as *coppered*, nor is to be taken into account the tapering of certain iron or steel wire with a view to its being subsequently passed through the draw-plates.

Wire which has been insulated by enamelling or otherwise, for electrical purposes, comes under item 874 (Chapter 73).

Item 703.

By sheet iron is understood iron or steel sheets, hot rolled or cold drawn. The term also includes what are known as *flat billets*, consisting of strips hot rolled between grooved cylinders, and terminated by plane rectangular surfaces produced in the rolling more than 180 mm. wide and than 5 mm. thick.

Item 703 only covers sheet iron which, since leaving the rolling mill, has been through no working-up process other than levelling the edges and cutting at right angles. Simple acid pickling and annealing are not regarded as making any difference to the classification, nor is the planing process to which some sheet iron is subjected in order to make the surface perfectly flat.

Two sub-items are provided for in item 703—viz., *(a)* sheet iron simply *hot rolled* and *(b) other* sheet iron.

Sub-item *(b)* comprises cold-rolled sheets and sheets pickled by acid or by a mechanical process (whitened sheets).

Item 704.

This item includes flat sheets which have been worked on the surface after leaving the rolling mill, provided that such working does not affect the shape of the sheets in any way.

The first four sub-items *(a)* to *(d)* refer to varieties of sheet iron or steel which have to be specially mentioned on account of their being so widely used ; the last sub-item *(e)* includes all other varieties of sheet iron or steel worked on the surface which are not specified under *(a)* to *(d)*.

As regards *(a)*, *polished* sheets have a peculiar brilliance or lustre which is obtained by various mechanical processes.

Item 705.

The various kinds of work mentioned here refer to changes in the form of the sheets as a result of various mechanical operations, such as corrugation, grooving, etc., stamping, curving, pressing, perforation or cutting otherwise than at right angles.

These sheets can also have undergone one or other of the processes referred to in item 704. Corrugated and zinc-coated sheets, perforated and tinned sheets, and polished sheets cut to a design, etc., are, for example, common.

It may also happen that the sheets are subjected to a number of processes specified in the various sub-items of 704 and 705—*e.g.*, a sheet may be pressed, zincked and perforated ; tin-plate may be covered with stamped designs and cut to a pattern ; a sheet may be curved, perforated and nickelled, and so on.

For the uniform and consistent classification of the articles referred to in the two preceding paragraphs, it is desirable to conform to the following rules :

1. Sheet iron or steel which has been subjected to one or other of the processes specified under *(a)* to *(d)* of item 705 must, in principle, be classified under that item, even if it has undergone one or other of the processes mentioned in *(a)* to *(e)* of item 704.

2. Item 705 should not include any articles which, as a result of any process, have ceased to retain the character of sheet iron or steel proper, and are rather in the nature of *finished articles* of the kinds specified or classified under other items of the nomenclature.

3. Item 705 will also exclude sheet iron or steel which has been subjected to *two* or more of the processes specified under *(a)* to *(d)* of that item.

Item 706.

Hoop iron or steel is produced like sheet iron or steel (1) by hot rolling and (2) by cold drawing or cold rolling.

The following are to be regarded as *hoop iron* or *steel :* all iron and steel in strips, rolled or drawn, with rounded or flat edges, of a width of more than 10 mm. but not more than 250 mm., and a thickness generally not exceeding 3 mm.

In greater thicknesses, only articles the thickness of which does not exceed one-twentieth of their width are to be regarded as hoop iron or steel.

Sub-items *(a)* and *(b)* of this item refer to these two kinds of hoop iron or steel, but do not cover articles which have been worked on the surface.

Hoops worked on the surface (including those covered with designs obtained by rolling) or plated with other metals (including precious metals)—*e.g.*, polished, enamelled, varnished, artificially oxidised, tinned, coppered, nickelled or the like—come under *(c)*, whether produced by hot rolling or by cold drawing or cold rolling.

Item 707.

By " special steels " are understood carefully manufactured steels containing, besides iron and carbon, one or more other substances (known as rare elements), which are added to them in fixed proportions in order to give them various qualities or properties such as strength, hardness, rapidity, conductibility, etc.

Most Customs tariffs provide for the separate classification of special steels, but they are far from being in agreement as to the content of rare elements which confers on those articles the character of special steels.

The following are the minimum contents most generally accepted for the alloy materials used in the manufacture of special steels :

	Percentage
Manganese	2
Silicon	1
Chromium and tungsten	0.5
Nickel and copper	0.3
Molybdenum and aluminium	0.2
Cobalt, vanadium, titanium, boron, uranium, glucinium and other rare elements	0.15

Steels containing alloy materials in smaller quantities than those shown above are, therefore, to be regarded as ordinary steels.

" Carbon steels "—that is to say, steels which have at once a high carbon content and low impurity contents—are also classified separately in various Customs tariffs.

In view of the diversity and looseness of the rules adopted for determining carbon steels and also of the difficulties experienced by the Customs authorities in recognising these steels in practice, it was thought preferable not to classify them separately in the nomenclature, so that they remain classified among ordinary steels, where, if necessary, a sub-item may be set up for them.

Having regard to the widely varying systems of the Customs tariffs in the case of special steels, it was thought desirable to group these articles under a single item rather than to include them, according to the degree of working which they have undergone, among the crude steels or semi-manufactured steel products, or among bars, wire, sheets or hoops, to which the previous items relate.

The countries which adopt the nomenclature will be free to make what subdivisions they may deem necessary or, for the application of the proper duties, to refer to the relevant items affecting ordinary steels.

The latter course may be adopted by countries whose tariffs make no distinction between special steels and ordinary steels, or distinguish only in the case of particular varieties of special steels.

Item 708.

The expression " non-malleable cast iron, " which is used for greater clearness (as opposed to malleable cast iron), means *foundry pig-iron* and the so-called *semi-steel* cast iron (or semi-steel) (see note to item 696).

Hardened or chilled cast iron is assimilated to *non-malleable* cast iron. It is produced by running the castings into metal moulds instead of sand or earth moulds, which makes the surface of the metal very hard and thoroughly tempers it.

Semi-steel must not be confused with *steel castings* (or cast steel), to which reference will be made below.

Semi-steel is a mixture of ordinary cast iron (75 to 90 per cent) with a certain quantity of steel (10 to 25 per cent). Steel castings (cast steel) are pure steel cast in moulds direct from the first smelting to produce *parts* for which there is a large demand for the purpose of current mechanical construction.

In the case of *malleable cast iron*, the nomenclature follows, generally speaking, the classification adopted for iron and steel. Malleable cast iron is a form of cast iron from which a great part of the carbon content has been removed, by annealing in iron oxide, the result of which is to enable it to be hammered and bent in a cold state. It is used chiefly for the manufacture of small articles or small mechanical parts with a complicated shape, which must have the resistance of iron or steel when being worked up and which are much easier to produce from cast iron than from iron or steel which has been forged, turned or sliced.

Item 708 has two sub-items—*viz.*, *(a) pipes* and *(b) joints*.

Sub-item *(a)* includes, *inter alia*, straight *socket-pipes*, one of the extremities having a collar made to take the opposite end of another pipe, and *flanged pipes*, which are either smooth or with cast-on ribs. Flanged pipes have rims at each end at right angles to the body of the pipe, by means of which the pipes, after straightening and drilling, may be assembled by joints, bolts and nuts.

By joints are understood joints proper, whether straight or curved, elbows, bends, straight pipes with flanged sockets or with branching flanges or collars, and special connecting-parts, such as the internal joints of central-heating radiators, radiator plugs, etc.

The tertiary items of sub-items *(a)* and *(b)* distinguish between *unworked* articles and *worked* articles.

The terms " unworked " and " worked " are to be understood in the sense explained in 3, A and B, of the general notes on Section XV.

Movable iron hoops placed on the ends of the pipes in order to protect them during transport make no difference to the classification of these pipes. It is understood also that the threading of pipes and joints resulting from casting does not affect the classification.

Item 709.

The tubes and pipes referred to here are of the ordinary kind employed for boilers or for the conveyance of water, steam or compressed air, and similar uses.

Three categories are proposed :

(a) *Unwelded, rolled or drawn tubes and pipes.*

Unwelded tubes are made either from cast-steel ingots or rolled circular slabs (rounds).

Their manufacture generally entails two processes ; but usually the two processes are carried out successively in a single heating.

The first process is the drilling of the slabs or rounds, either in the press or in the rolling and boring mill, which gives a very thick and not altogether regular tube known as a *blank*.

The second process consists in rolling the blank, which may be done in several ways, the result being a *hot-rolled* tube.

A hot-rolled tube of this kind may be used as it stands for purposes for which great precision is not required.

However, in some cases, after being hot rolled, the tube is cold drawn. The process is as follows :

The tube is first hammered at the end for clamping ; it is then pickled, after which it is passed on to a bench where it is drawn on a drawing machine the interior of which is furnished with a mandrel intended to force the metal through a ring-shaped space, thus regulating the precise diameter and thickness required.

The metal is then cold hammered, and the tube annealed in order to restore to the metal all its properties. The tube thus obtained is called a *cold-drawn tube*.

Sometimes the tube is not annealed after drawing, in which case it is called a *white-drawn tube*.

(b) *Butt-welded or lap-welded, brazed, or autogenous- or electrically-welded tubes and pipes.*

The following varieties of tubes are to be classified under *(b)*.

Tubes and pipes butt welded in the furnace.—These are one of the commonest forms of tubes. They are produced by an old established process, consisting of the following operations :

(1) Heating of the strips to white welding heat in a furnace ;

(2) Drawing in a bell-shaped die where the strips are bent and welded, the two edges being forced together (but not overlapped) ;

(3) Calibrating to the desired dimensions, cooling, cutting and testing.

Butt-welded tubes, generically described as gas-pipes, are used for the conveyance of gas, central-heating and potable water in houses.

Tubes and pipes lap-welded in the furnace.—The manufacture of these tubes is somewhat analogous to that of butt-welded tubes.

But in lap-welded tubes the welding is not done in a hollow bell, but in a rolling mill on a mandrel, the edges being overlapped to a certain width—whence the name, " lap-welded ".

Brazed or autogenous-welded tubes and pipes.—These tubes are produced from continuous cold- or hot-rolled strips passed through the shaping machine identical with that used for the manufacture of tubes merely with butt edges.

The edges are brought together and welded under an oxy-acetylene blow-pipe flame :

(1) Either with an admixture of brass or other metal (*brazed* tubes) ;

(2) Or without the admixture of brass or other metal (*autogenous-welded* tubes).

These two kinds of tubes are used for similar purposes—viz., for cycles, furniture rods, children's perambulators, electric conductor tubes, etc.

They are frequently cold drawn.

Electrically-welded tubes and pipes.—There are two processes in current use for the electric welding of tubes.

The first is *resistance welding*. This is roughly the same as the process used in the case of brazed or autogenous-welded tubes, except that the welding is effected by electric current.

The tubes thus produced are mainly used in :

(1) The cycle-making industry ;

(2) The industry for the manufacture of insulation conductors for electric cables ;

(3) The furniture and decorative arts industry.

In the second process, the welding is effected by means of the *electric arc*. This process is principally employed in the manufacture of tubes of relatively large diameter (300 mm. and above).

Tubes and pipes lap-welded with water-gas.—In this process, the strips of sheet iron for making the tubes are generally shaped hot by powerful curving machines with the two edges left overlapping to a certain extent. The blank thus prepared is then placed in special machines, where the butt edges are white-heated to a welding temperature by water-gas burners. The welding is not continuous, only certain lengths (30 to 40 cm.) being heated at a time and afterwards hammered or mechanically rolled on special anvils.

This process produces high-quality tubes for the conveyance of water (at low or high pressure), or steam, for storage tanks in the chemical industry, high-pressure gas mains, etc.

(c) *Tubes and pipes merely with butt edges, not welded (open-seam tubes).*

These tubes are usually produced by means of machines for shaping the steel strips.

The strips may be either cold rolled or hot rolled.

Item 710.

The first sub-item of this item comprises *tubes and pipes with mere fitting work, not otherwise worked,* and, in particular, threaded tubes with or without sockets, and tubes with welded flanges, collars or rings.

The tubes and pipes *of special shape* coming under sub-item *(b)* include, *inter alia* : tubes not of a uniform thickess, and, in particular, the so-called " rational " tubes for cycles ; tubes with parts of greater or less diameter than the rest (" big-bellied " or " pinch-bellied " tubes), tubes closed at one end, curved, bent or twisted tubes (including coils), conical tubes or those of which the diameter or circumference diminishes over the whole or part of their length.

The tubes enumerated under sub-items *(c)* to *(f)* are those which have been worked on the surface (externally or internally), and comprise all tubes which, although they have not been worked in this way, come under item 709 or sub-item *(a)* or *(b)* of the present item.

Sub-item *(c)* comprises tubes and pipes coated with zinc, lead or tin and *(d)* those covered or plated with other metals—*i.e.*, nickelled, coppered, etc., or plated or lined with copper, nickel, etc. (two-metal tubes). Sub-item *(d)* also includes iron or steel tubes covered with an unwelded tube of copper, nickel, etc.

Sub-item *(f)* covers all kinds of tubes and pipes worked on the surface in ways other than those described under sub-items *(c)*, *(d)* and *(e)*, including tubes covered with an envelope of jute, whether tarred or not.

Item 711.

The articles coming under this item are quite distinct from the tubes and pipes coming under the previous items. The latter are the product of a large-scale industry specialising in this branch of manufacture, whereas the present item covers articles which belong rather to the coppersmith's or tinsmith's trades.

They include : pipes, elbows, etc., in black sheet iron for stoves, furnaces, etc. ; pipes of zinc-coated sheet iron, fastened or soft soldered, for gutters, water-mains, etc. ; tin rods fastened or soft soldered, for blinds, curtains, etc. ; pipes of all dimensions of cut and riveted sheet iron, for factory chimneys, industrial plant, and water, gas or hot-air mains, etc.

Tubes and pipes of special shapes, and joints, also come under item 711, in so far of course as they are riveted, nailed, fastened or soft-soldered articles.

Item 712.

Item 712 applies to all tube or pipe-joints other than the joints specified in the preceding item : *(a)* of malleable cast iron ; *(b)* of iron or steel.

The term " joints " includes parts for use in fitting tubes for all purposes, such as plain or reducing sockets, pipe-connections or unions, round, square or T-shaped elbows, crosses (cross joints), siphons, plugs, caps, nipples, flanges or collars, tube discs, etc.

Flanged sockets or joints fitted with a tap come under taps, cocks, etc., and are clearly excluded from item 712.

Item 713.

This item includes rolled section iron and steel for laying down permanent ways of all kinds (railways, tramways, light railways, etc.), without regard to their shape or dimensions (flange rails, double-headed rails, flat or rounded shape, grooved rails of various sorts, slide-bar rails for electric tramway underground conduits, guard rails, etc.).

No distinction is made between straight or curved rails, or between rails drilled with bolt-holes and those not so drilled.

Rails partially thinned down or planed for track points and crossings, frogs and switches, rack railway rails and portable tracks (rails put together) are included in item 716.

Item 713 includes, however, rails which are simply curved at the end for level crossings.

Item 714.

This item includes all kinds of iron or steel sleepers for railways and tramways, all including those drilled, pressed, curved or prime-coated to protect them against rust.

Item 715.

With the exception of sleepers for rails, this item includes the various metal parts used for the joining or laying of rails—viz., fish plates (flat, angle or any other shape), bed plates, clips (including shock joints), gauge plates and bars.

These various articles may be pressed, drilled or otherwise worked, or prime-coated to protect them against rust.

Coach-screws, spikes and bolts of fish plates are included in other items of the nomenclature.

Item 716.

This item comprises various parts of railway or tramway plant, such as switches and rail shunts, track crossings and frog points, cut rails partially thinned down and planed for crossings and points, switch rods, rack railway rails, and portable tracks.

Rack railways refer to rails for *rack* railways, composed of two stanchions to which sleepers are riveted so as to form cavities for the teeth of the cog-wheel placed under the engine. Sometimes the rack railway is formed of simple cogged bars.

Portable tracks (*i.e.*, mainly for light railways) are formed of a number of rails attached to metal sleepers.

Item 717.

This item comprises wheels and sets of wheels for railway or tramway rolling-stock and their parts. It is subdivided as follows :

(a) *Axles.*—This only includes *straight* or *cranked* axles for railway and tramway engines, tenders, coaches and wagons.

By *unworked* axles are understood axles, cast, forged, rolled or stamped, unworked, this word being used in the sense of 3 A of the general notes to Section XV. Those having undergone more advanced processes are regarded as *worked.*

(b) *Wheel tyres and centres.*—The above note on sub-item *(a)* applies in all respects to wheel tyres and centres for railway and tramway rolling-stock.

(c) *Wheels and sets of wheels.*—The following are to be classified under this sub-item : wheels of various models made in one or more pieces, and sets of wheels (wheels fitted on axles) for railway and tramway engines, tenders, coaches, wagons and trolleys.

This sub-item includes sets of wheels with lubricating screws or sockets and those with grease boxes ; but so-called bogie wheel sets are classified under item 887 (Chapter 74) with railway and tramway material.

Item 718.

This item comprises axles and parts of axles for vehicles of all kinds, with the exception of axles for engines, tenders, wagons, trolleys, etc., running on rails and those for motor-cars and cycles.

This item thus includes straight, curved, cranked and other axles, such as ordinary grease axles, so-called "patent" and "semi-patent" oil axles, etc., for non-motor vehicles, not running on rails and used for the conveyance of persons and goods and for other purposes.

Among the parts of axles coming under this item may be mentioned, in particular, axle boxes and axle journals, axle screw-caps and nut-plates.

It should be noted that ball-bearings are specially mentioned in item 857 (Chapter 72). Similarly, axles of perambulators and of hand-propelled chairs for invalids belong to item 899 (Chapter 74).

For a definition of the terms *unworked* and *worked* see note on item 717 *(a)* above.

Item 719.

In addition to parts for metal bridges, girders, marquees and roofs, item 719 comprises, *inter alia*, standards for telephones, for electric current conductors, for aerial cableways, etc., extracting stays for mine pits, ore-tipping platforms, coal washing and screening plant, piers, jetties, moles projecting into the sea, light-houses and constructions of like description ; hot-houses, verandahs, kiosks, exhibition halls and similar buildings ; level-crossing barriers, sliding doors, metal blinds, etc., and, generally, all similar articles made of sheet iron, strip iron, girders, angle and other section irons, drilled, adjusted or assembled with rivets or bolts or by autogenous or electric welding.

It should be noted that this item does not include sections which have been curved or drilled for the adjustment of bolts or rivets, but have not been subjected to any further processing and do not form part of any particular metal construction. It is a different matter if the sections in question have been subjected to the additional work necessary for putting the metal constructions together. For example, T-, I- or U-shaped irons which have been drilled and notched for putting constructions together should be included in item 719, and the same applies to sections (curved or drilled for the adjustment of bolts or rivets) which, although not subjected to any further treatment, would in their final state form part of a metal construction.

Item 720.

These are large receptacles for liquids or gases, closed or open, which are used in factories, dyeworks, chemical and various other works, where they are generally installed as fixtures. This item does not, however, include steam boilers or central-heating boilers, receptacles fitted with mechanical devices (*e.g.*, mixers or coils), reservoirs with double bottom or double sides, or transport casks and drums.

The following are to be included under item 720 : large reservoirs, such as oil tanks, caissons for constructions under water, etc., large tubs or vats to contain liquids, receptacles for tank-wagons, etc.

The classification of these receptacles is independent of whether they are erected or not. Their finished or processed parts are also to be included under item 720, subject to the same reservation as that made above with regard to separate parts of metal constructions (note on item 719, last paragraph).

The item is subdivided as follows :

(a) *Of unworked sheet, the articles being simply worked :*

The term " *simply worked* " is to be understood in the sense of 3 B of the general notes to Section XV.

(b) *Others :*

This sub-item covers, *inter alia*, receptacles made of sheet iron or steel, painted, zincked, tinned, enamelled, etc.

Item 721.

The transport casks and drums coming under this item are those commonly employed for the transport of oils, petrols, spirits or other liquids. Some of these receptacles are also used for the transport of solid substances—*e.g.*, caustic soda, calcium carbide, etc.

Articles of the kind, not more than 50 litres in capacity, belong to item 754 as articles of sheet iron or sheet steel.

Item 722.

This item covers cylinders for the transport of liquid carbonic acid and other compressed or liquefied gases. They are in the form of swaged or unwelded tubes with or without taps and other accessories.

Similar receptacles in the form of pressed or unwelded tubes with welded bottoms are also classified under this head.

Item 723.

This item comprises metal cords of widely varying size, made by the juxtaposition and twisting together of iron or steel wire, and employed in ships, in various mechanical industries, in mining concerns, for traction on inclined planes, for the transmission of motion, etc. Some cables are square or rectangular and are composed of several strands plaited together.

Cables and cordage with core or cover of textile materials must be a genuine product of iron or steel wire to come under item 723. This item does not include cables composed mainly of hemp or other textile materials with an internal stiffening of a few strands of iron or steel wire (see item 566).

Insulated electric cables made of iron or steel wire are not included in this item (see item 874).

Item 724.

Barbed wire coming under this item consists of twists of iron or steel wire with points at frequent intervals, used for enclosures. Fencing made of flat rolled and cut iron, and small twisted or spiral strips, used as barbed wire, should also be classified under this item.

Item 725.

By *metal cloth* is understood iron or steel wire fabrics (with a weave generally like *cloth*, but sometimes like *twill*, *rep*, etc.). It is used chiefly for the manufacture of sieves.

Netting and *trellis* are meshed or are sometimes manufactured like metal cloth. They are mainly used for enclosures.

Netting is ordinarily made of metal threads interlaced so as to form tulle-like meshes, whether manufactured by hand or machine, or with one or more twists.

Other netting is made (like metal cloths) by merely crossing round square or flat threads of wire, frequently in a waved pattern.

Expanded metal is trellis manufactured in one piece with sheet iron incised in certain directions and expanded to produce the meshes of the trellis.

These articles do not cease to come under item 725 from the fact of their being zincked, tinned, coppered, varnished, painted, etc.

Item 726.

This item includes chains of all dimensions, from the large chains used on board ships to the small chains (chainlets) used for different purposes.

There are two sub-items, one including chains of different systems used for transmission of motion (transmission chains or *sprocket chains*—Galle's chains, ladder or Vaucanson chains, and the like) and the second, including ordinary chains, called link chains and other.

Of the sprocket chains, *roller* or *flat-link chains* are mentioned separately : these are the sprocket chains of the Galle system which are in great demand—in particular, those used for cycles, etc.

The *other* sprocket chains (without rollers) are also used for transmission : these include, among others, ladder or Vaucanson chains, " Simplex " chains, " Standard " chains, etc.

Sprocket chains which have special fittings for the transport of goods and thus constitute the essential part of the transporting apparatus should be classified with the latter in item 833 (Chapter 72).

Item 726 comprises, not only chains, large and small, in a crude state, but also chains which are filed, polished, zincked, tinned, coppered, nickelled, etc.

Parts of chains (links, open adjustable links, rollers, terminal rings and hooks, etc.), come under the same item.

Chains used for special purposes are also included, as, for instance, chains used for tying up animals, dog chains or leashes, snow chains for motor-cars, etc., with or without swivels or terminal rings or hooks.

It should be noted, however, that chains, large and small, used as articles of attire or for personal use should be excluded from the present item (see item 819).

Item 727.

This item includes tacks, nails, cramps and hooks, in several sub-items :

(a) *Of unforged iron or steel wire.*—This sub-item includes tacks obtained mechanically by a cold process, with iron or steel wire. They are perfectly cylindrical, square or oval. The most usual kind is the so-called *wire tacks*. The tacks have flat or rounded heads, though some are without head, pointed at one or both ends or even bent (staples).

(b) *Nails for shoeing animals.*—These are the nails used for shoeing horses, mules, donkeys, draught-oxen, etc. They are of a special shape, having a head shaped like the flattened frustum of a pyramid, and a tapered shank.

Calks used for fitting on animal shoes in winter time are also included under *(b)*. If, however, they are threaded, they come under screwmakers' wares (item 729).

(c) *Forged or stamped cramps.* — These are big coarse nails, generally with a square or prismatic shank and a bent head, for firmly fastening, securing or fixing.

They include : rail spikes for fixing the flanges of rails to the sleepers ; cramps with bent heads for nailing into walls ; holdfasts ; cramp irons used, for instance, for strongly holding together blocks of freestone, etc.

(d) *Decorative or ornamental nails.*—These are nails or tacks with ornamented, gilt, silvered, nickelled, brassed heads, etc., for decorating chairs, furniture, wooden articles, saddlers' goods, etc.

(e) *Others.* —This sub-item comprises all articles not included in *(a)* to *(d)*, including cut nails (tacks, tintacks, paper-binding staples, etc.), hobnails for the soles of boots, slate nails, tenterhooks, sheet-iron nails and, in general, forged nails produced by a hot process, whether by machinery or by hand, as also nails of malleable cast iron.

Item 728.

Several of the articles classified under this item bear a certain resemblance to those in the preceding item ; but, unlike the latter, they are never pointed.

They are distinguishable from bolts and screwmakers' wares (item 729) by the fact that they are unthreaded.

The rivets covered by this item generally have a full, cylindrical shank. Notched rivets and sleeved rivets consisting of two pieces fitting into one another are classed with these.

This item does not include rivets for garments, footwear, saddlery articles and travelling requisites, etc., as these come under item 818 (Chapter 71).

The washers coming under this item are perforated, unsplit washers used for bolts and rivets, and the nut washers known as *split or elastic washers*, which protect the nut while acting as a spring (Grover's safety washers).

Piano pegs are not included in this item and belong to item 938 (Chapter 79).

Item 729.

This item includes all bolts and screwmakers' wares which have been *threaded*, whether or no they have been turned or sliced.

These articles may also be polished, varnished, tinned, zincked, coppered, nickelled, etc.

Wood screws form a separate sub-item *(a)* and coach screws form a separate sub-item *(b)*.

The characteristic feature of wood screws is their threaded part, which is usually in the shape of a *truncated cone*, while metal screws, for instance, are strictly cylindrical.

Wood screws differ from bolts (which are also used for wood) in the fact that bolts are always used in conjunction with a *nut*, and further their shank is cylindrical and not in the shape of a truncated cone.

In the case of screws, one of the parts for screwing together takes the place of a nut. The screw has to make its way in, hence the reason why it is turned when inserted. It may be said to be bolted into its nut. The method varies according to whether *wood screws* or *metal screws* are used. *Wood screws* and *coach screws* have to make a place for themselves in the turning ; the aperture is not necessarily prepared in advance. The thread is for this reason sharp edged. *Metal screws* can only enter an orifice which has been already prepared, and their thread is like that of a nut.

Sub-item *(a)* should also include hooks, ring-bolts (screw-eyes), etc., which have threads similar to those of wood screws and are manipulated in the same way.

Item 730.

This item comprises needles not elsewhere specified.

To the needles mentioned in *(a)* may be added darning needles, tacking needles, carpet needles, packing needles, sail-making needles, etc., as also bodkins (needles without a point, with an eye to take a lace or string).

The *knitting-needles* and *pins* enumerated under *(b)* are needles without eyes or points with which hand-knitting is done. Netting-needles are included under this head.

Crochet hooks are a kind of pin or thick needle tapered and forming a hook at the point. They are used principally for *crochet work*. They should not be confused with the *eyeless crochet needles* used in sewing-machines.

Embroidery needles are used to perforate the fabric in embroidery work.

Item 731.

Three different groups of pins are here enumerated.

Ordinary pins of iron or steel, with or without a head, of common metal, enamel, glass or other material form sub-item *(a)*. These may be brassed, nickelled, gilt, silvered, etc.

Headless pins for brooches (clasps), shanks for hatpins and steel shanks pointed at both ends, out of which two headless pins may be made, are also included under this head.

Mounted pins for ornaments (tiepins, pins with ornamented heads for hats, etc.) are not included under this sub-item (see item 819, Chapter 71).

By safety-pins, hairpins and curling-pins enumerated under sub-items *(b)* and *(c)* are to be understood articles of ordinary use, and not articles for personal adornment (for the latter, see also item 819).

Item 732.

This item includes springs of all kinds (other than watch springs)—*i.e.*, springs for carriages, automobiles, locomotives, wagons, machines or any other object.

Sub-item *(a)* comprises flexible, single-leaf or laminated plate springs chiefly used for carriages, automobiles, locomotives, wagons, etc.

Sub-item *(b)* includes spiral-wire springs for chair seats and bedding.

Sub-item *(c)* includes the other kinds of springs, such as cylindrical spiral springs, volute springs, etc.

Item 733.

This item includes locks, padlocks, etc., made exclusively of iron, steel or malleable cast iron, or of these metals with the addition of copper, bronze, brass, nickel, etc., provided that the ferrous metals predominate in weight (in application of general note 2 to Section XV).

(a) *Locks and padlocks, also with their keys :*

(1) Safety ;
(2) Others.

Safety-locks and padlocks are :

(1) Combination articles—*i.e.*, articles with some special mechanical device, the parts of which must be arranged in a given order before the lock or padlock can function normally—*e.g.*, safe-locks and padlocks with combinations of letters or figures ;

(2) Cylinder locks—*i.e.*, locks the safety mechanism of which is enclosed in a drum-shaped cylinder, containing a series of spring bolts worked by the key belonging to the lock in such a way that the drum can be turned in order to make the lock work ;

(3) *Pump* locks and padlocks in which the key presses on one or more springs and plunges into the barrel like the piston of a pump ;

(4) Locks and padlocks with *a number of grooves* (not less than four) and a key with one or two or more notched clamps.

Closing appliances called " safety bolts ", fitted with a safety mechanism, are also regarded as locks.

Item 734.

The following are the principal articles included under item 734 : hinges, hinge pins, hinge plates, butt hinges, sash angles and corner-cramps, staples and hasps, hinge-plate mounts, bolts, flat bolts, drop latches, small latches, stops, pulleys, rollers, pivots, casters, handles, tie-rods, drawer-pulls, door-knockers, bell-pulls, door-knobs, ceiling rosettes, nail-mounts and other mounts, keyhole guards, letter-box plates, slide bolts, sash fasteners, curtain and blind fittings, hat-pegs, coffin mounts, saddlery mounts and, in general, all mountings and fittings not elsewhere specified or included, for furniture, doors, windows, Venetian blinds, shutters and other parts of buildings, or for carriages, saddlery, trunks, cases, boxes and other similar articles.

The fittings and mountings in question are subdivided according to the treatment they have received.

(a) *Simply worked.*—The term " simply worked " is to be understood in the sense of 3 B (paragraph 3) of the general notes to Section XV.

(b) *Polished, painted, varnished, lacquered, enamelled, coated* or *plated* with other base metals.

(c) *With parts made of other base metals,* provided always that the ferrous metals predominate in weight, in accordance with general note 2 to Section XV.

(d) *Silvered, gilt, chased or otherwise ornamented.*—This sub-item includes articles containing ornaments obtained by chasing or hand-forging, but does not include articles whose ornamentation is produced exclusively by stamping or casting.

Item 735.

This item includes heating apparatus other than electric, the principal kinds of which are the following : stoves, heaters and fireplaces for burning wood, coal, coke, gas, paraffin oil, etc., so-called gas " radiators ", brasiers, kitchen stoves and ranges for houses, restaurants, etc., Dutch ovens, roasters, portable pastry and bread ovens, camp stoves, paraffin oil-, petrol- and gas-cookers, etc., field and travelling stoves, washing machine furnaces, boilers with furnace, chiefly used for cooking cattle food, for melting asphalt, etc.

Apparatus included in the present item which contain non-ferrous metals are subject to general note 2 to Section XV.

Articles made of cast iron, etc., combined with refractory bricks, earthenware or ceramic plates or tiles, etc. (as in the case of certain stoves or kitchen ranges), are classified under this item, even if the non-metallic materials preponderate in weight.

It should be noted, however, that the earthenware stoves used in certain countries for heating, which always have some iron or cast-iron accessories, are specially included in item 656 (Chapter 59).

Sub-item *(a)* applies to stoves, heaters, kitchen ranges, etc., made entirely of cast iron—that is to say, whose body and main parts are of cast iron. This does not exclude apparatus with the ordinary iron, steel or malleable cast-iron accessories, such as guard rails and towel rails, hinges, door-handles and knobs, taps, internal oven-plates, ash-pans, etc., even if these accessories are partly enamelled, nickelled, coppered, etc., or made of nickel, copper, etc. It should be noted, however, that apparatus covered with ceramic plates should be classed under *(b)*.

Item 736.

This item includes boilers with every system of combustion for the hot-water or steam central heating of houses, flats, workshops, factories, hot-houses, etc.

Nevertheless, mechanical burners for boilers for which liquid fuel is used (heavy oil, mazout, etc.) are not included in the present item, but under item 829 (Chapter 72).

Item 737.

Radiators are apparatus for the heating of buildings by water or steam, consisting of tubular parts on which are screwed hollow bars or pipes of various shapes, through which the water or steam, coming from the boiler, circulates. Apparatus for the distribution of heat, composed of a number of cast-iron pipes, adjusted by rods or bolts, are also classified as radiators.

Sub-item *(b)* includes, among others, radiators composed of tubes with fixed-on ribs and radiators of sheet iron or steel.

Item 738.

Besides strong boxes, reinforced doors and compartments for strong rooms, this item includes safety boxes and caskets—viz., boxes, caskets or small portable strong boxes for keeping valuables, jewellery, etc. However, item 738 only covers said articles when made of reinforced steel plate or with double walls and *safety locks*.

In classifying articles coming under this item, no account is taken of any refractory or padding material used in their composition.

Item 739.

By *furniture* is understood the various *movable* articles used for the outfit of flats, offices, restaurants, cafés, schools, churches, gardens, etc., which are placed on the ground.

Furniture does not include small useful or ornamental articles placed on other pieces of furniture of attached to the walls ; these articles are included separately under the head of *decorative objects*.

The main kinds of furniture made of the metals enumerated in Chapter 63 are : folding or non-folding beds and box-springs for beds ; folding or non-folding tables made entirely of metal ; café tables composed of one foot made of cast iron or iron and a marble top ; benches, chairs, armchairs and other seats composed in whole or in part of metal ; coat-hangers on stand for entrance halls ; fire-screens on stand ; washhand-stands ; furniture for surgical hospitals, etc.

Articles coming under the present item which contain non-ferrous metals are subject to the rule laid down in general note 2 to Section XV.

Sub-item *(a)* includes furniture composed in whole or in part of iron or steel tubes whether padded or combined with fabrics or other materials, or not.

In the case of articles containing parts made of fabrics, wood, marble, etc., these parts follow their own classification when they are detachable. When they are not detachable, the articles are classified under item 739, provided always they retain the nature of cast iron or iron articles, etc.

Item 740.

The household, kitchen and sanitary hollowware and other utensils coming under this item include, in particular, the following : saucepans, pots, casseroles, basins, cauldrons, frying-pans, stewpans, roasters, gridirons, kettles, coffee-pots, soup tureens, skimmers, colanders, filters, funnels, milk-jugs, trays, plates, porringers, tumblers, bowls, cups, saucers, eggcups, lids, dishcovers, bread baskets, crumb scoops, kitchen tins (spice tins, etc.), pastry moulds, cheese and like graters, coffee roasters (non-mechanical), crockery wash-up basins, water-cans and jugs, milk-cans, pails for domestic use and other pails, hollow measures, dust removers, spittoons, watering cans (including watering cans for garden use), troughs, coal-boxes, coal-shovels, ash-bins, dust-bins, candlesticks, bath-tubs, etc., toilet accessories such as ewers, soap dishes, wash-basins, hip-baths, bidets, chambers, enemas, urinals, bed-pans, etc.

With regard to the articles coming under item 740, it should be pointed out that sub-item *(c)* only applies to *tinned, zincked, lead coated, painted, varnished* or *lacquered* articles and does not include articles in two or more colours or articles which have been stamped or decorated, these having to be classed under sub-item *(e)*.

Naturally, enamelled articles remain under *(d)* even if painted, decorated, etc.

Articles of this kind, gilt, silvered or plated with precious metal come under sub-item *(e)*, except articles for table service, which are classed under sub-item 810*(d)* (see the comments on this item).

The following are not included in item 740 : Table silver (spoons and forks), cutlery, lamps, etc., articles used to ornament living rooms and offices, tins, cans and metal carboys for the packing or transport of special articles, toilet and sanitary appliances and household articles of any kind for erection as fixtures in buildings.

* * *

Items 741 to 751.

By a *tool* is meant any non-mechanical instrument used by workmen in their work. There are, however, certain tools used both for hand work and machine work which are included under items 748 to 750.

There is no reason for excluding from the present category tools fitted with handles or frames, even if the metal part does not preponderate in weight. This category also includes tools in the roughly worked stage.

In order not to have too long a list of items in the nomenclature, the classification of tools has been effected by grouping together, as far as possible, articles which resemble one another.

This classification is on the summary side, but it meets the requirements of most countries.

Certain countries are likely, however, to decide to subdivide the items, either according to the nature of the objects or according to their weight or dimensions.

Item 741.

This item applies to the various kinds of tools specified, regardless of their shape or dimensions :

Spades of all kinds (gardeners' spades, navvies' spades, etc.), rectangular shovels, round shovels, mortar-, sand-, gravel-, and like shovels ; large and small picks including pronged hoes (double use picks), navvies' picks, rock picks, hoes, gravel-, grubbing-, hay-, manure-, and stable-forks, including dung hooks, various rakes, for gardeners and the like.

Item 742.

This item includes also slashers for colonial use, called " machetes ".

Item 743.

The hay or straw cutters coming under this item are implements for cutting hay or straw by hand when stacked or compressed, chopping piled crops, etc.

Item 744.

This item comprises hammers (including sledge-hammers and mallets) for household and all manual uses, forge hammers (including punches and stamps for forges), hammers for coppersmiths, tinsmiths, carpenters, joiners, quarrymen and stone-cutters (including bush hammers and scappling-hammers, etc.) ; anvils of all dimensions and kinds (including beaked and portable anvils).

Item 745.

The articles coming under this item include the following : vices of various systems (hand vices, table vices or bench vices, but not big vices of the nature of machine tools, nor, in particular, filing vices) ; cramps of all shapes, hand-adjustable clamps ; chucks and other tool holders—*i.e.*, auger-holders, general purpose chucks, borer-holders or pockets, pockets or sockets for ratchets, brass mounts and other fittings for hand tools (bit braces, drill-holders, etc.) or for drilling, boring, milling, lathe-turning machines, etc., provided that, in the latter case, the weight of the articles does not exceed 5 kilogrammes ; hand bit braces, drill-holders, drills and ratchets ; drill-holders, drillers and other small drilling or boring apparatus, to be fixed on benches, but not when fitted with stands.

Item 746.

The following articles may be mentioned : pliers and pincers of all kinds, including tube-cutters, bolt-cutters, punches, etc. ; wrenches including spanners and rowel wrenches or jaw-expanding wrenches ; hand shears, such as tinsmiths' shears, hedge-shears, big two-handed secateurs (lopping secateurs) for pruning vines, lopping off branches, etc., shears for cutting borders, etc.

Sheep-shears, grass-shears, cloth-shears, etc., are treated in the same way as hand shears. They are large two-bladed shears, the blades being joined together by a semi-circle of steel which acts as a spring in order to facilitate their manipulation. These shears are often formed of a single piece of steel.

Item 747.

This item includes metal, wood, leather and other files and rasps, of any size, with or without handles.

Item 748.

This item is subdivided as follows :

(a) *Circular saws.*—This category includes circular saws (blades) of all diameters, for mechanical wood and metal work, and also countersinking saws or circular saws for cutting wood or metal.

(b) *Band saws.*—This sub-item refers to band-saw blades or endless saws, chiefly used in mechanical woodworking.

(c) *Saw blades, straight, unmounted.*—Includes blades of saws for wood, metal or stone, etc., sharpened or notched. Unnotched blades for sawing marble and hard stone are also included here when they are perforated at the extremities.

(d) *Hand saws and mounted saws.* — The only mounted saws included here are such as are worked by hand.

This sub-item applies to the following articles : small saws with one handle (hand saws) for household use, for butchers, cabinet-makers, gardeners, etc. ; small metal hand saws ;

saws with ordinary mounting (wood saws) for household use, joiners, carpenters, woodcutters, etc. ; pit saws ; large saws (double saws) with a handle at each end ; folding saws for camping, etc.

Item 749.

This item includes unmounted knives or blades of rectangular, circular or other form, not coming under item 748, such as knives or blades for small apparatus or small machines for household use, or for the use of butchers, porkbutchers, etc., for meat-mincers, vegetable-cutters, bread-cutting machines, ham-cutting machines, sauerkraut-cutters, etc. ; shear blades for cutting tinplate, sheet iron, profiles, etc. ; knives and blades for agricultural machinery, such as root-cutters, chaff-cutters, grass-cutters, mechanical mowers, etc. ; blades or knives for paper-cutting or clipping machines, tobacco-chopping machines, etc. ; blades or knives for machine tools for working wood, metal, etc. ; cutting, trimming, planing, boring machines, etc.

Item 750.

The cutting tools coming under this item are classed in two categories :

(a) *Tools for working metals.*—The principal tools included under this sub-item are twist drills and metal-boring augers, milling cutters in one piece or with blades attached, screw taps, drawplates, drawplate brasses, including drawplate frames and drawplates assorted in boxes, lathe-hooks, graving tools, mortise-chisels, awls, etc., and generally all drilling, boring, piercing, screw tapping, threading, milling, mortising and shearing tools for engineers, and for metal-working machine tools, but not the saw-blades nor the blades or knives specified in items 748 and 749.

(b) *Tools for working wood and other materials.*—Plane-irons ; scrapers and metal planes ; gimlets, wood drills, borers and augers ; spokeshaves ; chisels, gouges and mortise-chisels ; stone augers ; paring knives and adzes for wheelwrights, coopers, etc. ; special cutting tools for clog-makers, coopers, wood carvers, etc., and in general all cutting tools for working wood, stone or other hard material by hand or by machinery, but not the saws, blades and knives coming under items 748 and 749.

Item 751.

The tools not specially mentioned under items 741 to 750 and to be included in item 751 comprise the following : sliding gauges, square rules and compasses for engineers, joiners, etc. ; screwdrivers ; bench irons and screws ; soldering irons ; crowbars, nail-claws, mining bars, mining punches, rock-cutting bars, rock-cutting machine heads, rammers ; trowels, polishers, planishers, etc., for bricklayers, cement workers, plasterers, etc. ; moulders' tools : hooks, ladles, smoothers, etc. ; glaziers' diamonds, rowel and other glass-cutters ; punches and eyelet fitters for shoemakers, saddlers, etc. ; shoemakers' awls and tacks ; butchers' steels, etc.

* * *

Item 752.

These are articles not elsewhere specified or included of *non-malleable* cast iron—that is to say, of ordinary cast iron, of semi-steel or of cast iron tempered or hardened in chill-moulds.

The following articles come under this item : tanks, uncovered boilers, bins, vats, troughs and other receptacles without mechanical attachments ; mine tubbing ; chains ; dishes and other household, kitchen and sanitary hollowware (corresponding to the articles of the same sort made of iron or steel specified in item 740) ; balconies, balusters, railings, brackets, columns and other similar articles used in the construction of buildings ; flagstones for factories, etc. ; sinks and washstands ; urinals and water-closet cisterns, fans and ventilators, drain inspection traps, grates, drain plates and frames ; street lamp-posts and light-standards ; pillars for hydrants, pillar-boxes, etc. ; hoops for garden borders ; vases, statues and statuettes, urns, crosses, etc., for the decoration of gardens, parks and cemeteries ; moulds and ingot moulds for foundries, steelworks, etc.

Item 753.

This item includes, more particularly, baskets, gridirons, traps, weirs, cages, dovecots, food-safes, sponge-holders, soap-dishes, plate-racks, muzzles, scraper mats, etc.

Item 754.

This item includes boxes, tins and carboys for certain commodities (biscuits, preserves, blacking, varnish, oils, paints, tobacco, cigarettes, etc.) ; commercial posters, placards, advertisements, etc. ; herbalists' boxes, schoolboys' boxes ; tiles and gutters ; trunks and chests ; bakers' moulds ; oilers ; letter-boxes, door-bells ; property, shop, office and other sign-plates ; street name-plates ; signpost-plates ; identity plates for bicycles, automobiles, etc.

Sub-item *(a) of unworked sheet* of item 754 includes articles of simply hot-rolled or cold-rolled sheet, namely articles having been through no working-up process on the surface other than simple pickling.

Item 755.

This item includes, more particularly, granulated steel ; pellets and balls of steel or malleable cast iron for crushing mills, etc. ; iron scale or shavings ; iron for shoeing horses, mules, donkeys, oxen, etc. ; carriage and other vehicle iron work not elsewhere specified or included ; Blakey heel and shoe guards ; empty wrought iron crates ; counterweights for hanging lamps, etc.

NOTE ON ITEMS 752 TO 755.

As in the case of the other articles of Chapter 63, general note 2 on Section XV applies to the articles mentioned in items 752 to 755.

As regards articles *composed of two or more ferrous metals*, the following rules are to be observed :

1. Only articles in which cast iron represents a weight greater than the total weight of the other kinds of ferrous metals shall be regarded as cast-iron articles.

2. Should the non-malleable cast iron not exceed 50 per cent of the total weight, or even not be present in the articles, classification as articles of iron or steel wire, of sheet iron or sheet steel, of iron, steel, cast steel or malleable cast iron, shall depend on such one of said groups having the greatest weight.

The terms *unworked* or *simply worked* in the sub-items of items 752, 754 and 755 should be understood in the sense of general note 3 on Section XV.

It will be realised that, in virtue of paragraph 1 of general note 3 to Section XVI, detached parts of machines, *unworked*, of non-malleable cast iron, of sheet iron or sheet steel, of iron, steel, cast steel or malleable cast iron, should be classified under letter *(a)* of items 752, 754 and 755, provided that these parts are not elsewhere specified or included.

CHAPTER 64.

COPPER.

COPPER ALLOYS.

The term " copper " is applied, not only to pure copper, but also to alloys of the metal with other base metals, and which are considered as *copper alloys*.

The classification of base-metal alloys is governed by General Note 1 to Section XV.

Under this provision, *copper alloys* are considered to be those in which copper predominates by weight over any of the other components, but not alloys in which the proportion of nickel is greater than 5 per cent.

Cupro-alloys are also classified under the chapter on copper, even if copper is not the predominating component ; and solders of copper and tin, copper and nickel, copper and aluminium, etc., come under the chapter on copper, whatever the respective proportions of the two component metals.

Chief alloys of copper to be included in the present chapter :

Copper and tin : *Bronze.*—Certain bronzes contain small proportions or phosphorus, silicon or manganese : they are the so-called phosphor, silicon of manganese bronzes.

Copper and zinc : *Brass.*

Copper, zinc and tin : *Similor, chrysocale, tombac.*

Copper and aluminium : An alloy called aluminium bronze, containing from 90 to 95 per cent of copper, and 10 to 5 per cent of aluminium.

Copper and manganese : Manganese copper containing two parts of copper and one part of manganese.

Item 756.

This first sub-item applies to copper, unworked, resulting from the various methods of manufacture, particularly smelting, cementation, electrolytic processes, etc.

The term " plates " refers to the crude slabs produced by foundries and intended to be rolled. They may not be less than 60 mm. thick.

Anodes are the plates of impure copper which are suspended in the electrolytic bath for the purpose of being dissolved ; the dissolved copper is deposited on the cathode and thus produces the plates of pure copper called " electrolytic copper ". The cathodes may be perforated with holes or have lugs attached for suspension.

Cement copper obtained by the so-called " cementation " process appears in the form of a black powder ; it is an impure metal which has to be subsequently purified in the refining furnace.

Cupro-alloys and cupro-metallic alloys correspond to the ferro-alloys and ferro-metallic alloys of the preceding chapter. The most important are cupro-manganese, cupro-silicon, cupro-phosphorus, cupro-nickel, cupro-chromium, cupro-boron, cupro-vanadium, cupro-molybdenum, cupro-titanium, etc.

Note that *phosphide of copper* (copper containing a marked percentage of phosphorus) comes under the chapter on *Chemical Products*.

Sub-item *(b)* includes shavings, filings, and other waste, and old copper scrap.

Copper scales (oxide of copper) also come under this sub-item.

Item 757.

The articles included under the heading of " copper bars and wire " are further divided into three sub-items, according to the treatment to which they have been subjected.

Sub-item (*a*) applies to bars and wire simply beaten, rolled or drawn (any profile) ; as an exception, *polished* wire is included.

Stranded bars and wire—that is to say, bars and wire obtained by pressing—are treated like *rolled* or *drawn* bars and wire.

Under sub-item (*b*) *varnished, tinned, nickelled, etc.*, are also classified *cemented* bars and wire—that is to say, bars and wire which have been treated with zinc fumes—and, further, polished bars.

Copper wire *enamelled*, used as insulated wire for electricity (see item 874), does not come under this sub-item.

Item 758.

The term " sheets " also means sheets in strips known as hoops *(feuillards)*.

There are four sub-items according to the different processes undergone by the articles.

The first refers to sheets *simply* rolled or hammered—that is, having undergone no treatment other than rolling or hammering.

Sub-item *(b)* covers sheets the shape of which has been altered by a mechanical process—corrugation, curving, grooving, etc.

The last two sub-items, *(c)* and *(d)*, refer to sheets, slabs and leaves, rolled or hammered and then treated on the surface (polishing, varnishing, etc., gilding, silvering, etc.), but remaining unchanged in shape.

Articles the surface of which has been treated in any of the ways mentioned in sub-items *(c)* and *(d)* and the shape of which has further been changed as specified in sub-item *(b)* should be excluded from item 758 (for instance, nickelled and perforated sheets, etc.) and should be considered as articles made of sheets (item 769).

Item 759.

This item comprises thin leaves, whether or not cut out other than at right angles, and also thin gilt or silvered leaves. There are two sub-items :

(a) *Imitation gold (foil)*.—This category includes foil, whole or in pieces, for imitation gilding or for the manufacture of powder bronze, whether in booklets or not.

(b) *Others*.—Leaves less than 0.25 mm. thick are considered thin leaves.

Item 760.

This item applies to straight tubes and pipes of any section (circular, square, rectangular, etc.), provided the section is uniform throughout.

Sub-item *(a)* covers articles *simply* drawn, soldered, butt-welded, riveted or fastened. *Stranded* tubes are treated in the same way as *drawn* tubes.

Sub-item *(b)* comprises the same tubes as sub-item *(a)*, but which, besides, are covered with designs obtained by rolling or stamping.

Finally, the last two sub-items relate to tubes and pipes which have been worked on the surface (polished, varnished, nickelled, etc., gilt, silvered, etc.).

The following do not come under item 760 :

(1) Curved articles and articles not having a uniform section throughout ;

(2) Articles shaped in the mould, other than those with patterns obtained by rolling or stamping ;

(3) Articles with patterns obtained by rolling or stamping and, in addition, having undergone treatment on the surface as under sub-items *(c)* and *(d)* ;

(4) Piping connections.

Item 761.

The chief solders to be classified here are those composed of copper and tin, copper and nickel, or copper and aluminium, irrespective of the proportion of the two metals contained in the alloy.

Paste solder is assimilated to powder solder.

Item 762.

This item covers *unworked* pieces, consisting of only one element, simply *cast, stamped, forged, cut otherwise than at right angles*, or *pressed* without other working.

In the case of so-called *forged* pieces, the blacksmith takes the metal ingot heated to a suitable temperature and alters its shape by a series of blows or pressures on the various surfaces, in order to give it its final form.

Occasionally, a block of very hard steel called a *stamp*, containing cavities corresponding to the shape of the pieces required, is fitted on the forge. The metal, expelled by pressure or by blows, fills the cavities and assumes the desired shape. This is called *stamping* or *die-pressing*.

The term *pressing* is restricted to the process of using a press for preparing hollow pieces, particularly for the shaping of sheets. Pressing may be effected by hot or cold process.

The expression *unworked* pieces is to be understood in the sense of 3A of the General Notes to Section XV.

In regard to sub-items *(b)* and *(c)*, it should be noted that pieces cut otherwise than at right angles and, in addition, pressed or perforated should be excluded from item 762.

Item 763.

This item does not include articles with a mechanical device nor does it extend to receptacles fitted with coiled tubes, double linings or double bottom, or apparatus for heating, cooling, cooking, distilling, rectifying, refining, sterilising, evaporating, vaporising, condensing, filtering and the like.

Item 764.

Insulated electric cables do not come under this item (see item 874).

Item 765.

For a definition of metal cloth, netting, trellis and expanded metal, see the note on the same articles made of iron or steel wire (item 725, Chapter 63).

The fact of these articles being polished, lacquered, nickelled, etc., does not affect their classification.

Item 766.

This item includes, amongst others, ornamental nails, bullen nails, with copper head and iron or steel shanks.

Item 767.

This item is subdivided into the two following sub-items :

(a) *Locks, padlocks and parts thereof, including keys.*—The only articles included in this group are locks, padlocks, etc., in which copper predominates (see General Note 2 to Section XV).

(b) *Fittings.*—The same reservation as under *(a)* above as regards composition.

The following is a list of the main articles coming under *(b)* : hinges, hinge pins, hinge plates, butt hinges, sash angles and corner cramps, hasps and staples, hinge-plate mounts, bolts, flat bolts, drop latches, small latches, stops, pulleys, rollers, pivots, casters, handles, tie-rods, drawer pulls, finger-plates, door-knobs, ceiling rosettes, nail and other mounts, key-hole guards, letter-box plates, slide bolts, sash fasteners, processed rods for blinds, curtains, *brise-bise*, stair carpets, etc., hat-pegs, coffin mounts, saddlery mounts, and, in general, all fittings not elsewhere specified or included, for furniture, doors, windows and other parts of buildings, for carriages, saddlery, trunks, cases, boxes and other such articles.

Item 768.

This item includes pans, saucepans, kettles and other kitchen and service utensils, known by the generic term of *kitchen outfits*, copper tins and cans, cauldrons, coppers for laundry purposes, hot-water bottles, warming-pans, heaters, measures of capacity, weights for scales, coal-scuttles and fire-irons, and generally utensils suitable for domestic purposes and not coming under other items of the nomenclature.

Item 769.

This includes, *inter alia* : large and small chains and parts thereof (other than for personal decoration) ; ordinary pins and safety-pins (other than for personal decoration) ; heaters of any system other than electric ; furniture (bedsteads, etc.) ; tools for handicrafts ; articles in copper wire ; oil feeders; bells large and small, animal neck bells ; animal collars; hose-nozzles, syringes, etc., and all articles not coming under previous items of the present chapter or other chapters of the nomenclature.

Chapter 65.

NICKEL.

Chief alloys to be included under the heading *nickel :*

White metals, composed of ternary alloys (Cu, Zn, and Ni) and containing more than 5 per cent of nickel, commercially known as alfenide, alpaca, white silver, new or German silver, argentan, electrum, packfong, etc. ;

Copper and nickel, or copper, nickel and tin : *nickel bronze* ;

Nickel, chromium and iron : *nichrome* ;

Nickel and aluminium ; wire made from this alloy is used for trimmings (passementerie) ;

Nickel and zinc—pulverised, the alloy Zn 90 per cent and Ni 10 per cent is used for silver stamping.

It should be noted that nickel castings (nickeliferous castings) and special nickel steels come under Chapter 63 : " Iron, Cast Iron, Steel ".

Item 770.

Sub-item *(a)* of this paragraph applies to *unworked* nickel resulting from the various treatments of the ore, particularly roasting, smelting, electrolytic processes, etc.

Sub-item *(b)* covers nickel waste and old nickel scrap, only fit for remelting.

Item 771.

This item is subdivided as follows :

(a) *Bars and wire :*

(1) *Simply rolled or drawn, any profile, including polished wire ;*
(2) *Others.*

The term " others " includes polished bars, and bars and wire varnished, plated with base metals, etc., gilt, silvered or plated with precious metals.

(b) *Sheets, slabs and leaves of any thickness, of square or rectangular shape.*—Sub-item 2, " *Others* ", comprises :

(1) Sheets, slabs and leaves *simply* corrugated, curved, grooved, channelled, nippled, covered with designs obtained by rolling or stamping, or perforated ;

(2) Sheets, etc., polished, varnished, tinned, plated or lined with base metals, or otherwise superficially worked ;

(3) Sheets, etc., gilt, silvered or plated with precious metals.

Articles the surface of which has been treated in any of the ways referred to under (2) and (3) above and the shape of which has in addition been changed as in (1) would not come under this item and would have to be classified as *nickel articles* (item 773).

(c) *Tubes and pipes :*

(1) *Simply drawn, soldered, butt-welded, riveted or fastened.*

Stranded tubes are assimilated to *drawn* tubes and pipes.

(2) *Others* includes the articles hereinafter described :

1. Tubes and pipes bearing designs obtained by rolling or stamping.
2. Tubes and pipes, polished, varnished, tinned, plated or lined with base metals, or otherwise treated on the surface.
3. Tubes and pipes, gilt, silvered or plated with precious metals.

The following do not come under sub-item *(c) Tubes and pipes :*

(1) Curved articles and articles not having a uniform section throughout ;

(2) Articles shaped in their mould, other than those bearing designs obtained by rolling or stamping ;

(3) Articles bearing designs obtained by rolling or stamping, the surface of which has, in addition, been treated in any of the ways described in (2) and (3) above.

(4) Pipe joints.

Item 772.

See the remarks on item 762, Chapter 64 : " Copper ".

Item 773.

This item includes *inter alia :* nails, rivets, screws, bolts and the like, fittings and ornaments for furniture, doors, carriages, saddlery, trunks, chests and other such articles ; kitchen outfits and utensils suitable for domestic purposes, etc.

Chapter 66.

ALUMINIUM.

Chief Alloys in which Aluminium predominates and to be included under the Heading " Aluminium ".

Aluminium and copper (8 per cent) : *American alloy.*
Aluminium, zinc and copper : *German alloy.*
These two alloys are more particularly used for manufacturing automobile parts.
Aluminium and silicon (11 to 14 per cent) : *Alpax* or *silumin,* alloy for motors, bearings, etc.
Aluminium, copper, magnesium and manganese : *Duralumin.*
Aluminium and magnesium : *Magnalium.*
Aluminium, magnesium and silicon : *Aludur.*
Aluminium, copper, zinc, manganese and lithium : *Skleron.*

* * *

Item 774.

As in the case of the corresponding items for other base metals, the item " aluminium, unworked ", includes both the metal cast in lumps, ingots, etc., and waste (shavings, filings, etc.) and old aluminium scrap for recasting.

Aluminium in lumps, ingots, etc., is the metal resulting from the treatment of the ore or the smelting of waste and scrap, which has neither been rolled, forged, drawn, hammered, cast or smelted in a specific shape.

Granulated aluminium occurs in the form of irregular pellets of the size of a pea. These pellets are obtained by pouring the melted aluminium into water through a sieve ; their main use is to de-oxidise steel.

Item 775.

Item 775 is subdivided into :

(a) *Simply rolled or drawn, any profile, including polished wire ;*
(b) *Others.*

The term " others " refers to polished bars and to bars and wire which have undergone some other treatment intended to change the appearance of the surface (varnishing, enamelling, nickelling, gilding, etc.) or on which some additional work has been performed—such as cutting or stamping, screw-tapping, boring, etc.—but not so as to alter the original character of the article—*viz.*, the character of bars or wire.

Item 776.

Sub-item *(c)* " *Others* " includes :

(1) Sheets, slabs and leaves, polished, varnished, nickelled, plated or lined with base metals or otherwise worked on the surface ;
(2) Sheets, etc., gilt, silvered or plated with precious metals.

Articles the surface of which has been treated in any of the ways specified in (1) and (2) above, and the shape of which has further been altered as described in sub-item *(b)* (corrugation, curving, grooving, etc.), should not come under item 776 and would have to be classified as *aluminium articles* under item 784.

Sheets or leaves cut into strips (hoops) are classified as sheets or leaves of square or rectangular shape.

Item 777.

This item includes leaves simply rolled, whether or not with patterns produced by rolling, leaves varnished, coloured or with the surface otherwise treated, as well as leaves lined with paper, whatever the respective proportions of aluminium and paper.

In accordance with the note on item 777, leaves are considered to be *thin* when not more than one-tenth of a millimetre thick.

Aluminium leaves pasted on paper are always considered thin leaves, irrespective of their thickness.

Item 778.

The remark on item 771*(c)* (Chapter 65 : " Nickel ") also applies to this item.

Item 779.

Granulated aluminium is composed of fine grains or small irregular needles. It is manufactured in various ways—for instance, by breaking up the melted aluminium into fine drops by means of a current of air or by setting rapidly in motion the melted aluminium at a temperature approaching its solidification point. This product is used in the preparation of *thermite*, the manufacture of special concrete, etc. Aluminium spangles used in pyrotechnics and also in the preparation of aluminium powder are assimilated to granulated aluminium.

Aluminium in very fine powder or porphyrised is obtained from very thin leaves (0.01 mm.) and is mainly used in pyrotechnics and also as a colour for painting ironwork, piping, heating apparatus, metal receptacles, etc.

Item 780.

See remarks on item 762 (Chapter 64 : " Copper ").

Item 781.

This item corresponds to item 763 (Chapter 64) ; the same remarks apply.

Item 782.

Same heading as item 740 (Chapter 63 : " Iron, Cast Iron, Steel ") and comprises the same objects, allowing of course for the difference in the metal.

See remarks on item 740 (Chapter 63).

Item 783.

This item also includes hollow cables and cables with an iron or other core, in so far as the articles retain the character of aluminium cables.

Item 784.

This item is subdivided as follows :

(a) *Nails, rivets, screws, bolts, and the like.* — The chief articles included under this sub-item are nails and tacks of every kind, cramps and hooks ; rivets, pins, pegs or cotters, bolts and nuts not screw-threaded, washers for bolts ; bolt- and screw-makers' wares, threaded, such as screws, bolts, ring bolts, threaded hooks, axles, nuts, etc.

(b) *Capsules, also screw caps, for bottles and small containers of glass, faïence, etc.*—Including, *inter alia*, capsules for small receptacles in celluloid, cardboard, porcelain, etc., and stoppers fitted with a layer of cork, called " crown-corks ".

(c) *Tubes for holding colours, perfumes, chemical products, etc.*—Including tubes varnished, coloured with patterns, etc.

(d) *Others.*—This comprises all aluminium articles not elsewhere specified or included under other items of the nomenclature.

Chapter 67.

LEAD.

Chief Alloys in which Lead predominates and to be included under the Heading " Lead ".

Lead and antimony : *printing type, statuettes, toys, etc.*
Lead and tin : *alloy for pipes, taps, bottle capsules, paint-holding tubes, etc.*
Lead, tin and antimony : *metal for bearings or anti-friction metal, etc.*
Lead, zinc and antimony : *ornamental objects, statuettes, etc.*

* * *

Solders composed of an alloy of lead and tin (plumbers' and tinsmiths' solders) are classified under Chapter 69 : " Tin ", whatever the respective proportions of the two metals composing the alloy.

* * *

Item 785.

See the remarks in the preceding chapter on aluminium, unworked.

Item 786.

This item includes two sub-items :

(a) *Bars and wire.*—This sub-item, which relates more particularly to stained-window beading, is subdivided into :

(1) *Simply rolled or drawn, any profile ;*
(2) *Others.*

For a definition of the term " others ", see the remarks on item 775 in the preceding chapter, " Aluminium ".

(b) *Slabs and sheets of any thickness, square or rectangular shape :*

1. *Simply rolled ;*
2. *Others.*

The latter subdivision includes :

(1) Slabs and sheets simply corrugated, grooved, channelled, etc., bearing designs obtained by rolling or stamping, or perforated ;
(2) Slabs and sheets polished, varnished, tinned, plated or lined with base metals or otherwise superficially worked.

Articles the surface of which has been treated as in (2) above and the shape of which has further been altered as in (1) would not come under this item, but be classed as *lead articles* (item 789).

Item 787.

The tubes and pipes coming under this item may be :

(a) *Simply drawn.*

The description " drawn " also applies to articles obtained by forcing molten lead through a ring-shaped opening : the metal solidifies on coming into contact with the air and the pipe thus obtained is coiled round a drum.

(b) *Others.*

The remarks on item 771*(c)* (Chapter 65 : " Nickel ") apply also to the present sub-item. Piping joints and siphons do not come under item 787.

Item 788.

See the remarks on item 762 (Chapter 64 : " Copper ").

Item 789.

The lead articles coming under this item are subdivided as follows :

(a) *Capsules for bottles.*—Including capsules for small containers of glass, faïence, porcelain, celluloid, etc., and capsules varnished, coloured, etc., tinned or covered with a coating of tin.

(b) *Tubes for holding paints and other products.*—Including tubes varnished, coloured, etc., tinned or covered with a coating of tin.

(c) *Others.*—Includes more particularly acid vats and reservoirs ; tins, cans and other containers for transporting acids, screw-tapped or screw-threaded, pipes, siphons, gauze made of lead wire and asbestos yarn, etc.

Lead shot, including bullets and buckshot, is classified under Ammunition, Section XIX.

Chapter 68.

ZINC.

Chief Alloys in which Zinc predominates and to be included under the Heading " Zinc ".

Zinc (80 per cent) and copper (20 per cent) : *button metal.*
Zinc, copper and aluminium : alloy for *armatures.*
Zinc, tin, lead and copper : so-called *white bronze* alloy for bearings, etc.
Zinc (80 per cent), copper (18 per cent), iron (2 per cent) : so-called *white brass* alloy.

* * *

Item 790.

This item includes mores particularly zinc pellets and dust or powder.

Zinc dust or powder, which is uncombined zinc, is obtained in the process of reducing the ore and undergoes no other handling than sifting.

It must not be confused with zinc oxide or with zinc salts (sulphide, chloride, etc.), which products are used more especially for the manufacture of paints.

Zinc *ash*, being the residue on the reduction of ore, is classified under item 197 (Chapter 26) as are also the residues of galvanising, the so-called " zinc matt ".

Item 791.

This item includes rolled or drawn zinc in its various forms.

(a) *Bars and wire :*

(1) *Simply rolled or drawn, any profile ;*
(2) *Others.*

For a definition of the term " others ", see note on item 775 (Chapter 66 : " Aluminium ").

(b) *Sheets, slabs and leaves, square or rectangular shape.*—See remarks on aluminium sheets, slabs and leaves (item 776, Chapter 66).

(c) *Tubes and pipes.*—The remarks on item 771 *(c)* (Chapter 65 : " Nickel ") also apply to this item.

Item 792.

For unworked pieces of zinc, see remarks on item 762 (Chapter 64 : " Copper ").

Item 793.

Zinc articles include, in particular, nails, tacks and rivets ; fittings and ornaments for furniture, trunks, coffins, etc. ; household and sanitary utensils, such as pails, tubs, basins, watering-cans, baths, etc. ; reservoirs, vats, cans and transport containers ; slate hooks ; tiles, gutters, shaped piping, skylights, ridge tiles, railings and other articles for buildings, etc.

Chapter 69.

TIN.

Chief Alloys in which Tin predominates and to be included under the Heading " Tin ".

Britannia Metal.—Alloy of tin and antimony ; of tin, antimony and copper ; of tin, zinc, antimony and copper, etc., used for manufacturing spoons, candlesticks, sugar-basins, coffee-pots, tea-pots, etc.

Alloy for Tin Vessels and Flat Dishes (kitchen basins, dishes, measures of capacity, etc.).—Alloy of tin and lead in various proportions.

Composition Metal.—Alloy composed of tin and small quantities of copper, antimony and bismuth ; used particularly for manufacturing spoons.

Alloy for Ships' Nails.—Tin, lead and antimony.

Alloy for Thin Leaves (for bottle capsules and paint-holding tubes, etc.).—Tin and lead.

Alloy for Imitation Silver Plate.—Tin and zinc. Alloy produced in thin leaves for imitation silver plate.

Item 794.

Corresponding to the item for *unworked* metals in the preceding chapters.

Item 795.

For remarks on rolled, drawn or hammered tin, see explanations to item 771 (Chapter 65 : " Nickel ").

Item 796.

For thin sheets of tin, see explanations to item 777 (Chapter 66 : " Aluminium "), provided that only those weighing less than 150 grammes per square metre are considered as thin sheets of tin.

Item 797.

The tin solders mostly used are the following :

Pure tin ;
Tin and lead in any proportions ;
Tin, lead and antimony ;
Tin, cadmium (20 per cent) and zinc (15 per cent).

Item 798.

For unworked pieces of tin, see the remarks on item 762 (Chapter 64 : " Copper ").

Item 799.

Tin articles are divided into :

(a) *Capsules for bottles and small containers of glass, faïence, etc.*—Including capsules varnished, coloured, bearing designs or stampings, etc.

(b) *Tubes for holding paints and other products.*—Including tubes varnished, coloured, bearing designs or stampings, etc.

(c) *Others.*—Chiefly includes nails, frames for presses, counters, kitchen and pantry pots and pans, measures of capacity, tubes and pipes screw-tapped, screw-threaded, etc., siphons, syringes, etc.

Chapter 70.

OTHER BASE METALS AND ALLOYS THEREOF.

Items 800 and 801.

The secondary metals to be included in this chapter are those which can undergo a metallurgical process or form alloys with the metals dealt with in the preceding chapters.

The secondary metals most frequently used are enumerated hereunder : *magnesium, antimony, chromium, bismuth, beryllium, cadmium, cobalt, manganese, tungsten (wolfram), vanadium, titanium, molybdenum, tantalum and uranium.*

Most of these products enter into an alloy—and that is their main use—with the ferrous metals or with copper to form the *ferro-alloys* and *cupro-alloys* classified under items 697 and 756 respectively.

There are, however, certain alloys which are inserted here, such as :

The so-called *electron* metal composed of 95 per cent of magnesium with very small quantities of aluminium and zinc and used for machinery parts, cylinders of automobile and aeroplane engines, etc.

Bismuth forms, with lead and tin, the *fusible* alloys in which it is occasionally predominant. These alloys are employed for manufacturing safety-valves for boilers or are used as fuses.

An alloy composed of *cobalt* (75 per cent) and *chromium* (25 per cent) is used for manufacturing parts not liable to chemical action.

The so-called *silico-manganese-aluminium* alloy formed of manganese (80 per cent), silicon and aluminium.

Chapter 71.

MISCELLANEOUS WARES MADE OF BASE METALS, NOT ELSEWHERE SPECIFIED OR INCLUDED.

Note on Items 802 to 808.

The cutlery articles coming under items 802 to 808 do not include those articles, important parts of which—such as the handle or blade—are made of precious metal. These are goldsmiths' wares belonging to Section XIV of the nomenclature.

Item 802.

This item applies to all kinds of table knives, including carvers, sweet and dessert knives.

The first sub-item comprises non-folding table knives wholly of metal in one piece—*i.e.*, those of which the handle and the blade are formed from one single piece of metal.

Sub-item *(b)* includes other tables knives—that is, knives with handle joined on.

This sub-item is itself subdivided into five tertiary items, according to the kind or style of the handle.

As regards *(b)* 3, it should be noted that the precious metal fittings referred to therein apply only to small fittings such as ferrules, shields, incrustations, small plates decorating the end of the handle, etc.

Item 803.

The term " *kitchen* knives " includes iron or steel knives used in the kitchen and not for table service ; the blade is usually pointed and the handle made of common wood, either plain or varnished ; they are not made to fold. Peeling knives, " Swedish " pantry knives, vegetable knives, bread knives and cutting-up knives belong to this category.

The following articles may also be classified in item 803, among non-folding knives, *professional and others* : butchers' and pork-butchers' knives, cheese or "grocers' " knives, bookbinders' and pasteboard-makers' knives, knives for tanners, curriers, furriers, saddlers, harness-makers and shoemakers ; painters' knives and palette knives ; glaziers' putty or putty-removing knives ; non-folding pruning-knives for gardeners and vine-growers ; non-folding hunting-knives, hangers and daggers.

Item 804.

This heading comprises *folding knives* of all kinds, single bladed or with two or more blades or parts, such as ordinary pocket-knives, so-called " soldiers' ", " chauffeurs' ", " fishermen's " knives, etc., " electricians' " knives, " veterinary surgeons' " or " stock-breeders' " knives ; rustic and agricultural knives, travelling and camping knives, folding sporting and hunting-knives, large hunting-knives with folding blade, etc., *pocket pruning-knives, (i.e.,* with folding blade), for farm workers, gardeners, vine-growers, etc., budding knives, grafting knives, etc., *pocket-knives* of all kinds, single bladed or with two or more blades or parts ; ordinary pocket-knives, draughtsmen's pocket-knives, flat pocket-knives, nail-trimming knives, etc.

Sub-item *(d)* includes articles with a handle other than of wood, base metal, precious metal, ivory, mother-of-pearl or tortoise-shell—*i.e.*, articles with handles of horn, bone, celluloid, hard rubber, ebonite, galalith, or plastic artificial composition, etc.

It should, however, be noted that, with the exception of articles with handles of precious metals, sub-item *(c)* includes all folding knives, pocket pruning-knives and pocket-knives with any kind of handle, when they have fittings of precious metals (ferrules, shields, incrustations, small plates, etc.).

Item 805.

This item relating to razors contains three sub-divisions :

Sub-item *(a)* comprises mechanical razors known as " safety razors " and detached parts thereof other than blades.

Sub-item *(b)* applies to blades—even unfinished—for such razors (flat blades of the Gillette type).

Sub-item *(c)* applies to razors of the ordinary type, including finished blades therefor, as also finished blades of triangular section for safety razors of a special type.

Item 806.

Scissors with two arms coming under this item are formed of steel blades (or arms) placed crosswise, so as to move round a screw and to close and open alternately in cutting an object. Item 806 includes only scissors which have a ring at the end of each arm for assisting the action of the thumb and of another finger and the opening or closing of which causes the cutting edges to move.

Chief articles to be classified under item 806 : ordinary scissors, scissors for dressmakers, tailors and cutters, hairdressers' scissors, nail scissors, scissors for cutting cardboard, paper, etc., so-called " professional " scissors for haberdashers, skinners, curriers, glovers, hatters, etc., small pocket and embroidery scissors, scissors for picking flowers, vine scissors, etc.

Double-bladed scissors, the annular handles of which are covered with skin or leather, should not be excluded from this item.

Item 807.

This item includes *sécateurs, clippers (or shears) and other cutlery articles.*

(a) *Sécateurs.*—These usually take the form of two arms moving round an axis at a point three-quarters of the way along their blades ; the two arms have convex and concave cutting edges respectively.

This item only comprises sécateurs operated by one hand and fitted with a spring which, when released, opens the blades.

Large shears, known as lopping shears, operated with both hands, have no spring and are

used particularly in arboriculture for cutting down or trimming branches or twigs of fruit trees, etc. ; they are classified as hand shears under item 746 (Chapter 63).

Chief kinds of spring sécateurs to be included under item 807 *(a)* : sécateurs for gardeners and horticulturists, so-called " ladies' " sécateurs, small flower- or fruit-sécateurs, pruning sécateurs, long-bladed sécateurs, scissor-sécateurs known as " *vendangettes* " (vintage sécateurs —*i.e.*, small sécateurs with pointed blades), shears or sécateurs for cutting up poultry, etc.

(b) *Hair clippers and the like.*—These are hand clippers as used by hairdressers—*i.e.*, hair and beard clippers ; single- or double-handled clippers for clipping animals come under the same heading.

Spare parts for clippers, such as heads, combs and counter-combs are also classified here.

So-called " lawn-mowers " mounted on two wheels belong to the category of " Agricultural Machinery and Appliances ".

(c) *Other cutlery articles.*—This sub-item will include erasers, letter-openers and paper-cutters with metal blades, pencil-sharpeners and blades therefor, cigar-cutters, table masticators for food, champagne wire-cutters, tin-openers and oyster knives, nail files and clippers, tweezers, pedicure and manicure outfits and the like.

Item 808.

The blades referred to here are obviously those intended for manufacturing articles of cutlery, which come under items 802 to 806, but not the blades coming under items 805 and 806, or the blades for machines classified under item 749 (Chapter 63).

Item 809.

This item includes table spoons and forks, of any shape or size, wholly or partially of non-precious metal ; soup, coffee and tea spoons ; ladles, vegetable and ragout spoons ; gravy or sauce, fruit-salad and sugar-sifting spoons ; fish and pastry slicers, strawberry and asparagus servers ; salt ladles or spoons, ice servers or spoons ; salad servers ; ordinary forks; meat, carving and ragout forks ; vegetable forks ; leg of mutton holders, forks for side-dishes, oysters, pastry, fruit, etc.

(a) *Wholly of metal, in one piece, even unfinished.*—This sub-item is sub-divided into five tertiary items in accordance with the kind of metal used.

In the case of *(a)* 3 (of tin), it is pointed out that spoons and forks of iron, steel, etc., simply tinned, should not be classified here, whereas this sub-item should comprise articles which have a heavy coating of tin on an iron or steel core.

Spoons and forks of base metals, *gilt, silvered* or *plated with precious metals* are included in *(a)* 5. To come under this sub-item spoons and forks need not necessarily be gilt, silvered, etc., over the whole of the surface ; it is sufficient if any part of the article has undergone such treatment.

(b) *Others.*—This sub-item includes spoons and forks with handles joined on, of base metal or non-metallic material.

As regards *(b)* 3, it should be noted that the precious metal fittings referred to therein apply only to small fittings such as ferrules, shields, incrustations, small plates decorating the end of the handle, etc.

Item 810.

The chief articles for table service to be included under this item are serving trays, dishes and plates, soup tureens, salad bowls, vegetable dishes, sauce-boats, fruit-salad bowls, sugar-basins, butter-dishes, cream-jugs, radish-dishes, coffee-pots, percolators, samovars, teapots, milk-jugs, tea- and milk-strainers, finger-bowls, cups, mugs, coffee-filters, tumblers, egg-cups, carafes, liqueur services, goblets, bread, fruit and cake stands, baskets and corbeils, ice pails, champagne buckets, *hors d'œuvre* dishes, cruets, oil and vinegar stands, mustard-pots, spice-boxes, sugar-tongs, knife-rests, menu-holders, crumb-scoops, serviette rings, etc.

This item also includes articles of base metals with the exception of ferrous metals and of aluminium (see item 782), unless the latter are gilt, silvered or plated with precious metals.

Item 811.

Domestic ornaments coming under this item mainly include busts, statuettes, figures (animals), *étagère* ornaments, flower-stands, flower-holders, vases, jardinières, candelabra, standing or flat candlesticks, photograph frames, clock cases, mantelpiece ornaments, jewellery stands and cases, smokers' sets, match-holders, ash-trays, inkstands, writing stands, book-holders, paper-weights and other office requisites, etc.

Item 812.

This item generally includes :

(1) Lighting fittings of all kinds, of base metal with or without accessories or parts in other materials, such as table, kitchen and office lamps, portable lamps *(trotteuses)*, lamps for quarries,

workshops or factories, nightlights, standard lamps, bracket lamps, ceiling lamps, hanging lamps for apartments, pendants, lustres, hall hanging lamps or lanterns, etc., ordinary lanterns, street lamps, travelling lanterns, dark lanterns, hurricane lanterns, stable lanterns, lanterns and lamps for vehicles (except cycle and motor lanterns and lamps), small lamps and pocket torches, lamps for fixing on the button-hole, on the belt, etc., flambeaux, candelabra, standing or flat candlesticks (except those for use with wax candles), etc.

(2) Parts and accessories for the above lighting fittings, composed wholly or partly of base metals, such as bases and burners for lamps, reservoirs for liquid fuel, lantern frames, chains and shanks for hanging lamps, corbeils, metal shades, globe-holders, shade-holders, etc.

Arc and incandescent electric lamps come under the chapter on electricity, but the present item includes table lamps, hanging lamps, lustres and other lighting fittings which take electric bulbs, though the latter come under their own special heading.

In the case of lighting fittings composed of two or more base metals, the rule given in General Note 2 to Section XV should be applied. In determining the predominant material, the counter-weight (usually made of cast iron) should, however, not be taken into account, nor metals which do not appear on the surface of the articles, but are merely used as an internal core.

As regards articles composed of base metals and non-metallic material (glass, faïence, etc.), objects which are obviously glass, faïence and like wares should not be brought under this item. For instance, a Venetian lustre with its numerous glass ornaments and pendants, but necessarily fitted in a metal framework is essentially a glass article, whereas a candelabra of base metal decorated with pendants or other accessory parts of glass should be classified under metal wares.

Item 812 usually comprises lighting fittings, such as lamps, hanging lamps, etc., the essential parts of which (bases, arms, etc.) are of base metal. It also includes, as an exception, lamps and lamp frames of glass, faïence, etc., when they have a metal burner attached.

Item 813.

This includes tight tubes and pipes for supplying gas or liquids, formed by a metal hoop or band shaped and twisted into the form of a spiral.

This item includes more particularly flexible tubes and pipes made tight by means of asbestos or rubber, as well as those lined with a rubber tube.

It should not, however, comprise rubber pipes which have been merely reinforced on the outside with a simple metal wire or band, not forming a tight pipe.

Item 814.

Printers' type includes :

(a) *Typographic and other movable type for printing.*—This sub-item includes not only type proper—*i.e.*, letters of any face—but also lines, braces, spaces, leads, quadrats, figures, musical notes and, in general, all *movable type* used for printing, whatever the metal or metallic composition of which it is made.

(b) *Typographic dies and punches.*—These comprise dies for casting type, except dies for composing machines, linotypes, monotypes, etc.

Punches are used for making dies in type foundries.

Item 815.

This item applies to stereotypes and plates with designs, with designs and text or with text only, for printing on paper, but which can also be used for printing on thin sheets of celluloid, cellophane, metal, etc.

(a) *Obtained by photo-mechanical processes.*—Photo-mechanical stereotypes are obtained by treating with acid a metal plate to which has been transmitted, by photographic or lithographic processes, the picture to be reproduced.

(b) *Others.*—The stereotypes and plates to be included here are of two kinds :

(1) *The galvanos* obtained by galvano-plastic reproduction of designs or wording engraved on wood or metal ;

(2) The *stereotypes* obtained by the direct moulding in a printing alloy of designs or wording engraved on wood or metal.

Item 816.

This item refers to hand stamps, whether automatic or not, moist, dry or perforating.

Item 817.

This item covers pen nibs of all kinds, of base metal, including drawing pens.

Item 818.

The articles which this item has in view are the necessary adjuncts (clasps, buckles, toilet busks or springs, etc.) to the various forms of outfitting or equipment in fabric, leather, rubber, paper, cardboard, etc., irrespective of whether the adjuncts are ornamented or not.

The item does not apply, however, to objects which are articles of adornment proper, or to fittings used for making the same.

Regarding sub-items *(a)* and *(b)*, it should be noted that they include both articles of rough metals and articles of metal polished, blanched, varnished, tinned, etc.

Item 819.

This item includes, in particular, the following articles : bracelets, earrings, rings, brooches and slides, pendants, ornamental buckles, charms, medals and medallions, badges, necklaces, neck chains, watch-chains, scarf and other ornamental pins, tie-slides, hat-pins, crosses, rosaries, mesh purses and handbags, money holders, card cases, cigar and cigarette cases, spectacle and other pocket cases, snuff-boxes, matchboxes, pocket-lighters, powder-puff boxes, postage-stamp boxes, pocket *bonbonnières*, toilet combs, rake combs, etc.

Metal parts and accessories not specified in item 818 or elsewhere, used in making articles of adornment or personal use, or employed for trimming or decorating garments, hats, footwear and other articles of clothing, such as small chains, beads, spangles, pinkings, purl, crests, figures, letters, emblems, set-offs, slides, clasps for necklaces and other articles of adornment, watch-chain and like swivels, buckles for the decoration of hats, garments, etc.

Section XVI.

MACHINERY AND APPARATUS ; ELECTRICAL MATERIAL.

Preliminary Observations.

This section comprises machinery and apparatus, and also electrical material. Electrical material—*i.e.*, electrical machinery and apparatus and articles for electrical use—is classified in Chapter 73, whereas all other articles are comprised in Chapter 72 (boilers, machinery, mechanical apparatus and appliances). Scientific, optical and precision instruments, and some other instruments and apparatus, are expressly enumerated in Chapter 77.

* * *

The classification of articles in Section XVI not being based on the principle of considering their component material, but on the function performed by them, in classifying machinery, apparatus and appliances, the material of which they are composed has not been taken into account. Hence, Section XVI includes machinery, apparatus and appliances of base metal, wood, plastic materials (artificial resin, celluloid, etc.), and even stone, glass and stoneware. This principle applies only to the machines, apparatus and appliances themselves, and not to their detached parts.

Where sub-items are provided according to the nature of the component materials, the classification is governed by the material predominant in weight.

First and foremost, Section XVI contains complete machines, etc. Auxiliary machinery or apparatus, attached to them or imported at the same time for the purpose of being so attached and essential for their operation, such as lubricating and measuring apparatus, meters, recorders, cocks, valves, etc., being regarded as inseparable from the machines, etc., are classified with them. The same applies to electrical equipment, such as wiring, switches, resistances, cut-outs or fuses, attached to the machinery, mechanical apparatus or appliances.

Detached parts, tools, etc., imported at the same time as the machinery and necessary for its operation, are regarded as forming a single unit with the machinery so far as they are required to ensure its complete and regular working.

As an exception to this general rule, Note 6 provides that transmission and transport belts and straps of non-metallic material shall be classed independently of the machines to which they belong, even when they are presented at the same time as the machine.

General Note 1 to Section XVI specifies that machines in which certain parts are missing (such as flywheels, sole-plates, bearings, pillow-blocks, etc.) are classified as complete machines, provided that the various mechanical parts together constitute the main part of the machine and exhibit the characteristics of the machine, although incomplete.

Inasmuch as many machines are often conveyed unfitted—and this is particularly the case with very heavy and bulky machines and those having both very massive parts and parts which, owing to their nature, must be handled carefully during transports, are often despatched unfitted—the aforesaid Note 1 provides that the importation of unfitted machines, even if forwarded in several consignments, shall not affect their classification.

General Notes 4 and 5 to Section XVI deal with the question of the classification of combinations of various machines. Note 4 deals with combinations of driving and working machines, which combinations are becoming more and more frequent as science progresses. The said notes imply that, when combined machines are imported separately, each machine is classed according to its distinctive character ; if necessary, the weight of the sole-plate common to both machines is distributed proportionately over the driving machine and the working machine.

The same applies to separable machines. Nothing is said as to when machines are to be considered separable, but paragraph 2 of Note 4 mentions two particularly important cases of inseparable combination ; it is provided that driving machines coupled to working machines by means of one or more essential parts common to both (for instance, by a common shaft or by gearing forming part of the machines), and electric motors incorporated in working machines in a position specially designed for that purpose, shall be considered inseparable.

Incorporation may be effected inside the working machine or on its body—*e.g.*, by the flange-coupling of a motor operating the working machine at a place specially designed for that purpose. Cases of such incorporation or coupling occur not merely in electric motors but in other driving machines, such as internal-combustion engines and compressed-air machines. The rule laid down for the incorporation and coupling of electric motors also applies logically to other kinds of incorporated or coupled motors, since the driving machines and the working machines, in all such cases, form one technical unit. On the other hand, as separable machines would be regarded motors which, though mounted on the same sole-plate or chassis as the working machines, are only connected with these machines by driving belts, cables or chains.

All such combinations of driving and working machines as are not considered separable—with certain exceptions which have been detailed—should be classified as working machines. One exception is made for small sets of electro-mechanical tools, classed in item 862, Chapter 73.

The provisions of Note 5 apply to combinations other than those between driving and working machines—*e.g.*, combinations of two working machines—and stipulate that such machines shall be classed independently when they are separable from one another, the weight of the common constituent parts being, if necessary, distributed proportionately to the respective weight of each machine. If, on the contrary, they constitute a single body, they are classed like the working machine whose chief function characterises the whole. The provisions regarding machines apply equally to mechanical apparatus and appliances.

The classification of detached parts is governed by General Note 3 to Section XVI. According to that note, detached parts of machines, etc., unworked, of base metals, are classified in the chapters relating to articles of the materials of which they are composed. Thus, the unworked parts of machines, etc., of cast iron come under Chapter 63, item 752 ; those of cast steel, under the same chapter, item 755. Unworked pieces of copper come under Chapter 64, item 762. Detached parts of machines, etc., made of non-metallic materials, are also classified in the chapters relating to material, but without distinction according to whether they are worked or unworked. For instance, cogwheels of artificial plastic materials come under Chapter 82, item 967 *(c)* 1, and wooden pieces under Chapter 40.

Certain exceptions to these rules are expressly provided—for instance, detached parts and components of light motors for cars, etc. (Chapter 72, item 823*(a)*), and shuttles (item 858*(h)*1). There are also exceptions in Chapter 73, concerning electrical material, especially for insulating parts, in regard to which there are special indications in the report referring to that chapter.

For detached parts of machines, etc., of base metals, *worked*, a rule is laid down at the beginning of Section XVI (General Note 3, paragraphs 2 and 3). The reasons on which this rule is based and determining its scope are indicated at the head of Chapters 72 and 73.

Subject to the exceptions expressly provided for, detached parts of machines composed of base metals combined with non-metallic materials, in which parts the metals predominate in weight, are classified as worked metal parts.

Chapter 72.

BOILERS, MACHINERY, MECHANICAL APPARATUS AND APPLIANCES, AND DETACHED PARTS THEREOF.

Chapter 72 comprises steam boilers, machinery, mechanical apparatus and appliances. In view of the difficulty of exactly defining machinery, appliances, etc., it was decided not to restrict this chapter, on the example of some tariffs, to machinery proper or to give an exact definition of machine. Thus in several items (such as collective item 855), machinery, mechanical apparatus and appliances are placed together. Sometimes (as, for instance, in items 829, 838 and 851) only apparatus is mentioned, and when, in some items, machinery and appliances (for instance in items 834, 835, 836 and 837) and, in others (item 840), machinery and apparatus are mentioned, this description corresponds to the nature of the articles included in the item in question.

As regards the order to be followed within the chapter and the detailed description of the articles contained therein, the draft could not be guided by any existing tariff, as these tariffs are generally drawn up in accordance with the requirements of the various countries and do not conform to any systematic order ; moreover, the details of these chapters are quite different in the various countries.

As regards classification, there are two principles to be followed : one is to group the machines according to their construction and method of working, irrespective of their use in any particular branch of industry, and the other is to group them according to the class of industry for which they are intended—as, for instance, the division of machinery into agricultural machinery, textile machinery, flour-milling machinery, etc.

The exclusive adoption of either of these systems was not found to be expedient. The two systems have been combined : the list is headed by power generators and motors (items

820 to 825) ; then come machines in general use in various industries (pumps, presses, calenders, etc. (items 826 to 833) ; afterwards, machinery used in different branches of production (agricultural machinery, flour-milling machinery, machines for the production of cold, etc. (items 834 to 847) ; machine tools (items 848 and 849), machines for packing goods, etc. (items 850), weighing apparatus (item 851), office machinery (items 852 to 854) and, finally, a last collective item (855) for all other machinery.

A large number of Customs tariffs devote a special item to " machines for domestic use ", but this necessitates a distinction being made between these machines and machines of the same kind used in industry, which is often difficult if not impossible. The most usual solution is to fix a maximum limit of weight for machines for domestic use. This method being somewhat arbitrary, it was thought preferable not to discriminate between machines of the same kind according to their use, or to devote a special item to machines for domestic use.

It should further be noted that, in certain countries, small machines for domestic use are classified with wares of metal. As, however, these are actual machines and apparatus, it was decided in the interests of simplification and unification to classify them in this chapter in spite of their small size and weight.

In the case of machinery, the value per kilogramme is generally in inverse ratio to the total weight of the machine, so that, in order to estimate the value, tariffs scheduled at specific rates must make provision for a graduated tariff based on the weight per unit. It was decided not to introduce scales of weight into the international nomenclature, in view of the impossibility of achieving complete agreement in regard to this.

* * *

The unification of the classification of *components and detached parts of machines* has given rise to numerous difficulties, owing to the system of classification varying in the different tariffs, and opinions differing as to the classification most suitable to an international nomenclature. Hence the reason why it has not been possible in all cases to find a solution on which a complete agreement could be reached.

1. As regards the treatment of *unworked* components and parts made of base metals, it was agreed to classify them in the chapters relating to the materials of which they are composed (General Note 3 to Section XVI, paragraph 1) ; but, as regards the exceptions to be made to that rule, certain differences of opinion came to light.

On the other hand, agreement was reached with regard to the classification of non-metallic parts of machines.

2. Most of the tariffs enumerate a certain number of parts and elements of machines which are used both in the construction of machinery or of vehicles, etc.—for instance, taps, cocks and valves, ball-bearings, shafts, cog-wheels, etc. In some tariffs, these articles are classified in the chapter relating to the materials of which they are manufactured. It is, however, preferable to include them in the chapter on machinery, as they constitute products of the machinery industry. They have therefore been classified in Chapter 72 (items 856, 857 and 858*(a)* to *(h)*).

3. As regards other parts of machines of *worked* base metals, the rules fixed for classification vary widely in the different tariffs now in force. In many of them, these parts are classified in a collective item with a few sub-items. Thus, in the Belgian tariff there is an item for all parts of machines not elsewhere specified or included, which contains a sub-division according to the material (cast iron, iron or steel, copper, aluminium, etc.), and a further sub-division with grades based on the weight of the parts.

Sometimes an exception is made, for reasons of taxation, in the case of the parts of certain machines, such as typewriters, calculating machines, etc., and, in some tariffs, also for the parts of agricultural machinery, inasmuch as these parts are classified in the item relating to the machinery itself.

On the other hand, some tariffs classify machine parts and components which can be recognised as belonging to a specific machine, in the item relating to the latter. Nevertheless, if the purpose for which these parts and pieces are to be used cannot be determined or is not proved by the importer, they are classified in a collective item.

It may be argued in favour of the system of classifying machine parts and components in a collective item that the machines are composed of parts and components of widely different value (frames and other heavy castings and light and finely wrought parts). In determining the duty to be levied on a machine, the different values of its various parts must be taken into account. On the contrary, in calculating the duty to be levied on a part of a machine, account must be taken only of the value of the part itself, which depends on the material employed, the weight and the process of working which it has undergone. It is easier to do this if the parts and components of machines are classified in a special item with the appropriate sub-items.

A second point in favour of this argument is the difficulty in many cases to see the purpose for which the components and detached parts of machines are to be used. The proofs to be furnished to the Customs authorities by the importer will often give rise to disputes.

In spite of these considerations, it was finally decided to adopt, for the international nomenclature, the system of classifying components and parts of machines in the same item as the machine to which they belong, on the principle that it is desirable to treat them in the

same manner and to avoid split-up imports. If it is necessary to levy on the components and parts of machines another duty than on the machines themselves, the countries can do so by introducing sub-items.

Item 820.

This item comprises all steam boilers—*i.e.*, steam generators, also heaters (economisers), superheaters and steam accumulators.

Boilers for central heating, which are contained in item 736 (Chapter 63), are excepted.

Sub-items *(a)* and *(b)* refer to boilers.

Sub-item *(a)* contains multitubular boilers—*i.e.*, boilers with water pipes whose nest of boiler tubes is outside the boiler shell. It also covers high-pressure boilers for locomotives, etc., worked on the same system.

This sub-item also includes tubular and semi-tubular boilers which, usually consist of a cylindrical boiler crossed longitudinally by numerous pipes (heating pipes, fire-pipes and smoke-pipes), which are surrounded by water.

Sub-item *(b)* contains all other steam boilers, stationary or not—for instance, simple steam boilers or steam generators which have no steam-pipes, smoke-pipes or water-pipes (cylindrical boilers), and also boilers with furnace flues (Cornwall, Lancashire boilers, etc.) and Galloway boilers.

Sub-item *(c)* includes heaters (economisers) and feed-water heating apparatus for steam boilers ; super-heaters for raising the steam pressure, and steam accumulators.

Fittings and articles of equipment, presented for clearance at the same time as steam boilers and belonging thereto, such as manometers, water-level indicators, injectors and draining devices, taps, cocks or valves, fire- and smoke-tubes and boiler-tubes, are classified with these boilers.

Item 820 does not include the following, when separately presented for clearance : heating pipes and smoke-pipes for multitubular (aquatubular) boilers of iron or steel (Chapter 63, item 710*(a)*) or of copper (Chapter 64, item 760) ; nor furnaces with mechanical grates, including furnaces coming under item 855 and non-mechanical grates coming under the chapter " Iron, Cast Iron and Steel. " Furnaces for gaseous, liquid or pulverised fuels are to be classified according to the character of their parts.

Item 821.

Steam tractors and semi-stationary steam engines, which are composed of a boiler together with machinery forming a unit with the boiler, are given a separate heading among steam-engines. Tractors are mounted on wheels, whereas semi-stationary engines are mounted on a wheelless frame. This item includes all tractors, whether or not self-propelling (automotive tractors) and dragging their tool-wagons, etc., or not.

Tractors for ploughs (steam ploughs) are also classified here.

This item does not, however, include steam road-rollers, which are classified with other road-rollers under item 826.

Item 822.

Item 822 comprises all the steam engines without their boilers.

Sub-item *(a)* comprises all piston steam-engines, whether with reciprocating movement or with rotary piston, or even with oscillating piston.

Working engines in which the movement of the piston causes directly the actual work to be performed come, not under this item, but under the items relating to working engines—for instance, the item for steam hammers, sounding rams, steam pumps, etc.

Sub-item *(b)* comprises steam engines with rotary movement—*i.e.*, steam turbines. Steam turbines coupled with dynamos (turbo-dynamos) are also classified here.

Item 823.

Item 823 comprises explosion motors and internal-combustion engines of every kind and for every use. This item includes motors using gaseous and liquid fuel (petrol, benzol, crude oil, petroleum, spirit, etc.) or powdered fuel (coal dust), whether they are, on account of their method of construction, explosion motors, engines of the Diesel or semi-Diesel type or internal-combustion turbines, and whether intended to be mounted on land vehicles, watercraft or aircraft, or to be permanently fixed in a particular place. This division also includes internal-combustion engines forming a unit with generators (dynamos).

Motor road-rollers are not included in this item, but are classified with other road-rollers in item 826, nor are tractors (Chapter 75).

It was proposed to exclude from this item engines intended for vehicles and to create special items in Chapters 75 and 76 for engines for automobiles, aeroplanes and watercraft. The reason for this proposal was that the engines in question constitute quite special types and,

in particular, that automobile engines form the most essential part of the vehicle and are manufactured by the automobile industry. As a counter argument, it was also pointed out that, although, up to the present, engines for touring cars have been manufactured by motor-car factories, this does not always apply to engines for lorries, aeroplanes, watercraft, etc. ; on the contrary, engine factories are tending more and more to manufacture all types of motors and to standardise them more and more. Further, a large number of countries have no desire that the various kinds of motors should be specially enumerated in the Customs nomenclature. To deal with motors under several chapters would thus cause unnecessary complication for those countries, without corresponding to modern technical development. It was therefore decided to create a single item for all explosion and internal-combustion engines ; this item has been divided into two sub-items in order to show the difference between light motors for automobiles and other motors. The first sub-item comprises light motors for cars and bicycles, for aircraft and watercraft ; also components and detached parts thereof, even in a rough state (see also the explanatory notes to item 893).

It is clear that, in some countries, it will not be advisable to place all these kinds of light engines together, because in a given country their commercial importance may differ—for example, as between engines for automobiles and engines ior aeroplanes. It may even be found necessary to render some groups of these light engines subject to the same duties as ordinary engines.

Countries may meet these requirements by sub-dividing sub-item *(a)* into tertiary items, according to the exigencies of their commercial policy, and by adopting such elements of differentiation as they may consider advisable.

The most salient characteristics of special engines for motor-cars, aeroplanes, etc., are their light weight and small size, and their careful construction. It was for this reason that the item was worded " light motors for cars, etc."

Nevertheless, for a Customs nomenclature, this general term is not sufficient to guarantee a uniform interpretation in the different countries. An endeavour was therefore made to find a more precise criterion and one giving rise to no ambiguity.

In the first place, it was suggested to only include in sub-item *(a)* motors whose weight does not exceed the limit indicated in the following table :

1.	Motors	with	1	cylinder	50	kilogrammes	or	under
2.	,,	,,	2	cylinders	100	,,	,,	,,
3.	,,	,,	4	,,	400	,,	,,	,,
4.	,,	,,	5	,,	250	,,	,,	,,
5.	,,	,,	6	,,	700	,,	,,	,,
6.	,,	,,	7	,,	350	,,	,,	,,
7.	,,	,,	8	,,	900	,,	,,	,,
8.	,,	,,	9	,,	500	,,	,,	,,
9.	,,	,,	12	,,	1,200	,,	,,	,,
10.	,,	,,	14	,,	1,300	,,	,,	,,
11.	,,	,,	18	,,	1,400	,,	,,	,,
12.	,,	,,	24	,,	1,800	,,	,,	,,

In this table, motors with an odd number of cylinders and motors with more than twelve cylinders are, as a rule, aeroplane motors.

Since motors presenting the above characteristics are not always utilised for cars, aeroplanes, etc., but are also sometimes used as stationary motors, it was proposed to class these motors, according to cases, in sub-item *(b)* when it was shown that they were not used for the vehicles mentioned in sub-item *(a)*.

On the other hand, it was argued that a delimitation, according to weight, would perhaps not give satisfactory results, and that it would be preferable to base the delimitation on the horse-power in relation to the number of cylinders, or on the cylinder capacity.

It was therefore thought advisable to ask the opinion of the Permanent International Bureau of Automobile Constructors as to the best methods of differentiation between sub-items *(a)* and *(b)*.

This bureau has not yet been able to make any definite proposals, but has confined itself to forwarding the following criticism made by certain groups in the automobile industry :

> " The criterion of the maximum weight does not answer to the present situation, and the limits of weight indicated are open to discussion. Thus, three-cylinder engines have been omitted, although they are utilised in the nautical groups and in agricultural machinery.
>
> " The unit weight per cylinder indicated in the table varies from 50 to 100 kilogrammes, probably according to the assumed utilisation of these engines either in motor-cars or in aviation, which is a very arbitrary assumption.
>
> " There are engines with five cylinders in a row for heavy weights, whereas the table only considers engines with five ultra-light rotary cylinders for aviation. We may also mention that internal-combustion engines for heavy weights, with six cylinders, are found in trade weighing nearly a thousand kilogrammes, whereas the limit prescribed is only 700 kilogrammes.
>
> " Generally speaking, indeed, all the weights indicated are too low and seem likely to facilitate fraud."

This reply also shows that certain groups would have preferred to divide engines, according to their use, under the headings of motor-cars and motor-bicycles, aviation and watercraft ; but this solution would clearly have only increased the difficulty of finding the necessary objective criteria for distinguishing between such engines. Thus, the examination made by the Permanent Bureau has not, for the time being, led to any proposal for the delimitation of the two sub-items in question Therefore, while taking the criticisms made by the bureau into account, as far as possible, the following rules are, therefore, proposed for the delimitation of sub-items *(a)* and *(b)* :

Sub-item *(a)* includes internal-combustion and explosion motors whose weight does not exceed :

1.	For	a	motor	with	1	cylinder	50	kilogrammes
2.	,,	,,	,,	,,	2	cylinders	80	,,
3.	,,	,,	,,	,,	3	,,	150	,,
4.	,,	,,	,,	,,	4	,,	300	,,
5.	,,	,,	,,	,,	5	,,	250	,,
6.	,,	,,	,,	,,	6	,,	500	,,
7.	,,	,,	,,	,,	7	,,	350	,,
8.	,,	,,	,,	,,	8	,,	700	,,
9.	,,	,,	,,	,,	9	,,	500	,,
10.	,,	,,	,,	,,	12	,,	900	,,
11.	,,	,,	,,	,,	14	,,	1,000	,,
12.	,,	,,	,,	,,	16	,,	1,100	,,
13.	,,	,,	,,	,,	18	,,	1,200	,,
14.	,,	,,	,,	,,	24	,,	1,400	,,

If, however, in special cases, one of these motors proves not to be intended for the construction of a vehicle of the types mentioned under sub-item *(a)*, it can be placed with " other " motors in sub-item *(b)*.

Item 824.

Item 824 is devoted to hydraulic motors.

Sub-item *(a)* comprises the most important machines of this kind, notably hydraulic turbines. Speed regulators of hydraulic turbines are also classified here, as they constitute a part of the turbines.

This item does not include the various obturating appliances, such as valves, throttles, pressure regulators, etc., which come under item 856 when they do not form part of the turbine.

Other hydraulic motors come under sub-item *(b)*, which includes, for instance, blade wheels of various kinds, water-pressure engines, hydraulic motors with pistons and even with rotary pistons.

Item 825.

Item 825 comprises motors not specified in the previous items. In particular, it includes all motors driven by compressed air or gas without combustion—*i.e.*, motors run by the pressure of air or gas, and all calorific motors run by hot-air pressure.

Wind motors and wind wheels, although more simple in construction, are also classified here, as they do not need a separate heading.

Horse-mills, which are generally used only for agricultural purposes, are not comprised in this sub-item, but are classified under item 836*(b)* (agricultural machines and appliances).

Item 826.

Item 826 comprises all road-rollers and similar rollers driven by steam or by motor. These have been given a special item, as the weight of the total machine mainly depends on the weight of the rollers, which are of lesser value. It was therefore not desirable to classify them with tractors.

This item includes road-rollers and similar rollers driven by steam, petroleum, benzine, etc.—that is to say, all mechanically propelled rollers. It is immaterial whether these rollers are operated from a driving box or by hand.

Road-rollers and others which are not mechanically driven do not come under this item but under item 855 ; rollers for agricultural purposes come under item 834*(b)*.

Item 827.

Item 827 comprises machinery and apparatus for the elevation, suction, forcing and transfusion of liquids, worked by hand or motor, whatever their size or use.

Compressed-air apparatus for pulverising or dispersing material in liquid form is, however, excepted, being specified in item 829.

Fire-engines are, however, classified in this item, with the exception of motor fire-engines, which are classified with motor vehicles in Chapter 75.

Pumps for liquids coming under item 827 are sub-divided, according to their method of working, into two sub-items :

Sub-item *(a)* includes all centrifugal pumps and rotary pumps, such as wing pumps (except pumps for the manufacture of artificial silk yarns), rotary piston pumps and all pumps worked centrifugally.

Sub-item *(b)* includes piston pumps and other non-rotary pumps of all kinds, for liquids, such as piston pumps with rectilinear or reciprocating movement (elevating pumps, suction pumps, force pumps) ; wing pumps with blades, or semi-rotary pumps ; drum pumps ; spiral piston pumps ; pumps worked by pressure or tension of gas or water—*e.g.*, suction pumps worked by atmospheric pressure ; compressed-air pumps of the Montejus or Mammouth types (often used for clearing cesspools) ; pressure pumps worked by the explosion of gases (Humphrey type) or others (*e.g.*, those worked by carbonic acid) ; vacuum pumps for lifting liquids ; steam-pressure pumps (without piston) of the Montejus type, and pulsometers ; hydraulic rams, including hydro-automatons.

The following are not, however, to be classified here : elevating wheels, bucket dredgers and chain pumps, which come under item 833 (lifting apparatus), and jet pumps, which, together with other air-jet apparatus, etc., belong to item 829.

Item 828.

Item 828 comprises mechanical apparatus used for sucking, forcing or compressing air and other gases or producing a vacuum, such as air-pumps, compressors, ventilators, blowing machinery and other similar machinery.

This item includes, notably, blowing machines with piston ; compressors with piston, stationary or mounted on trucks (portable compressors) ; vacuum pumps with piston ; mechanical pumps for air chambers ; ventilators of all kinds (with the exception of electric ventilators in which the screw of the ventilator is mounted direct on the shaft of the motor) ; turbo-compressors and turbo-vacuum pumps ; oil air-pumps ; rotary blowing machinery ; mercury pumps, rotary or otherwise ; pneumatic pumps with cocks.

This item also includes all apparatus for the suction and forcing of gaseous, pulverised, granulated or like substances, such as aspirators (including those for wheat), dust-removing apparatus, etc.

Item 829.

Item 829 includes compressed-air apparatus used for professional, industrial or agricultural purposes, for dispersing or spraying material in liquid or powdered form. It also includes jet-throwing appliances (air, steam or water jets).

Sub-item *(a)* includes pulverisers-metal receptacles, with a pump, used in agriculture and horticulture for spraying anticryptogamic or insecticide preparations. These apparatuses may also be used for other purposes (such as whitewashing walls, sanitation and disinfection).

Sub-item *(b)* includes air-jet apparatus for moistening the air, for the application of paints, varnish, metallic powder, mortar and other materials, also burners (pulverisers), for feeding furnaces running on heavy oil, coal-dust and compressed gas.

It further includes sand-jet apparatus, worked by means of a steam or air jet, and used for cleaning, polishing and smoothing metals, stones, glass, wood, etc.

Item 829 also includes all other apparatuses for moving liquids, air or gases by means of a steam or gas jet. These include injectors for feeding boilers ; steam-jet pumps for removing thick and acid liquids ; steam-jet pumps for heating liquids ; steam-jet pumps for ventilating the interior of ships and drying rooms.

Item 830.

Item 830 comprises calenders of all kinds, irrespective of the industry which uses them or of their method of working (hydraulic, steam, electric, revolving, etc.). By calenders are meant machines which are worked by solid or hollow cylinders and are used in smoothing, glazing and stretching tissues, paper, rubber or similar materials, or stamping designs without employing colours.

Metal-rolling mills, cylinder mills for flour-milling, pounding cylinders for pounding, mixing and kneading clay, earth, rubber, cork and other similar coarse materials, are not classified here.

The fact that the calender also dries the products treated is no reason for excluding it from this item. Calenders used for stretching rubber sheets and coating fabrics, and calenders for similar purposes are also classified here.

These include the following :

(a) *Calenders for the textile industry.*—Beating calenders, goffering, stamping and glazing calenders ; pressing or rubbing calenders ; ribbon calenders ; thread calenders ; ironing calenders ; damping calenders ; simitisation or mercerisation calenders ; stretching and winding calenders ; knitted stuffs and hosiery, etc., calenders.,

(b) *Calenders for the leather and rubber industries.*—Channelling calenders ; shoe-sole calenders ; expanding calenders ; smoothing and folding calenders ; leather-dressing, shagreening and satining calenders ; rubber calenders, etc.

(c) *Calenders for the paper industry.*—Glazing and drying calenders ; watering, satining and goffering calenders ; calenders for manufacturing surface-coated paper, etc.

(d) *Calenders for the manufacture of celluloid, etc.*

Item 831.

All centrifugal machinery is grouped together under this item, without regard to its purpose. For example, this item includes centrifugal machinery used in the manufacture of paper pulp, explosives, starch, sugar, etc. ; centrifugal machines for drying, impregnating, washing, mordanting, dyeing, or separating substances of different specific gravities, or used in clarifying liquids, separating the oil, etc.

On the other hand, this item does not include centrifugal bolting machines for flour-milling (item 837), centrifugal mills (item 840), centrifugal pumps for liquids (item 827*(a)*), centrifugal air pumps or centrifugal blowing machinery (item 828).

In view of their great importance in agriculture and their special construction, cream separators have been given a special sub-item in the agricultural machinery group (836*(a)*).

Item 832.

Item 832 comprises presses—*i.e.*, machinery not elsewhere specified used in exercising gradual pressure on material for a certain purpose. This item includes all presses which are merely used for pressing and do not perform the work of tools nor any stamping or moulding work.

The following are not included in this item :

(1) Presses used as machine tools, such as stamping presses, flanging presses, swaging presses, boring presses, which are classified in item 849 ;

(2) The presses coming under item 840, such as presses for moulding coal, lignite and peat briquets, presses for making clay bricks, presses for moulding shapes in sand for foundries, etc. ;

(3) Printing presses, which come under item 843*(b)* ;

(4) Presses (without cylinders) for ironing (item 846*(c)*).

Sub-item *(a)* comprises all hydraulic presses not mentioned in the exceptions enumerated above.

Sub-item *(b)* comprises filter-presses ; they are used in sugar factories, candle factories, distilleries, oil factories, porcelain factories, etc., for separating, filtering and clarifying liquids and other substances. They work either by the hydrostatic pressure of the liquids to be filtered or by means of a forcing pump.

Sub-item *(c)* comprises grape and fruit presses, however worked (hand presses, motor presses, etc.).

Sub-item *(d)* comprises all other presses not specified above—for instance, lever presses, cogged lever presses, screw presses, and piston steam or pneumatic presses. The following are to be classified under this sub-item : copying presses, binding presses, presses for making plywood, for pressing cotton, rag, tissue, peat, hay, straw, and like bales, in so far as these presses are not worked by water-power.

Item 833.

This item covers machinery and apparatus for handling, lifting, etc., not elsewhere specified or included, worked by hand or machinery, or by steam, petrol, electricity, water-power, etc.

It includes, in particular, cranes, travelling cranes, overhead conveyers, conveyer worms (archimedean screws), conveyers worked by belts or rollers, charging, emptying, and pounding apparatus, for coke and other ovens ; transhipment trolleys for wagons, etc., lifting jacks, screw-jacks, pulleys, windlasses, capstans, passenger and goods lifts, elevator railways, moving staircases, mechanical ladders, elevators, including bucket elevators, lifting apparatus for hay, straw, etc. ; mechanical appliances for loading and unloading trucks, etc. ; shovelling cranes, mechanical dredgers, mechanical shovels, grapnel excavators, bucket dredgers, suction dredgers, water injection dredgers, etc.

This item also includes machinery and apparatus, even mounted on a chassis with wheels for removing them. Nevertheless, when such machinery or apparatus is mounted on motor vehicles, railway trucks, or boats, the vehicle and the handling apparatus, etc., are classified separately under their respective items.

Conveyer belts made of materials other than metal, as well as detachable cords, cables and chains, whether or not presented for clearance with the machinery and apparatus covered by item 833, are to be classified separately under their relevant item. The same rule applies to metal supports and rails for overhead conveyers, lifts, travelling cranes and the like.

Auxiliary apparatus for rolling-mills is not included under the present item (see note to item 855).

Items 834 to 836.

These items comprise machinery and appliances for agriculture, horticulture and forestry, with the exception of those that come under other headings.

In particular, the following are excepted from these three items : steam tractors (item 821) and motor tractors (item 823*(b)*), tractors (item 889), hay and straw presses (item 832*(a)* or *(d)*), grape and fruit presses (item 832*(c)*), pumps for liquids and for liquid manure (item 827), agricultural pulverisers (item 829*(a)*).

Item 834.

Item 834 comprises machinery and appliances for working, preparing and cultivating the soil.

Sub-item *(a)* comprises fertiliser distributors, manure spreaders, seed drills and planting machines, including transplanting machines. It also includes combined machinery, such as seed drills and fertiliser distributors, potato planters, etc.

Under sub-item *(b)*, " Other ", fall machinery and appliances for tillage proper, such as ploughs, cultivators, grubbers, harrows, rollers, etc., and also machinery for the upkeep of cultivated land, such as twifallow ploughs, moulding ploughs and weeders.

Item 835.

Item 835 is reserved for machinery and appliances used for the harvesting of agricultural produce and the preparation of crops, also agricultural sorting machines (so far as these do not come under item 837)—that is to say, machinery and appliances for calibrating fruit, potatoes, etc.

Sub-item *(a)* comprises, besides mowing and other machines specifically mentioned therein, reapers and binders, reapers, mechanical sickles, hay-raking and tedding machines, machines for pulling up flax, potato and beet diggers, etc.

Sub-item *(b)* comprises machinery for threshing and shelling. These include, for instance, threshers for cereals, clover, etc., cotton gins, machines for rippling flax, hemp scutching drums, corn (maize) shellers, etc.

Under sub-item *(c)* come agricultural machinery and apparatus for sorting (calibrating) fruits (apples, oranges, etc.), potatoes and other products, such as eggs. It also includes seed sorters, though wheat sorters come under item 837 with flour-milling machinery, with the exception of winnowing machines, which remain in this item owing to their being exclusively employed in agriculture.

Item 836.

Item 836, which contains agricultural machines and appliances not elsewhere specified or included, is divided into two sub-items.

Sub-item *(a)* comprises dairy machines and apparatus, notably cream separators, churns, butter-mixers, cheese-making machines, machines for curdling milk, milking machines, etc.

Milk heaters, refrigerators and pasteurisers belong, on account of their system of working, to the apparatus coming under item 838. Milkcan-washing machines, like all other rinsing, filling, closing or packing machines and appliances, come under item 850. Milk and cream pumps are classified, as pumps for liquids, in item 807.

A variety of machines come under sub-item *(b)*—*e.g.*, machines for chopping hay, straw, fodder, whether combined or not with fanning machinery ; root-cutters, small mills used exclusively for agricultural purposes for crushing seeds, fruits, potatoes, etc., oil-cake crushers, bone crushers and similar appliances, machinery for washing potatoes and beetroot, stump removers, lawn mowers and other machinery and apparatus not elsewhere specified or included, for agriculture, horticulture and forestry. This sub-item also includes poultry incubators.

In this sub-item also come horse-mills generally used in agriculture.

Item 837.

Item 837 comprises machines for flour-milling and rice-hulling—*i.e.*, machinery and appliances for preparing corn and other cereals (cleaning, milling and bolting) and for preparing other edible grains, such as leguminous plants (shelling, trituration, milling, bolting, etc.).

Item 837 includes, *inter alia*, washers, stoning machines, riddling machines, sorting machines, separators, dampers, driers, mills, bolters, *plansichters*, grain and flour mixers, husk separators and presses, shellers and polishers, glazing drums, flake mills (including potato-flake mills), suction filters for flour, machinery and apparatus for improving flour, etc.

Item 838.

Item 838 comprises apparatus and appliances for heating, cooling, cooking, distilling, rectifying, refining, sterilising, evaporating, vaporising, condensing, filtering, washing,

steaming, decanting, macerating, impregnating, clarifying, concentrating, crystallising, dissolving, brewing, diffusing, saturating, sublimating, gasifying, degasifying, pasteurising, emulsionising, disinfecting, acidifying, saponifying, etc.

This item comprises apparatus worked mainly by heat, steam, hot or cold air or water, or by chemicals or solvents, and which is generally in the form of receptacles with double sides or bottoms, or with coils or a system of tubes or with devices for stirring or beating.

The apparatus coming under item 838 includes stills of all kinds ; distilling or rectifying columns ; purifiers ; filters and other apparatus for purifying water ; autoclaves worked by direct fire or not, for disinfecting, vulcanising, gasifying, etc. ; apparatus for dry distilling ; acetylene generators ; gasogenes ; gas washers ; bath heaters ; water heaters ; aerated water machines ; percolators ; fermentation vats ; mechanical malt floors ; beer coolers ; milk refrigerators ; tallow-melting apparatus ; vacuum cooking apparatus ; receptacles for decomposition of liquid air ; osmosis apparatus ; œnotherms ; mechanical ice-cream pails ; water, steam and gas condensers, including steam condensers for boilers ; condensers worked by injection, trickling, etc. ; worms and systems of tubes, mounted—that is to say, with fittings (taps, valves, etc.).

It should be noted that apparatus of this kind which is elsewhere specified or included does not come under this item : such apparatus is machinery for the manufacture of paper pulp (item 842), apparatus for dressing and finishing off thread, tissues and wares of these materials (item 846), electric heating apparatus (item 865), etc.

Item 839.

Refrigerators include combined machines and automatic appliances for the production of cold—*i.e.*, the elements necessary for compressing, condensing, and evaporating. These machines have widely varying forms, either mounted in a cupboard (refrigerating cupboards) with the various components fixed to a common base, or in the form of large plant in which the compressor, condenser and evaporator are some distance apart, but are connected by a system of piping. In the latter case, the plant includes the vat used to contain the ice moulds and the pipes to be placed in the refrigerating compartments.

Refrigerating machinery and apparatus also include machines for the liquefaction and decomposition of air. On the other hand, apparatus for drawing off the liquid air, and the ice moulds of sheet iron are to be classified separately. Similarly, the present item does not comprise ordinary ice chests, which are not in the nature of machines or apparatus, but are boxes or cabinets with insulating walls. Such ice chests are to be classified according to their component material.

Item 840.

This item comprises machines and apparatus for treating earths, stones, coal, bones and other like hard materials.

Sub-item *(a)* comprises crushing machines—*e.g.*, machines for reducing hard substances to fragments and grinders for reducing to small fragments or powder the various substances referred to in the present item. *Inter alia*, the following may be mentioned : jaw, hammer, roller and cogged-cylinder crushers ; ball mills, pestle mills, grindstone mills, disc mills, cylinder mills ; disintegrators, mills (grinders) for paints, china clay, ceramic substances, salt, bones, etc.

Sub-item *(b)* covers machines and apparatus for washing, sorting, sifting, mixing and kneading the substances referred to in this item. Crushers and grinders used simultaneously for one or other of these purposes also come under sub-item *(b)*, as do also wind separators (cyclones), magnetic sorters and separators, concrete makers and mortar mills (mixers).

Sub-item *(c)* includes other apparatus and machinery of this kind, such as apparatus and machinery for moulding and casting clay, sand, plaster, cement, abrasive materials, etc. ; presses for moulding coal, peat, wood shavings and sawdust, compound presses for bricks, pipes, roofing and other tiles, and other articles of clay, concrete, porcelain, etc. ; presses (including vibration presses) for making foundry sand moulds ; potters' lathes, etc.

Nevertheless, machines for cleaning, pumicing and polishing ceramic products and machines for sawing or working stones come under item 849 ; presses for pressing glass, driers and furnaces (including rotary furnaces) for ceramic materials come under item 855.

Item 841.

Item 841 comprises machines for preparing and working hides and skins—*i.e.*, machines used in tanning and curryin ghides and skins and those (of very varied models) for the manufacture of footwear and articles of leather, hide or skin, etc. ; but with the exception of sewing machines specified in item 847, calenders (item 830) and printing machines, which are included in item 846*(b)*.

This item includes the following : machines for washing, greening, plucking hair, fleshing, raising, tanning, splitting or sawing, currying (pressing, greasing, smoothing, pumicing, softening), dyeing ; polishing, glazing, varnishing, shagreening and satining (with the exception of calenders), machines for measuring hides or skins, levelling hairs for furriers, etc.

Item 842.

Item 842 comprises machines for the manufacture of paper pulp, paper, cardboard and vulcanised fibre and machines for working these articles.

Sub-item *(a)* includes machines and apparatus for the preparation of paper pulp (mechanical, chemical, straw, etc.) and for the manufacture of paper and cardboard. These include bark-strippers and fibre-removing machines, machines for boring and removing knots, refining grinding machines ; cylinder bolters, rag cutters and rag engines ; autoclaves for the preparation of paper pulp, stamping mills for old paper, pulp-finishing machines, pulp presses, etc.

Here, too, are classified machines for the manufacture of paper and cardboard, such as continuous machines, flat table machines, round shape machines and reeling machines, including machines for cutting lengthwise and crosswise and appliances for reeling paper as it leaves the machines. This item also includes drainers and mills for watermarking paper. All machinery used for working-up paper after manufacture comes under sub-item *(b)*.

Sub-item *(b)* comprises machinery for the preparation and finishing of paper and cardboard, such as machines for surface-coating, enamelling, waxing, parchmenting, gumming, colouring, crêping, etc.

Then come machines and apparatus for shaping paper or cardboard, such as machines for cutting or clipping paper *(massicots)*, folding, perforating, stamping, cutting out, ruling, etc.

These are followed by machines for manufacturing various articles of paper or cardboard, such as machines for manufacturing envelopes, labels, tubes, boxes, *étuis*, bags, plates, tumblers, etc.

Finally, this sub-item includes bookbinding machines, such as machines for indenting, stitching and fastening, sewing the leaves, smoothing the backs, making front and back boards, gilding presses for bookbinders, etc.

Item 843.

This item, which comprises machines for printing and for the graphic arts, is divided into two sub-items, the first including type-setting machines, machines and apparatus for making clichés and stereotypes, also auxiliary machines and apparatus ; sub-item *(b)* comprising printing presses and machines of all kinds, including feeding and folding devices.

Sub-item *(a)* covers machines for casting the type, monotype and linotype composing machines, presses for stereotyping and pressing flongs, apparatus for drying flongs, crucibles and furnaces for melting and casting the metal in the flongs, engraving machines for lithography, machines for powdering and brushing, machines for scraping and graining zinc sheets, etc.

Sub-item *(b)* comprises presses and machines for all kinds of flat, hollow or relief printing (Boston, Gordon, Liberty, offset) on paper, paper-board, cardboard, wood, metal, celluloid, gelatine and other plastic materials, but not including tissues, oilcloths or wallpapers. The following may be mentioned : typographic machines, such as hand presses, presses for platinotype, rotary presses, so-called pedal or Minerva machines, single-cylinder machines with one or more colours ; lithographic machines (hand presses, flat machines and rotary machines) ; phototype machines, machines for copper-plate engraving, heliogravure, etc.

This sub-item also includes feeders and apparatus for folding papers and other printed matter, which are accessories of printing machines.

Items 844 to 846.

These three items comprise machinery and apparatus for the textile industry, classified according to the stage of preparation and transformation of the textile materials. Nevertheless, presses proper, calenders and centrifugal machines do not come under this head.

Item 844.

Item 844 is divided into two sub-items :

(a) *Machines and apparatus for the preparation of textile materials.*—These include, in particular, machinery for opening, sorting, mixing and cleaning textile materials, including those for horsehair, asbestos fibres, peat, etc. ; machines for decorticating flax, stripping hemp, etc., scouring apparatus, washing machines, burring machines, devilling machines, oiling machines, smoothing machines, bale breakers, openers, mechanical loaders, scutchers, breakers, cleaners, spreaders, combs, carding machines, finishing cards, assembling cards and drawing cards, drawing frames, tape condensers, etc.

(b) *Spinning and twisting looms : winding machines.*—This sub-item comprises fly frames, self-acting mules, continuous flyer or ring spinning frames, doubling winders, twisting looms, cabling looms, reducers, cop winders, hank makers, cocoon agitators, cocoon reelers and machines for spooling, spinning and throwing silk ; machines for manufacturing, reeling, spooling and throwing artificial silk ; machines for spinning and twisting paper ; machines for the manufacture of string, cord, etc.

Item 845.

This item comprises four sub-items :

(a) *Weaving looms.*—Sub-item *(a)* also includes ribbon-making looms, whether tubular or not.

(b) *Hosiery looms and knitting machines.*—This sub-item includes hosiery looms of all kinds, whether circular or rectilinear, and knitting machines, including those worked by hand.

(c) *Tulle, lace, embroidery and trimming* (passementerie) *looms.*—This sub-item includes tulle looms proper ; bobbinet looms for bobbinet-guipure or bobbinet-tulle ; lace looms, embroidery and trimming *(passementerie)* looms (looms for manufacturing plaits, plaited laces, plaited cords and the like) ; thread-covering machines.

Machines for chain-stitch embroidery come under sewing machines (item 847).

(d) *Accessory apparatus and machines for weaving (dobbies, Jacquard machines, warping machines, etc.).*—This sub-item includes accessory machines and apparatus for the various looms and machines coming under sub-items *(a)*, *(b)*, and *(c)*.

These include, in particular, Jacquard machines, dobbies and Verdol machines, machines for pricking, piercing or lacing the cards for Jacquard machines or dobbies, warping machines, warp-gumming machines, machines for bringing up warp-threads, machines for crossing warp-threads, machines for knotting the warps, warp-breaking apparatus, woof-breaking apparatus, machines for setting off or winding the warp on the beam, etc.

Item 846.

This item contains three sub-items :

(a) *Machinery and apparatus for washing, bleaching, dyeing, or cleaning.*—Sub-item *(a)* also includes machinery and apparatus for creaming, chlorinising, boiling and scouring mechanical washers for linen and clothes.

(b) *Machines for printing textiles, and other similar printing machines.*—Apart from machines which are used for printing tissues, including special tissues, this sub-item also includes similar machines and apparatus for printing and figuring linoleum, oilcloth, wallpaper, etc.

(c) *Other.*—Sub-item *(c)* covers machines for beating, brushing, pressing, moistening, smoothing, enlarging, rolling, drying, stretching, trimming (pile-raising), gassing and singeing, glazing, gumming, waterproofing, steaming, raising, glossing, mercerising, mordanting, shaving, friezing, similising, velveting, folding, measuring and rolling fabrics and ribbons, etc.

Item 847.

Item 847 comprises sewing machines of all kinds, whatever the method of working. These also include chain-stitch embroidering machines and other sewing machines used for embroidery work (sewer embroiderers).

Apart from the sewing machines in ordinary use, this item includes sewing machines employed in the various industries—that is to say, machines whose construction and operation are similar to those of ordinary machines, whatever their power and dimensions.

The following may be mentioned : sewing machines for making clothes, machines for piercing and sewing buttonholes, machines for sewing on buttons, machines for sewing bags, machines for hemstitching, machines for mending carpets, whipstitching machines, sewing machines for the boot and shoe trade and for morocco-leather work, for the manufacture of travelling requisites, hats, etc.

On the other hand, sewing machines for the amusement of children come under toys (item 976).

Interchangeable parts, the needles for the machine, the small tools used to repair it, and its cover, when imported with the machine, are classified with it.

Sub-item *(a)* includes machines with frame, by which is understood all those parts which constitute the support of the machine, whether in the form of a table or of a chest, etc.

Sub-item *(b)* comprises, in the first place, machines without frame—that is to say, those simply mounted on a wooden or metal tablet and generally worked by hand ; also heads of sewing machines—*i.e.*, the machines themselves without frame or tablet. Then come detached parts of machine heads—arms, needle boxes, connecting rods, propeller handles, and other mechanical parts.

The heads of machines mounted on the table forming the upper part of the frame are to be classified under sub-item *(b)*. This sub-item also includes interchangeable parts imported separately. On the other hand, needles for sewing machines come under item 730*(c)*.

(c) This sub-item includes tables and frames of sewing machines, including mechanical equipment of such frames (treadles, flywheels, handles, connecting rods). It also includes protective covers for these machines. Cabinets or chests specially constructed and arranged for sewing machines also come under this sub-item.

* * *

Items 848 and 849 include machines of all kinds for shaping the form or surface of metals, wood, stones, glass and other hard materials, such as bone, corozo, hard rubber, celluloid, etc.

Item 848.

Machine-tools and tools coming under this item are characterised by the fact that they are worked by compressed air contained in special receptacles, which are independent of the machine or of the tool. These receptacles are to be classified separately from the machine or tool, according to their nature.

These apparatus generally run at a very high speed.

Pneumatic machine-tools are in many tariffs classified according to their weight, either with tools or with machines. As this solution is not suitable for an international Customs nomenclature, pneumatic machine-tools have been placed together with pneumatic tools under a special item, since even pneumatic tools, though used manually, are to some extent real machines.

Machines in which the compressors supplying the compressed air are mounted on the machine and in which the compressed air serves solely to reverse certain parts of the machine, etc., are not included in this item.

As pneumatic tools are regarded apparatus of this kind worked by hand.

These include : pneumatic riveting machines, pneumatic hammers, pneumatic drills, pneumatic hewing machines, pneumatic shears, pneumatic mortisers, pneumatic brushes, pneumatic machines for ramming and machines for tamping sleepers.

Item 849.

Item 849 comprises machine-tools proper, which are distinguished from simple tools by the fact that the latter are apparatus worked by hand and having no support or appliances to attach them to the work-bench, the wall or another machine. This item includes machine-tools worked by hand, by treadle, by an engine or automatically.

This item first includes machine-tools for working metals, such as machines for turning, slicing, drilling, boring, screw-cutting, nut-tapping, planing, milling-cutting, gear-cutting, grinding, polishing, punching, cutting-out, curving, stamping and flanging, filing, mortising, file-cutting, sharpening, cutting, sawing ; draw-benches, etc. The following may notably be mentioned : stranding presses, machines for straightening profiles, plates and pipes, shears for billets, ingots and beams, also for plates, etc., steam hammers, machines for welding pipes, presses for coin minting, multiple machine-tools (combined machines for drilling, milling-cutting, screw-cutting, etc.), machine-tools for working wire (machines for making wire netting and trellis work, machines for making metal wire-cramps, machines for making undulated wire, machines for manufacturing barbed wire, machines for making needles, machines for making helical springs and machines for making chains), machines for making sprocket chains, machines for making preserve tins, including the machines for soldering them, machines for moulding by pressure, drums for trimming off castings, machines for rectifying rollers and cylinders and machines for engraving with the chisel.

This item also includes tool-holders and article-holders, such as blade-carriers, screw stocks, clamping chucks, flat pincers and other appliances and accessories for fitting tools to machines, of a weight of more than 5 kilogrammes (see explanatory note to item 745).

A third group is formed by machine-tools for working stone, glass and other similar materials (punching machines, drills, machines for cutting and boring rocks, hewing machines, machines for milling-cutting, polishing and sawing), such as machines for grinding, polishing and cutting stone, alternate saws for sawing stone, machines for sawing, milling cutting and drilling stone, machines for splitting stone, cutting, bevelling, polishing, roughing, engraving glass, etc.

This item also includes special machine-tools used in the watch- and clock-making industry and by opticians, such as opticians' lathes, with appliances for grinding, drilling, cutting, polishing, etc. (machines for polishing the glasses of spectacles, machinery for cutting, drilling, polishing and grinding glasses, etc.).

Then come machine-tools for working wood, bone, horn, rubber and other carving materials (machines for splitting or cutting, sawing, planing, grinding, polishing, etc.). The following may be mentioned : machines for felling trees, band saws, circular or alternative saws, planing machines, jointing planes, machines for turning, for mortising or for curving wood, grooving and tonguing machines, peg-making machines, machines for carving, machine for nailing and marking cases and machines for cooperage (machines for assembling staves, tightening the hoops of barrels, etc.).

Item 850.

This item comprises machines used for packing goods or for opening, rinsing, filling, closing, labelling or fixing capsules on bottles, casks and other receptacles. These machines and apparatus may have appliances for weighing and counting.

This item also includes combined machines which manufacture the container and then fill it and complete the make-up.

The following notably come under this item : machines for dividing into portions, for packing coffee, tea, flour, tobacco, pharmaceutical products, coins, nails, etc. ; also machines for cutting up, wrapping and boxing soap, chocolate tablets, sweets, etc. ; machines for placing bands and labels on bottles, packages, etc. ; machines for rinsing, filling, closing bottles, barrels, etc. On the other hand, this item does not include bag-fillers with automatic weighing apparatus for cereals, flour, etc., which come under item 851.

Item 851.

This item comprises weighing apparatus, except precision balances, which, together with other precision apparatus, come under Chapter 77, except also apparatus which, in virtue of its construction and working, constitutes apparatus for dividing into portions and for packing within the meaning of item 850.

Weighing apparatus is classified in item 851, even if fitted with appliances for automatically registering and adding figures or for printing the weight on tickets or bands. Weights for weighing apparatus are classified separately, according to the component material.

Sub-item *(a)* includes automatic weighing apparatus, with the exception of spring scales (domestic scales, etc.), spring balances and letter scales and similar apparatus acting by counter-weight. By automatic weighing apparatus is understood apparatus for weighing articles without weights or manipulation, and apparatus with dials or indicators for reading the weight direct.

This sub-item also includes semi-automatic apparatus which is a combination of automatic apparatus and apparatus requiring weights. It also includes apparatus indicating excess or shortage of weight and apparatus based on the principle of weighing machines and used for counting objects, measuring dimensions by weighing, verifying or calibrating machined parts, etc.

Sub-item *(b)* comprises non-automatic fixed weighing machines, such as weighbridges used to weigh vehicles, live-stock, etc., weighing machines used on railway lines and fixed weighing machines for warehouses, etc.

Sub-item *(c)* comprises all other non-automatic weighing machines and balances such as domestic scales and balances, letter scales and similar apparatus acting by counterweight, tray scales, suspending scales with equal arms, steelyards, decimal and centesimal weighing machines provided with weights or with slides.

Item 852.

Item 852 comprises typewriters, including portable typewriters, shorthand machines, coding and decoding machines, and music-writing machines.

This item does not include typewriters combined with a calculating appliance.

Detached parts of typewriters are also included in this item. It should be noted, however, that covers, base-boards, boxes and cases for typewriters are to be classified under the appropriate heading.

Item 853.

This item includes calculating machines—that is to say, machines which carry out one or more arithmetical operations, cash registers (called control cash boxes and accountancy registers), machines for exhibiting accountancy and statistical tables and machines for stamping letters.

Desks and cash boxes with drawers, which contain no calculating machinery, are, of course, not included here, but are classified according to the component material.

Movable calculating apparatus for accountancy machines are also included here. As regards detached parts thereof, see note to the preceding item.

Item 854.

Item 854 includes office machines and apparatus not elsewhere specified or included, notably punches and card sorters, addressographs, copying machines, apparatus for sealing, unsealing and folding letters, binding and perforating.

This item also comprises automatic copying machines and apparatus, such as duplicators, heliographic apparatus, multi-copiers, tracing apparatus and auto-copist apparatus of the so-called " flat " or " composition " type.

As regards detached parts thereof, see the remarks to item 852.

Item 855.

The machinery, mechanical apparatus and appliances coming under this item include the following :

(1) Machinery and mechanical apparatus for drying, steaming, roasting, boiling, melting, grilling, etc.

The heating, ventilating, raising and transporting contrivances used for operating these machines and apparatus and forming a unit with them should be considered as parts of and classified with such machines and apparatus.

The following may be mentioned : rotary driers, endless-chain driers, drum driers, etc. ; ovens for bakers and pastrycooks, etc. ; ovens for the ceramic industry, for the cement industry, for roasting and calcining ore, etc., for smelting, refining and tempering metals ; appliances for drying and roasting coffee, chicory, cocoa, fruits, cereals, malt, etc.

This heading also includes fixed or portable forges.

(2) Machines and apparatus for testing iron, base metals, wood, building materials, textile materials, paper, etc. (machinery and apparatus of this kind weighing less than 20 kilogrammes belong to item 926*(a)*, Chapter 77). The presence of automatic measuring and recording apparatus does not affect the classification.

The following may notably be mentioned : machines for testing resistance to traction, universal testing machines, Brinell ball apparatus for testing hardness, apparatus for testing the resistance of materials to shock, machines for testing torsion, machines for testing springs, machines for testing flexibility, machinery for testing resistance to wear and tear, manometer compression balances, test boring benches, etc.

(3) Machinery and apparatus for the manufacture of rubber and articles of rubber, linoleum, lincrusta, oilcloth, pegamoid fabrics, etc.

(4) Automatic sale apparatus, such as automatic slot machines for stamps, cigarettes, tickets, chocolate, foodstuffs, etc.

Automatic gas distributors (gas meters) are not included.

(5) Machinery and apparatus for the manufacture of electric cables and metal cables.

(6) Hot and cold rolling mills and auxiliary apparatus for the service of these mills.

The following may notably be mentioned : blooming mills, sheet iron, hoop iron, wire and tube rolling mills, band rolling mills, tin, lead, brass, copper, aluminium and like rolling mills, including machinery for rolling precious metals.

The following are regarded as auxiliary apparatus for the service of rolling mills : the working machinery and apparatus necessary for installations of rolling mills, and, in particular, machinery and apparatus used for bringing up, lifting and overturning rolled products, as also appliances for clearing away finished articles, where these are not included in item 833. These include ingot charging cranes, bloom and slab overturning apparatus, lifting tables, apparatus for propelling billets, etc., feed rollers, removing rollers, winders for wire and hoop-iron, etc.

(7) Furnaces with mechanical grates for steam boilers, etc.

(8) All machinery and mechanical apparatus and appliances not elsewhere specified or included, such as machines for the manufacture of hats, machines for mounting card clothing, machines for setting card sheets and fillets, machines for the manufacture of brushes, machines for the manufacture of matches, machines for the manufacture of soap and candles, machines for the tobacco industry, for the manufacture of cigars and cigarettes and for the glass industry, pile drivers and rammers.

(9) Machinery and apparatus for making sweets, confectionery, chocolates, alimentary pastes, etc., machinery for butchers and the preparation of butchers' meat, pork-butchers' produce, preserved and other foodstuffs.

(10) Machinery and mechanical appliances for domestic use, such as coffee mills, pepper mills, machines for mincing meat, scraping cheese, cutting vegetables and bread, peeling potatoes, peeling and stoning fruit, roasting coffee, ice pails, machines for cleaning knives, forks, etc., for washing and drying tableware, fruit and vegetable presses, clothes mangles, etc. Machinery and apparatus of this kind included in other items of Chapter 72 (such as fruit presses) are regarded as machines and apparatus for domestic use when their weight does not exceed 10 kilogrammes.

Item 856.

This item includes all fluid-discharge devices, all safety and cleaning devices, which can be used in connection with boilers, apparatus, cisterns, conduits, etc., as well as appliances that can be used in connection with conduits and are necessary for the retention, the discharge and the evacuation of air, steam or liquids.

These include notably the following : taps, cocks, valves (stop-valves, reducing valves, safety valves, isolating valves, float valves, air-escape valves or cocks, check valves, mud valves, for boilers, etc.), slide junction valves, hydrants, level indicators, flap isolating valves, roses, nozzles for fire and hose pipes, pressure regulators and reducers, regulators worked by centrifugal force, stuffing boxes, steam separators, lubricating cocks, automatic lubricators, steam whistles, air discharge apparatus for water conduits, and other similar taps, cocks and valves made of iron, cast iron, steel, copper and other base metals.

Locks, lock gates and paddle doors for rivers and canals are not included in the present item.

Item 857.

This item includes bearings of all kinds—ball, roller or cylinder—whatever their use, also their detached parts. Needle bearings are also included.

Sub-item *(a)* includes mounted bearings (axle bearings, radial and thrust bearings). It also includes hanging and bracket pillow-blocks in which bearings of this kind are inseparably fixed.

Sub-item *(b)* includes detached parts of these bearings presented for clearance separately. It contains a tertiary item 1, covering balls, rollers and cylinders also needles, calibrated.

Other detached parts such as frames, rings and washers come under tertiary item 2.

Non-calibrated detached parts of bearings are not included here, but are classified according to the component material.

Item 858.

This item only includes components and detached parts of machines, mechanical apparatus and appliances of base metals, worked.

Sub-item *(a)* includes worked shafts of all kinds, such as straight shafts, bent shafts, crankshafts, pinion shafts, cam-shafts, etc., including straight and other bored shafts. It also includes shafts with pulleys, pinions, cogged wheels, etc., mounted, used as transmission gear. Bars, the profile of which does not show any variation (groove, ridge or sleeve in relief or hollow) from one end to the other, are not regarded as shafts proper. However, turned bars of uniform surface are assimilated to shafts.

Sub-item *(b)* comprises cogged wheels, rack or pinion wheels and gears of all kinds.

V-shaped grooved cylinders for heavy gears are classified as cogged wheels. Iron or steel cogged wheels with teeth of wood or other non-metallic material are assimilated to iron cogged wheels.

Endless screws and heliocoidal wheels are assimilated to cogged and rack wheels.

This item also covers chain gears and stop gears (pinions) and other cogged mechanisms for transmitting motion.

The fly-wheels mentioned in sub-item *(c)* are energy or regulation fly-wheels and pulley fly-wheels used for the same purposes. These fly-wheels may have teeth inside or outside for starting the machines.

Sub-item *(d)* comprises belt pulleys and cord pulleys, including belt tighteners, also couplings of all kinds.

These include, *inter alia*, the following : friction, plate or disc clutches, split couplings, belt socket or expanding segment clutches ; toothed couplings (gears) are included in sub-item *(b)*.

Sub-item *(d)* also comprises transmission shafting with or without appliances for changing speed or for irregular movement.

Sub-item *(e)* comprises pillow-blocks—*i.e.*, brass-supports and brasses of all kinds. It also includes frames, brackets, etc., of pillow-blocks, when the latter are mounted on them.

Sub-item *(f)* comprises solid or hollow cylinders, of base metals, even with casings of another material, whether worked in a single piece with their axle or already fitted with a mounted axle, or merely having the hole for insertion of the axle—also cylinders of conical shape and metallic casings for cylinders. This sub-item comprises cylinders for rolling-mills, cylinders for calenders, cylinders for flour-milling machines, paper mills, tile and brick works and cylinders engraved or not for printing.

Sub-item *(g)* includes card clothing—that is to say, fillets of leather, felt, tissue, rubbered or not, furnished with steel wire teeth, which are used for clothing the cylinders of the carding machines.

Here, too, are placed combs for cutters, carders or combers and the like, even manufactured with wooden boards with steel points (hackles).

Sub-item *(h)* includes spinning and weaving loom equipment, and is subdivided into two tertiary items. The first of these tertiary items includes shuttles, even partly of wood, and the second includes all other spinning and weaving loom equipment of base metals, such as spindles and flyers for spinning, spinning rings, lifting wires for knitting looms, travellers for spinning or twisting looms, shafts and harness, even with parts made of wood, healds, eyelets, reeds or combs, reed teeth, metal bobbins for spinning and weaving looms, etc.

This sub-item also includes lifting wires, needles, hooks and metal plates, perforated, for Jacquard machines.

As regards sub-item *(i)*, see the general observations on Chapter 72.

Chapter 73.

ELECTRICAL MACHINERY AND APPARATUS AND ARTICLES FOR ELECTRO-TECHNICAL USE, AND DETACHED PARTS THEREOF.

While Chapter 72 only includes machinery, mechanical apparatus and appliances and detached parts thereof, Chapter 73, besides electrical machinery and apparatus, includes certain non-mechanical articles for electro-technical use, such as insulated cables and wire, insulators, parts made of carbon, etc. Consequently, the general rules relating to Section XVI had to be modified in certain particulars to make them applicable to Chapter 73.

In the first place, this chapter includes certain detached parts, which are not exclusively used for the machinery, mechanical apparatus and appliances of Chapter 72, but also enter into the construction of the electro-technical machinery of Chapter 73, and which it was desirable to include in one chapter of the nomenclature only. Thus, Note 1 to Chapter 73 states that :

> " 1. The following mechanical parts, of base metals, worked, for electrical machines and appliances, imported separately, come under their respective items in Chapter 72 : bearings of all kinds—ball, roller or cylinder—shafts, cogged wheels and bars, gears, flywheels, pulleys, pulley flywheels, clutches, couplings, blocks and brasses."

Parts of electrical machines and apparatus are often composed of non-metallic materials, such as artificial plastic materials with accessory metal parts ; even if the non-metallic material predominates, these are to be regarded as real products of the electro-technical industry. An exception to the provisions of General Note 3 on Section XVI has, therefore, been laid down as follows :

> " 2. Subject to the provisions of the previous note, detached parts and pieces, worked, of electrical machinery and appliances, are not excluded from Chapter 73 by reason of their being composed of base metals combined in any proportion with non-metallic materials."

Other exceptions to the above-mentioned general rule, whereby detached parts composed of non-metallic materials are classified in the chapter relating to the material in question, are to be met with in items 876 and 877, inasmuch as these items contain insulators, even not reinforced, and unmounted parts of insulating material (see the remarks on these items).

Item 859.

Item 859 comprises electrical machines used for transforming mechanical work into electrical energy (dynamo-electric machines or generating machines) or electrical energy into mechanical work (electric motors), or, lastly, for transforming one kind of current into another, or for transforming the frequency or continuous current of one voltage into continuous current of another voltage. It seemed expedient to include under item 859, not merely rotary converters, but also static converters (rectifiers), which perform the same functions as rotary converters. For the same reason, static transformers used for the transformation of one alternating voltage into another alternating voltage have been included in this category.

Sub-item *(a)* includes articles having the character of machines—that is to say, dynamos, motors and rotary converters—while static converters (rectifiers) and static transformers are grouped under sub-item *(b)*, which is again subdivided into mercury and emanation rectifiers on the one hand and other transformers on the other hand.

Sub-item *(a)* includes, for example, dynamo-electric or generating machinery, such as continuous current dynamos, single-phase and polyphase generators, continuous current electric motors, single-phase commutator motors, repulsion motors, three-phase asynchronous motors, three-phase synchronous motors, three-phase commutator motors, universal motors (for continuous current and alternating current) and, finally, rotary converters. This sub-item also includes converters consisting of a motor on the shaft of which the rotor of the converter is mounted.

Item 859 does not, however, include small electro-mechanical plant or small electro-mechanical apparatus (the electric part of which consists of a motor), dynamos for motor vehicles, dynamos combined with ignition apparatus and starters for explosion motors. These groups of apparatus have been classified under special items (862, 863 and 864).

Although it was considered that a scale of weight would be suitable for a further subdivision of sub-item 859*(a)*, it was decided not to draw up such a scale, and to follow the principle already adopted in the case of other chapters ; this remark also applies to several other items of Chapter 73.

Sub-item *(b)* 1 comprises non-rotary converters (static converters) as, for example, mercury

vapour rectifiers with iron or glass containers and emanation rectifiers, with the exception of rectifiers for radio-electricity, which come under item 868.

Other transformers are classed under sub-item *(b)* 2. Constructionally, they may be divided according to the method of insulation or cooling—transformers insulated in oil, air-cooled transformers, etc.—and also according to the uses to which they are put—*e.g.*, power transformers, testing transformers, starting transformers, regulating transformers, measuring transformers (current transformers and voltage transformers), bell transformers and other low-power transformers. This class also includes electric welding transformers—that is to say, welding machines composed on the transformer principle, as, for example, roller welding machines, spot-welding machines, butt welders and rivet heating machines, etc.

Item 860.

Although electric batteries are of no great importance in international trade, they have been assigned a special item on account of the difficulty of grouping them with other articles. Their subdivision into *(a)* " wet batteries " and *(b)* " dry and other batteries " is based upon technical differences. Dry batteries include, amongst others, dry batteries for pocket-lamps, while pocket-lamps, complete with battery, are to be found under item 812*(c)* (Chapter 71).

Item 861.

Item 861 comprises accumulators and their spare plates. The spare plates are grouped under sub-item *(b)*. Sub-item *(a)* has not been further subdivided, the introduction of subdivisions being left to the discretion of the various countries.

Accumulators may be divided into two classes, those for stationary batteries (with boxes made of glass, of wood lined with lead, or of stoneware, etc.) and those for non-stationary batteries (such as starting batteries), batteries for electric cars, for the electrical lighting of trains, and for rail-cars. They are mainly accumulators with boxes made of ebonite, artificial plastic materials, glass, etc., or copper oxide and zinc accumulators of the Edison type.

Sub-item *(b)* comprises accumulator plates insulated. Accumulator plates of all kinds, mounted or assembled, follow the classification of accumulators.

Item 862.

In Note 4 to Chapter 72, it is laid down that driving machines attached to working machines shall, when separable, be as a general rule treated apart, and that electric motors incorporated in working machines in a position specially designed for that purpose, shall be considered as non-separable. It is further laid down that, subject to the exceptions expressly provided for, combinations of non-separable working machines and driving machines shall be treated as working machines. As regards machine tools not exceeding 15 kilogrammes in weight—that is to say, small sets of electro-mechanical tools—an exception has been made to this general rule by placing such tools under item 862 of this chapter, as, in this case, the electric part usually predominates in value and in weight as compared with the mechanical part. The limit of 15 kilogrammes has been fixed, as this weight approximately corresponds to the maximum weight of portable electro-mechanical tools.

For the same reason, small domestic electro-mechanical apparatus not exceeding 15 kilogrammes in weight has been classified with small sets of electro-mechanical tools. This category includes vacuum cleaners, apparatus for waxing, polishing or scrubbing floors, and small electric coffee-mills, etc.

Item 863.

This item refers to all electric appliances for the lighting and driving of motor vehicles and cycles—that is to say, dynamos, dynamotors and starters, also headlights, sidelights, searchlights, rearlights, dashboard lights, portable lights, switchboards with the control, regulation and indication appliances generally attached thereto, fuse boxes, signalling apparatus, more especially hooters, direction indicators, stop lights, windscreen wipers, etc. Nevertheless, bulbs for headlights and lamps imported separately come under item 866.

Similarly, accumulators come under item 869.

Item 864.

This item includes magnetos, dynamo-magnetos, battery ignition apparatus, friction apparatus, sparking-plugs, etc.

Item 865.

Item 865 comprises all apparatus worked on the electrothermic principle, with the exception of those specially mentioned, such as medical apparatus. The apparatus coming

under this item vary much in weight and are put to very different uses. For this reason, they have been subdivided.

Sub-item (a) covers industrial electric ovens, which are constructed on the principle of the electric arc, the principle of heating by resistance (including tempering ovens with salt-water bath apparatus), the principle of heating by induction, or, finally, on a combination of these various principles. This sub-item includes electric furnaces for manufacturing steel, refining steel and smelting metals, for calcining ovens, tempering ovens, cementation ovens, ovens for the application of electrical processes, such as the manufacture of carbide or artificial abrasive substances, graphiting ovens for electrodes, etc. To these should be added electric ovens for baking bread, etc., roasting ovens, drying ovens and the like.

The dimensions and weight of electric ovens vary considerably. Generally speaking, only ovens not exceeding 1,000 kilogrammes in weight form a unit, inasmuch as they are delivered completely mounted and in working order. Heavier ovens are usually consigned with the electrothermic material separate from the other parts (iron mounting, insulating material covering) and are only erected at the destination. Moreover, as regards these heavier electric ovens, the weight of the electrothermic materials is so small, as compared with that of the other materials, that it did not seem desirable to include under item 865 ovens exceeding 1,000 kilogrammes in weight. These ovens are therefore to be classified in item 855 (Chapter 72), on the understanding that the separable electric material is to be included in the respective items of Chapter 73 (resistance, carbon parts, etc.).

Sub-item (c) includes the heating units of these ovens and other electrothermic apparatus, which vary considerably in weight, value, dimensions and construction. The main group comprises heat-resisting parts (metallic and ceramic), but this sub-item also includes induction appliances and induction coils for industrial ovens which are based on the principle of induction.

Sub-item (b) comprises all electrothermic apparatus not specified elsewhere and, in particular, kitchen ranges, heaters, stoves, kettles, coffee-pots, samovars, water heaters (with cisterns or not), radiators, electric cushions, hot-air douches, sad irons, curling-tongs, hair-drying apparatus, cigar-lighters, etc.

Item 866.

This item deals with lamps and tubes for lighting in the broadest sense—namely, that it even includes irradiation lamps for technical and medical use (where these lamps and tubes are not elsewhere specified, such as Röntgen tubes, which are included in item 867 *(a)*. It was decided to make no distinction between ordinary lighting and irradiation, on account of the varied uses to which some lamps and tubes are put, and of the difficulty of making such distinction in many cases : thus, quartz lamps are used for lighting purposes in laboratories and also for medical purposes, and blue glass lamps may be used as ordinary lamps, for stage lighting and even for luminous baths.

Sub-item *(a)*, " filament lamps and tubes ", includes all electric lamps the glowers of which, made of precious metals or rare earths, become luminous in hermetically sealed bulbs, either empty or filled with gas, such as ordinary lamps for illumination, " Sollux " lamps, etc. In view of the differences in weight, this sub-item could have been further subdivided into lamps with caps and lamps without caps. As, however, such further subdivision would only have concerned tariffs with a duty based on weight and not those with a duty per unit, it was decided not to introduce such a subdivision.

Sub-item *(c)* comprises wireless lamps and tubes, in which the light is produced by the electric current passing through the gas contained in these lamps and tubes. The following may be mentioned : Geissler tubes, Moore tubes, Neon tubes, mercury steam quartz lamps, etc.

Sub-item *(c)* does not include lamps and tubes for radio-electric use, transmitting and receiving tubes, etc., belonging to item 868 comprising radio-electric apparatus, nor does it include Röntgen tubes (item 867*(a)*).

With electric lamps may also be grouped electric arc lamps, including cinematograph arc lamps. Although of minor importance, they have been allotted a special sub-item *(b)*, as they are based on a totally different principle, and their value, weight for weight, is different from that of other electric lamps.

Item 867.

Item 867 comprises medical electrical apparatus, together with apparatus used for irradiation, irrespective of whether the latter apparatus is intended for medical application or technical use. Röntgen tubes, for various uses (sub-item *(a)*) are placed in this item, while quartz and similar lamps, " Sollux " lamps, etc., come under item 866, if they are without holders and are not mounted on the apparatus to which they belong.

The apparatus themselves, whether or not with tubes or lamps, are classified under sub-item 867*(b)*. This sub-item contains X-ray apparatus for medical use (diagnosing and therapeutical apparatus, accessory apparatus) and also radiological apparatus and their accessories, for testing substances, scientific research, etc.

This sub-item also includes medical electrical apparatus without X-ray appliances, such as electro-cardiographs *(appareils médicaux universels)*, diathermic apparatus, high-frequency apparatus, photo-therapeutic apparatus, oculists' electro-magnets, etc.

Item 868.

The development of wireless telephony, telegraphy, etc., necessitates a special item being allotted to the apparatus employed.

Sub-item *(a)* comprises valves, tubes or lamps, and, in particular, transmission lamps and valves, rectifying lamps or glow-discharge rectifiers, amplifying valves, battery-fed valves, sector-fed valves, etc.

Sub-item *(b)* comprises first and foremost receiving apparatus for wireless telephony, including those combined with a gramophone, even when mounted in cabinets or other small pieces of furniture. These cabinets and small pieces of furniture, when delivered separately, are included in the same sub-item, when they are obviously arranged to receive an apparatus of this kind.

This item also includes earphones and electro-magnetic loud speakers and moving coil speakers and their motors, chemical resistances and electrolytic condensers. Another group of apparatus contained in this sub-item consists of radio-telegraphy and television receiving apparatus.

Of the apparatus contained in sub-item *(c)* may be mentioned, *inter alia*, spark transmitters, lamp transmitters and amplifiers used in connection with sound films or for other purposes. Mounted aerials are also included.

Item 869.

Item 869 deals with electrical apparatus for telephony and telegraphy, with the exception of wireless apparatus and of certain signalling and protective appliances.

Such apparatus are subdivided as follows :

(a) For telegraphy ;
(b) For telephony.

Under sub-item *(a)* are grouped Morse apparatus, Hughes apparatus, printing apparatus for long distances, writing machines for long distances, high-speed telegraphs, tele-autographic apparatus, apparatus for harmonic telegraphy, alternating-current telegraphy, infra-acoustic telegraphy and the like.

Sub-item *(b)* comprises notably telephone apparatus proper of all types, and hand or automatic switches for telephone exchanges. This sub-item also includes microphones and other detached parts for telephones and telephone exchanges.

In accordance with the proposals made by the industry concerned, subdivision *(b)* has been further subdivided according to whether the apparatus are or are not contained in tight cases, for protection against water, etc., as iron-clad apparatus are much heavier than other apparatus.

Electric appliances which have characteristics showing that they belong exclusively to telegraphic or telephonic apparatus are classified under this item.

Item 870.

Item 870 comprises electric signalling and safety apparatus for railways and routes of communication, such as electric point-setting mechanisms, electric control apparatus, electric signalling apparatus, etc.

Item 871.

Item 871 includes bells and other electric signalling apparatus not elsewhere specified.

Consequently, this item does not include signalling apparatus for railways and routes of communication, comprised in item 870, or signalling appliances for motor vehicles and cycles, included in item 863.

The subdivision of this item into three sub-items was made on the suggestion of the industry concerned and is justified by the character and value of the various apparatus contained in the sub-items.

Sub-item *(c)* includes, in particular, fire alarms, police alarms, burglar alarms, patrol checking apparatus, remote water-level indicators, electric pyrometers, etc.

Item 872.

Electricity meters are used for measuring the consumption of electric energy. They should be listed under item 872, even if they contain clockwork and recording apparatus. Electricity meters can be used with continuous, single-phase and three-phase currents. Meters may be divided according to their construction into motor meters (characterised by a revolving armature), electro-chemical meters and pendulum meters. It should be noted that mechanical meters worked by electric power are not included here, but are classified under item 878.

Item 873.

The electric measuring apparatus grouped under this item are used for indicating the valuation at a given moment, or over a period of time, of electric magnitudes, such as intensity of current, voltage, power, frequency and power factor. They are also used for comparing the phases of two alternating currents, or three-phase currents, etc. This item includes in particular ampère-meters, volt-meters, ohm-meters, watt-meters, galvonometers, frequency-meters, phase-meters, synchronoscopes, etc.

Item 874.

In several tariffs, cables are divided, according to whether or not they have a lead covering, lead coverings serving as a protection against damp. As, however, the weight of cables reinforced with iron or other metals for protection against shock or pressure is very different from that of cables which are not so reinforced, it was preferred to include in sub-item *(a)* insulated cables and wire with lead covering and those reinforced with other metals. Those countries which desire to deal separately with cables insulated with lead will be free to make any further subdivision which they may wish.

The insulated cables and wire comprised in sub-item *(b)*—*i.e.*, cables and wire which have no lead covering and are not reinforced with other metals—are subdivided into four groups according to the nature of the insulating material ; a fifth group includes insulated wire cut lengthwise and fitted with connecting plugs, cable sockets, etc.

Sub-item *(b)* 1 deals mainly with conductors insulated by means of rubber or rubbered cloth, and conductors covered in rubber tubing, also when such tubing is wrapped in silk or any other textile material.

In sub-item *(b)* 2 is comprised wire simply insulated by means of natural or artificial silk, whether varnished or not.

It should be noted that sub-item *(b)* 3 deals only with wire specially varnished for electric use, and known in the trade as " enamelled wire." If this wire is also covered with other materials (rubber, silk, etc.), it comes under one of sub-items *(b)* 1, 2 or 4.

Sub-item *(b)* 4 is mainly concerned with wire insulated by means of paper, cotton, etc.

In many tariffs, insulated wire cut to lengths and fitted with connecting plugs for telephonic apparatus, radio-electrical apparatus, electrical apparatus for domestic use, etc., is classified, in a collective item, together with other electro-technical articles with which it has nothing in common. As, however, it is merely insulated wire, prepared for a specified purpose, the inclusion of such wire in the same main item as insulated wire seemed expedient, though in a special sub-item, *(b)* 5.

Item 875.

This item comprises unworked and worked parts made of carbon or graphite (artificial or otherwise), of retort carbon, graphite carbon or carbon mixed with copper dust or other similar metal dust. Parts of carbon or graphite come under this item when they are covered with a coating or sheet of metal, or if they are combined with metal parts.

This item includes carbon blocks, plates, pencils, plugs, sticks, cylinders, bars, rings, etc., for electric use (for arc lamps, electrodes, brushes, batteries, for welding, for resistance, for electric ovens, etc.), carbon or graphite brushes ; all these articles, even if they include metal parts necessary for their working.

Item 876.

Several different methods may be followed in regard to the classification of insulators and insulating parts. First, the inclusion in a single item of insulating parts combined with metal fittings—that is to say, mounted insulators and mounted insulating parts, having a special sub-item for insulators made of ceramic materials or glass. According to this system, non-mounted insulating parts made of glass, ceramic materials, moulded materials, etc., would be classified in the chapter relating to the component material.

According to another proposal, insulators, whether armoured or not, would be classified in the chapters dealing with glass or with ceramic products, seeing that insulators are actually manufactured by the glass or the ceramic industry.

A third method, based on the fact that the manufacture of insulators is, generally speaking, a branch of production more or less closely connected with the electric industry, and that it is not convenient for insulators to be spread over several chapters of a Customs tariff (porcelain, glass, artificial plastic materials and electro-technical articles), consists in classifying mounted and non-mounted insulators together in one item, while subdividing them according to the materials of which they are made. This last method was adopted for the international nomenclature.

Item 876 deals especially with indoor insulators such as supporting insulators, leading-in insulators, spool insulators, insulating buttons, and also with outdoor insulators such as supporting insulators, leading-in insulators, insulators for mounting on supports, suspension insulators (cap type), bell-shaped insulators for telegraphy, telephony and high-tension current, etc.

Item 877.

Item 877 deals with insulating tubes (sub-item *(a)*) and with *unmounted* parts of insulating materials for electrical machinery, apparatus and installations. The best-known type of insulating tubes consists of an iron or steel tube, sometimes made of reinforced steel (so-called steel armoured tubes), in the interior of which is placed a tube of tarred cardboard ; there are also metal tubes internally coated with insulating varnish.

Item 877 also includes joints and branch boxes for insulating tubes of metal, when they are insulated internally. On the other hand, cardboard tubes to be placed inside metal tubes, as well as rubber tubes and those made of textile material covered with resin or a coating of some other insulating substance to protect the electric conductors, are not included here, but are classified in the chapter relating to the component material.

A departure is made from General Note 3, paragraph 1, Section XVI (which provides that parts of machines composed of non-metallic materials are classified in the chapters relating to articles of the materials of which they are composed), parts made of insulating materials—that is, without any metal portion—unmounted, being included under sub-item *(b)*. No distinction is made between parts required specially for electrical insulation and those used for mechanical or other purposes. The following may notably be mentioned : sockets or supports, water-tight enclosures (protecting covers for electric meters, switches, etc.). These articles are classified without regard for which of the apparatus included in the other items of Chapter 73 they are to be used.

Sub-item *(b)* 1, " parts of ceramic materials or glass ", also includes unmounted articles such as sockets, ratchet sockets, switch bases, parts of plugs, illuminating terminals, branch blocks, commutator, junction and branch boxes, pipes entrances, lamp-sockets, plug-socket terminals, etc.—all these articles made of porcelain, glass, stoneware or steatite.

Sub-item *(b)* 2 is devoted mainly to articles made of the following materials : asphalt or tar compounds loaded with asbestos, mica, etc. ; plastic compounds with a base of shellac or copal loaded as above ; hardened rubber ; tarred and non-tarred paper or cardboard, mica or micanite, asbestos and fibro-cement ; artificial plastic compounds with a base of phenol, urea, etc., loaded or not with mineral materials ; artificial plastic materials with inserted layers of paper or fabric.

On the other hand, slabs or other articles exclusively made of wood, stone, marble, slate or artificial stone are not included in this item, but, when they are not mounted, come under the chapters referring to these materials, even if they are obviously prepared for electric use.

Item 878.

Item 878 includes :

1. Apparatus for regulating, cutting-off, protecting and distributing electric current, such as turning switches, reversible or lever switches, disconnecting switches, battery switches, oil-break switches, switch boxes, switchboards, switch desks and switch cupboards, including apparatus, instruments and other accessory appliances, starters, all kinds of regulating apparatus, electro-magnets, circuit-breakers of all kinds, safety fuses, horn-shaped lightning arresters, appliances for the prevention of excess voltage, oil resistances, condensers, relays and other protective apparatus.

2. All electro-technical articles not elsewhere specified or included, such as mine-detonators, mechanical counters or meters worked by electricity (such as electric revolution counters), etc.

3. Spare parts of electric machinery and apparatus not elsewhere specified or included. These are classified with the electro-technical articles mentioned above, as, in many cases, it is difficult to determine whether an article combined with insulating materials and metal already constitutes an electro-technical article or merely a spare part of an apparatus.

* * *

For the sake of clearness, the rules relating to the classification of spare parts of electric machinery and apparatus are summarised in the following table.

Spare Parts of Electric Machinery and Apparatus to be excluded from Item 878.

1. *Unworked* parts of base metals such as unworked parts produced by casting, forging, rolling, drawing or stamping or flanging. These parts are classified in the chapters referring to the articles of the material of which they are composed (General Note 3 to Section XVI).

2. The following mechanical parts, of base metals, *worked*, belonging to the respective items of Chapter 72 : bearings of all kinds—ball, roller or cylinder—shafts, cogged wheels and bars, gears, flywheels, pulleys, clutches, couplings, blocks and brasses (General Note 1 to Chapter 73).

3. Accumulator plates (item 861).

4. Parts made of carbon or graphite, whether or not combined with metal (item 875).

5. Insulators, whether or not reinforced with base metals (item 876).

6. Parts made of insulating materials, unmounted—*that is to say, without metal portions* (item 877).

7. *Worked* parts composed of base metals or of base metals combined in any proportion with non-metallic materials, to be used for machinery or apparatus coming under items 859 to 873, in so far as the real use to which these parts are to be put is ascertainable or can be established by the importer. Subject to the exception provided for in paragraph 2 above, the said parts belong to the same item as the machines and apparatus for which they are intended (General Note 3 to Section XVI and General Note 2 to Chapter 73).

8. Parts made exclusively of non-metallic materials other than those enumerated under paragraphs 4, 5 and 6 above (such as parts made of wood, stone, marble, slate, etc.). These parts are classified in the chapters relating to articles of the material of which they are composed (General Note 3 to Section XVI).

Detached Parts of Electric Machinery and Apparatus to be included in Item 878.

1. All detached parts of apparatus specified in item 878 (apparatus for regulating, cutting-off, protecting and distributing electric current, etc.), provided they are not elsewhere specified or included (see the above exceptions : paragraphs 1 to 6 and paragraph 8).

2. *Worked* parts made of base metals or base metals combined in any proportion with non-metallic materials, clearly intended for electro-technical use, without it being possible to ascertain for what apparatus or machine coming under items 859 to 873 they are to be used or without this being established by the importer (General Note 3 to Section XVI).

Section XVII.

TRANSPORT MATERIAL.

Preliminary Observations.

Most of the tariffs at present in force have no special section for transport appliances or material. These terms, however, cover many articles of a distinct type and of great importance at the present time in some countries.

To understand the reason for this omission, it should be remembered that, in every transport appliance—by land, water or air—the principal element is the engine. But the several classes of engines have separate places in nomenclatures ; they are generally classified with " machinery, mechanical apparatus and appliances ". The spare parts (wheels, transmission-gear, steering-gear, brakes, etc.) are common to several machines or apparatus and, save in exceptional cases, do not relate solely to transport material or appliances.

It is obvious, therefore, that most of the existing nomenclatures do not devote a special section to transport appliances, but merely classify the component parts of the material in question under the relevant items devoted to machinery.

The present draft Customs nomenclature adopts the contrary method. It devotes a whole section, No. XVII, to transport material.

In the first place, it seemed desirable, here as elsewhere, to conform to the principle whereby the new nomenclature should, as far as possible, group together products of the same nature in a single section or chapter. This is the only method by which the industries or trades concerned can easily trace and follow up the items and the duties relating to the products manufactured, transformed, used or sold by them.

Then again, the rapid development of the transport industry, especially by road and by air, and the constant concern of the builders to ensure comfort and speed have induced them to specialise, and to endeavour to give to the articles manufactured by them the maximum of power and resistance. Much more than formerly, transport material is distinct and different from other machine-made products, in that it is both composed of more resisting constituents, better finished and generally more expensive. In fact, with the automobile and the aeroplane, a new branch of mechanical industry has sprung up and had to be given its place in a nomenclature which must not merely perpetuate the past but must also look forward to the future.

This section is composed of three chapters. The first two, 74 and 75, relate to *land* transport by *rail* or *road* respectively. The third chapter, 76, groups together transport by *sea*, *waterway* and *air*.

Chapter 74.

RAILWAY AND TRAMWAY ROLLING-STOCK AND MATERIAL.

This chapter includes the products of the industry specialised in the building of railway and tramway material. As a whole, these products are generally more massive and heavier than those used for other means of transport, and are easily distinguished from the latter.

In the first place, a classification has been made of *propelling* vehicles, such as locomotives, rail cars and locomotive tractors (loco-tractors), distinguishing them according to the power used (steam, electricity, compressed air, etc.).

A special item has been provided for *tenders*, which constitute a particular type of vehicle.

The following items comprise the various kinds of *hauled vehicles* (carriages, luggage-vans, wagons, tip-wagons, etc.).

At the end of the section there are two basic items relating to the various detached parts and pieces of railway vehicles and to *fixed material* for railways.

* * *

Item 879.

The locomotives grouped under this item include all *steam locomotives*, both of the types generally used by large railway systems and of more special types.

As a locomotive is in reality only a steam generator which causes movement by means of a piston or turbine, it was proposed, on more than one occasion, not to make a distinction between locomotives and other steam motors, but to classify the former with the latter in Chapter 72.

This view did not find favour when the nomenclature was drawn up. It was considered that locomotives are generally built in factories or workshops which specialise in this class of manufacture, and that, moreover, every locomotive has a number of organs of suspension and of motion that do not exist in other steam engines.

No scale of power or weight has been given, but it will always be possible for countries to introduce such distinctions in their tariffs, if they so desire.

The item in question also includes tender-locomotives.

In addition to ordinary locomotives, those with special appliances must here be included, such as locomotives with more than one boiler, with condensing apparatus, with mechanical loaders, for rack-railways, with more than one driver's cab, with indirect transmission-gear, and with auxiliary starting mechanism.

Item 880.

The previous item related only to *steam* locomotives ; item 880 includes all those *driven by electrical power*.

There is a great variety of types, differing widely in their systems of working, power and value. It did not seem desirable to mention them in detail in the nomenclature ; but two sub-items have been made for the most usual types, which are : *(a)* locomotives with trolley or conductor rail ; *(b)* locomotives with accumulators.

Item 881.

Electric rail cars, which this item has in view, are distinct from electric locomotives because of their double function of *carrying* and *propelling*. There are also numerous types of these rail cars, differing according to the work which they are required to perform, the gradients of the track, the kind of goods to be carried, etc. Some of the mare rather tramway than railway stock.

All these types of rail cars come under item 881, even rail cars for elevated railways, and whatever the type of track, rail or cable.

As in the case of electric locomotives, two sub-items are provided according as the motive-power is supplied to the motor : *(a)* by trolley or conductor rail ; *(b)* by accumulators.

Item 882.

As distinct from item 879, which includes only *steam* locomotives, and item 880, which comprises only *electric* locomotives, item 882 covers all special types of locomotive other than steam and electric, *by whatever force they may be propelled* (by explosion, internal combustion, compressed air or other engines).

It is here, for instance, that compressed-air engines for use in mines exposed to firedamp are to be placed, also rail cars *other than electric*—in particular, steam or explosion motor rail cars running on railway lines, motor inspection trolleys, railway velocipedes and locomotive tractors (loco-tractors).

Item 883.

Locomotive tenders, which come under this item, occupy an intermediate place between engines which haul and vehicles which are drawn. Were it not for their organs of suspension and of motion, designed to enable them to travel long distances at high speeds, tenders, formed of sheet metal, should appear in Chapter 63 (" Articles of Iron, Cast Iron or Steel ").

These appliances, however, often form a whole with the locomotives themselves, and, as they are manufactured in the same workshops as the latter, it has seemed preferable not to separate them.

Most various types of tenders have, therefore, been brought under item 883, even so-called motor-axle tenders or tenders which have special appliances (such as mechanical loading mechanism, condensing mechanism, etc.).

Item 884.

This item comprises all passenger carriages for railways, tramways, air cableways, etc., of whatever class.

Although they differ widely as regards weight, value and resistance to movement, it did not seem possible to make any difference in the nomenclature between these various categories of carriages, especially as regards class. The reason is to be found in the difficulty of accurately

defining each category, especially as there is, in this respect, no conformity between the rules followed in one country and in another.

For the same reasons, the distinction between fitted and unfitted carriages has not been maintained. Similarly, in view of the growing tendency to use metal for construction purposes, the distinction between metal and wood and metal coaches has been abandoned.

Each country can, however, in its own nomenclature make in this respect such subheads as it may think necessary.

Item 885.

Between passenger carriages and wagons for the transport of goods, there is an intermediate type called " luggage vans ". A special item has been introduced for this type, to which have been assimilated " service cars ", such as mail vans, prison vans and ambulance vans.

No doubt these various types are not identical, and their value differs considerably. But their general equipment and method of construction, which is suitable for the high speed demanded of them, very appreciably increase their average value and justify the introduction of a special item for them.

Item 886.

In view of the multiplicity of types of wagons and tip-wagons, corresponding to the increasing variety of the goods carried, it would seem that a difference should be made in the nomenclature according to the kind, weight, principal characteristics and purpose of these wagons and tip-wagons.

But such a course might mean going into too great detail and unduly complicating the nomenclature. Consequently, item 886 has, merely as an indication, distinguished between wagons and tip-wagons, the latter being intended generally for the use of industrial concerns and running as a rule on portable tracks of 0.60 metre or less.

The following must come under item 886 : platform wagons with or without sides, ballast wagons, tip cars, crane trucks, covered wagons, crate wagons, deck wagons, tip wagons, refrigerator and cold storage wagons, horse-boxes, barrel wagons, tank wagons, cylinder wagons for the transport of compressed or other gases.

Item 887.

After the classification under items 879 to 886 (inclusive) of various types of *complete* vehicles running on rails, it appeared necessary to classify *their detached parts and pieces*.

Detached parts and pieces, which, in view of their characteristics, can without possible dispute be brought under railway material, have been grouped in the following four subheads: *(a)* frames and bogies, *(b)* grease-boxes and parts thereof, *(c)* brakes of all kinds and parts thereof, *(d)* other.

This fourth sub-item includes in particular, buffers, coupling hooks, screw or chain couplings, complete flexible gangway-bellows, of unquestionable use. Articles such as the following are excluded : ironwork of various kinds, suspension and buffer springs, cisterns, water-tanks, carriage window balancing devices, locks, handles, piping, etc.—all which may serve for other purposes than railway vehicle construction.

The other detached parts and pieces of railway vehicles (with the exception of detached parts and pieces of locomotives mentioned in the note to item 887) are to be classified as detached pieces of machines not elsewhere specified or included (item 858).

Item 888.

In this item are placed the elements constituting the accessory material used for the substructure of tracks or filling railway traffic requirements.

The first sub-item, " signalling apparatus ", includes, in particular, warning apparatus for level crossings, apparatus for working signals, semaphores, diks, signal posts, signals.

The second sub-item, " track apparatus ", comprises buffers, bumping pads, turntables and loading-gauges, with the exception of substructure material mentioned in other chapters such as crossing sole-plates and points, sleepers, tie-rods, wrought or cast fishplates, stretcher rods, tongue attachments.

Chapter 75.

AUTOMOBILES, CYCLES AND OTHER VEHICLES.

This chapter relates to land transport appliances running on tracks other than railway lines—*i.e.*, roads.

By analogy with the classification previously adopted for railway material, Chapter 75 first takes up tractor or motor vehicles and their detached parts (tractors, automobiles and

motor-cycles) ; then it deals with other vehicles (cycles, non-automobile vehicles perambulators). Incomplete vehicles and groups of assembled parts, not specially classified elsewhere, are grouped with complete vehicles.

* * *

Item 889.

Tractors have fairly numerous points of resemblance to certain types of locomobiles. This is particularly the case with *steam tractors*.

In order to avoid difficulties which would inevitably have arisen, it has been found necessary to limit the scope of item 889 by stating explicitly that it includes only tractors " with explosion, internal combustion or gas engines ". Consequently, steam or electric tractors are not included in this item. Steam tractors come under item 821*(a)* with locomobiles, and electric tractors under 890*(c)* with electric wagons.

On the other hand, all tractors with explosion, internal combustion or gas engines are to be included here, irrespective of the purpose for which they are used. This being the case, the wording of item 889 does not reproduce the distinction made in certain nomenclatures between *agricultural* and other tractors.

Item 889 covers only tractors for drawing loads or other vehicles, or for working other machines by means of traction.

As an exception, tractors with a pulley-wheel enabling the power to be transmitted when the tractor is stationary are also included here, as well as tractors combined with a reaper, rake or other similar appliance.

Tractors specially equipped for the loading or handling of goods come under the next item.

Item 890.

Owing to the differences in value, form, engine-power and conditions of use of motor vehicles, item 890 has classified them into four groups : *(a)* for passenger transport, *(b)* lorries and delivery vans, *(c)* electric wagons, *(d)* others.

We are here concerned with automobiles with coachwork or complete, by whatever kind of engine propelled (explosion or internal combustion, steam or electric), and even light three- or four-wheeled vehicles of the cycle-car type, which, through the details of their construction (steering, transmission, braking) and the design of their engines, can in every way be assimilated to automobiles with coachwork.

To be regarded as complete, an automobile must have all the parts necessary for its working (engine, transmission gear, steering gear and brakes).

On the other hand, the absence of parts not essential for running (*e.g.*, lighting or signalling) should not cause the vehicle to be regarded as incomplete.

This is also the case if the car is imported without tyres.

Cars used for the transport of persons, which come under the first sub-item, include cars of every type and value and of very different engine-power. It is quite impossible to enumerate them, even briefly. It may, however, be pointed out that here are included touring and sports cars, whatever their power or coachwork, motor-coaches, motor-buses, omnibus carriages (including trolley-buses), ambulance vans, prison vans, motor-hearses, etc.

The second sub-item, which relates to lorries and delivery vans, includes all vehicles that are generally slower and more powerful than those of the first category, and are used for the transport of material or goods.

These, too, comprise vehicles of very different form and engine-power. Besides flat-truck lorries, this item also includes lorries with automatic loading or unloading apparatus, tank lorries for the transport of liquids, delivery vans, furniture vans, etc.

Cars that may serve for the transport of either persons or goods appear under sub-item *(a)* of the present item.

The vehicles referred to in sub-item *(c)* of item 890 are very different from those coming under the two preceding sub-items.

Here we are dealing solely with small electric lorries or wagons, steered by levers or steering-wheels. They are tractor-trucks for luggage or packages and are propelled by a battery of accumulators which actuates a motor.

These are vehicles of a quite special character, which are rapidly coming into use and which have very little in common with explosion-engine vehicles.

Electric tractors are also included in this sub-head.

The fourth sub-item covers " other " automobiles with coachwork or complete. Here must be put the various types of vehicles which cannot find a place under any of the three preceding sub-items—*e.g.*, motor water-carts, road-sweepers, fire-engines, cranes, ladders, searchlight cars, winches, etc.

Item 891.

This item has been devoted to automobile chassis.

By " motor chassis " is meant *the whole mechanism mounted on its wheels.*

This expression has already been sanctioned by international use and does not seem to afford any possibility of ambiguity.

There are included in this item chassis imported even without wheels or with wings and footboards. The wheels may be fitted with tyres or not. The reason for the introduction of a special item for chassis is that many automobiles without coachwork (which are, in fact, chassis) are bought and sold in this condition.

The heading " chassis " could perhaps be amplified in countries which consider it necessary to establish scales based on weight or possibly value.

Item 892.

Coachwork constitutes in principle the body of the car with its upholstery, ready to be placed on the chassis.

While there is a certain amount of uniformity with regard to the design of chassis, this does not apply to coachwork, which varies very greatly as regards form, weight and value.

The difference is particularly marked between the coachwork of cars for the transport of persons and that of " other " cars. Item 892 thus has two sub-items, corresponding to this particular distinction.

Under this item, incomplete coachwork is also included—*i.e.*, coachwork lacking certain parts, such as windscreens, doors, rear trunks, etc. This also applies to coachwork the interior upholstering of which is not completed, or to coachwork not entirely painted or varnished.

Item 893.

The classification of detached parts and pieces of automobiles and tractors in the unified Customs nomenclature has given rise to serious difficulties.

The problem was the following : Considering the method of manufacture, cost, selection of raw component material and their allocation to vehicles that have their specific place in the nomenclature, is it expedient for detached parts and pieces of automobiles and tractors, and, in particular, the engines which form their principal element, to be classified otherwise than with the chassis to which they are to belong ?

There is no doubt that the very requirements of automobile construction oblige car manufacturers to select metals that have the greatest resistance and durability. This construction also requires highly finished workmanship, perfect fitting and a number of qualities which are generally less essential in other machine construction. In these circumstances, can the automobile engine be given a classification which puts it on the same level as less perfect engines which are constructed with less care and are of less value ?

After a particularly detailed consideration of the matter, in which every aspect of the problem was examined, a third solution was eventually adopted.

Consideration was given to the essential importance of maintaining a homogeneous unity in the international Customs nomenclature, and not separating automobile engines from the section in which all other motors (except electric motors) are placed.

If a separate item had been made in Section XVII for automobile engines, it would have been necessary to make two other equally distinct basic items for aircraft and marine engines.

As these various kinds of motors are very similar, save for a few features, they being often made in the same works and their value per kilogramme differing but little, the nomenclature would have contained items which partly overlapped, without it being possible to exactly define their respective limits.

It was considered that the best solution of the problem would be to open, in Chapter 72, a basic item for all explosion and internal combustion engines, with a special sub-item for " light motors for cars and bicycles, for aircraft and watercraft ; also components and detached parts thereof, even in the rough ".

This has been carried into effect in item 823.

Consequently, Chapter 75, which includes tractors, automobiles and motor-cycles, does not mention the engines for these vehicles or their detached parts or pieces. Item 893, under which these motors or detached parts or pieces would normally have come, refers in its three sub-items only to : *(a)* parts of coachwork, *(b)* parts and pieces of transmission- or steering-gear, *(c)* other parts and pieces.

The first of these sub-items includes, *inter alia*, the body, bonnet, wind-screen, foot board, doors, seats, wings, etc.

Amongst the pieces of transmission- or steering-gear are to be included gear-boxes, clutches and clutch-pedals, rear axles and differentials, transmission-shafts, coupling discs and plates, pedals and brakes on the mechanism, change-speed levers, flywheels and flywheel shafts pillars, wheel-brake levers, etc.

Lighting and visual signal apparatus are not included here ; they must be classified either under item 863 (Chapter 73) or item 812 (Chapter 71), according as they are electric or not. Non-electric sound signals (horns, warning signals, klaxons, etc.) come under item 948 (Chapter 79) ; such apparatus, if electric, comes under item 863.

" Other " parts and pieces include chassis carrying frames and parts thereof, axles, wheels and their parts, suspension springs, shock absorbers, petrol tanks, lubricating appliances.

Item 894.

This item includes cycles combined with *motors*.

It should be noted that types of three- or four-wheeled automobiles (cycle-cars) are included under item 890.

On the other hand, the item includes motor-cycles, motor-bicycles, motor-tandems or motor-cycles with balancing chassis, and bicycles with attached engine.

Sidecars are also included under this item.

Item 895.

This item includes all cycles, bicycles, tricycles, quadricycles, etc., *without attached engine*, including children's cycles, on condition that they are constructed in the same manner as ordinary bicycles, though on a smaller scale.

If not so constructed, they are to be regarded as toys and classified under item 974*(a)*, Chapter 84 (" Games, Toys, etc.").

Item 896.

In view of the constructional similarities between motor-cycles and push-cycles, their detached parts and pieces are classified together under this item.

This item should include all the essential elements of the manufacture of motor-cycles and push-cycles—viz., the frames, front forks, wheels, pedal gear, toothed wheels, pinions, saddles, handlebars, mudguards, pedals, etc., and their detached parts and pieces. The parts of brake gear should also be classified under this item.

Frames on which are mounted other pieces such as front forks, pedal gear, etc., are regarded as incomplete vehicles in the sense of the General Note to the present chapter.

On the other hand, this item does not include transmission chains, which are included in item 726*(a)*, Chapter 63.

For lighting and signalling apparatus, see the explanatory notes to item 893. Engines for motor-cycles and accessory engines, and their parts, come under item 823*(a)*. Bells are classified with the metals of which they are composed.

Item 897.

The last three items of Chapter 75 cover *non-automobile* vehicles—that is to say, vehicles which work without an engine and have to be trailed.

The first group of these vehicles is composed of vehicles for *passenger transport*. They are, in general, distinguished from the vehicles comprised in the following item by the well-finished appearance of their coachwork, their upholstery and the elasticity of their suspension.

This item should include *animal-drawn* vehicles of all kinds, whether two- or four-wheeled, open or closed. It also includes public transport vehicles (omnibuses), racing vehicles (sulkies), ambulances, prison vans, hearses, basket carriages for children (donkey, goat or pony carriages), trailers equipped for camping, and passenger sleighs.

Item 898.

Vehicles *for goods transport* or other purposes, which come under this item, are in general not so well finished as those coming under the former item. They are distinguished from the latter, not only by their external appearance and shape, but also by the fact that their suspension is less comfortable.

The international Customs nomenclature classifies these vehicles in three groups :

(a) Agricultural and similar vehicles *without springs*.

This group covers vans, carts and wagons used for the transport of crops, fertilisers and animals, drays, tipcarts, etc., used mainly for agriculture.

The " similar " vehicles include vehicles, *also without springs*, for the transport of raw materials and industrial products, lorries, trucks for the handling of cumbersome goods, wagons for the transport of building stones and material, etc.

(b) Furniture vans and similar vehicles, whether animal-drawn or for trailing, or also closed van bodies for the transport of furniture by rail or boat.

These vehicles, which are of solid construction, frequently have upholstered or padded interiors.

To furniture vans are assimilated caravans and showmen's carts.

(c) Unspecified vehicles—viz., vehicles which do not come under either of the two preceding groups (*e.g.*, fire-engine trucks, road-sweepers, sprayers or water-carts, hand-carts, wheelbarrows, dog-drawn carts, freight sledges, sleighs, etc.).

Flyers and bob-sleighs come under the category of articles made of wood.

No special item is provided in Chapter 75 for " detached parts and pieces of non-automobile vehicles ", but there is an item of this kind in the same chapter for detached parts and pieces of automobiles and tractors (item 893) and another for detached parts and pieces of motor-cycles and cycles (item 896).

This item was not inadvertently omitted in the case of detached parts and pieces of non-automobile vehicles, for the General Note at the head of Chapter 75 states that " *incomplete* vehicles and groups of assembled pieces not specially classified elsewhere are classified with complete vehicles ".

In accordance with this rule, the detached parts and pieces of non-automobile vehicles, when they constitute groups of assembled pieces such as bodies and wheel sets, should be classified as the vehicles themselves. The process of assembly should—at any rate, in most cases—enable the class of vehicle to which they belong to be determined.

Pieces not assembled should be classified with the products or articles of the same material, according to kind, unless they are clearly specified in one of the items of the nomenclature.

For example, finished pieces of wheelwright's work, even when they include metal parts, are indicated under item 399, in the chapter on wood and articles made of wood.

Detached parts and pieces of vehicles include seats, doors, footboards, sets of shafts, wheels, hubs, axles, springs, brakes, mudguards, hoods.

Accessories such as lamps, rein-holders, whip sockets, etc., are also classified separately under their respective items.

Item 899.

Under this item, a last group of vehicles is classified which differs greatly from the previous ones, both in respect of form and use and in respect of the elements of their construction—namely, perambulators and invalids' chairs.

In the case of perambulators, there is no need to distinguish between those of wood, wicker or metal, nor even between upholstered or non-upholstered perambulators.

As the types of these vehicles are very numerous, some of them being very luxurious (having nickelled frames, smart upholstery and pneumatic-tyred wheels), each country will have to decide in its own tariff what sub-items it considers necessary.

The above remarks apply also to invalids' chairs propelled by hand which, though different in form, are in many respects similar in their construction to perambulators.

By analogy, this class also includes mechanically propelled invalids' chairs on the lever principle, even when such chairs are driven by an auxiliary engine.

Detached parts and pieces of these vehicles, where distinguishable as such, should be classified with the vehicles themselves.

This item does not include dolls' perambulators, which are classified with " Toys ".

Chapter 76.

AIRCRAFT AND WATERCRAFT.

The nomenclatures at present in use do not, in general, devote a special chapter to air navigation.

In view of the growing importance of this form of navigation, it has been thought better to establish in the international Customs nomenclature a number of main items relating to aviation material and machines, on the basis of the draft rules for air navigation which are now under examination and are to be submitted to a forthcoming international conference.

These drafts distinguish—and logically so—between lighter-than-air machines (airships and aerostats) and heavier-than-air machines (aeroplanes).

An additional subdivision has been provided for apparatus with propelling machinery to distinguish it from apparatus without engines (gliders).

Apart from air navigation, Chapter 76 includes sea and river navigation. There are already complete and well-prepared nomenclatures for craft used for sea, river and lake navigation, on which the items of the present chapter have been based.

In all, Chapter 76 contains eight items, three of which are for aviation and five for navigation proper.

Air Navigation.

Item 900.

The various types of aerostats (lighter than air) are classified under this item. In accordance with the general rule adopted for all light engines used in the automobile industry,

in aviation and in navigation, aerostat engines remain classified in their place under item 823*(a)*, Chapter 72.

A distinction has been made between aerostats without propelling machinery and those with engines.

Among aerostats without propelling machinery must be classified free or captive balloons, spherical or other. The " other " are aerostats of the dirigible type.

Detached pieces of aerostats, which include balloon cars, envelopes, frameworks, nets, ballonets, rudder controls, steadying surfaces (stabilisers), etc., are classified with the detached pieces of aeroplanes under item 902.

Item 901.

A special heading, similar to that for aerostats, has been provided for aeroplanes, under item 901. This item comprises all heavier-than-air apparatus, with or without propelling machinery.

Among aeroplanes without engines must be classified gliders and kites (other than children's toys). Parachutes should also be classified under this item.

Aeroplanes with engines include aeroplanes proper, hydro-aeroplanes (seaplanes), gyroplanes, helicopters or ornithopters of all kinds—land, sea, or land and sea.

Detached pieces of aeroplanes, which include in particular fuselages, empennages, wings, ailerons, airscrews, rudder controls, landing-chassis, hulls and floats, are classified separately under item 902.

Item 902.

This item includes the detached parts and pieces of aerostats and aeroplanes, except engines. The more important of these pieces are specified above (under items 900 and 901).

The item does not include the following appliances, even though they are unquestionably used for aviation : sideslip-indicators, turn-indicators, clinometers, flight-indicators, altimeters, navigraphs, etc. These apparatus come under the chapter devoted to scientific and precision instruments (item 922).

Sea and River Navigation.

The last five items of Chapter 76 are devoted to sea and river navigation.

In spite of certain disadvantages, the international nomenclature has not separated sea and river navigation from air navigation. It is desirable to avoid multiplying the number of chapters unnecessarily ; moreover, certain apparatus, such as seaplanes, are used both for air navigation and for sea navigation.

Engines used for river or sea navigation have been classified with the fixed engines enumerated in Section XVI. Certain special engines used for motor-boats, which are comparable to aircraft engines, are not classified here either, but are included in the light motors specified in item 823*(a)*.

The same classification is adopted in the case of auxiliary outboard engines, which are more or less comparable with automobile or motor-cycle engines, both as regards technical characteristics and speed of rotation and the quality of the raw materials used.

Auxiliary appliances such as rigging and tackle are not assigned any special item under the international nomenclature. It was considered that they should be classified according to the principal material used in their manufacture and according to the purpose to which they are put on board ship. Thus steering apparatus is included under " apparatus not elsewhere specified ". Capstans, tackle, winches and windlasses are classified with lifting apparatus. Rudder posts, catheads, stretching screws and propeller-screws are classified with manufactured articles according to kind.

Finally, measuring apparatus used for navigation is still grouped (like apparatus used for air navigation) with precision instruments in Section XVIII (Chapter 77).

Item 903.

This item comprises all seagoing vessels, including all those navigating on inland seas. No sub-headings are provided for seagoing vessels, though there is a great variety of these—sailing vessels, passenger boats, cargo boats, yachts, lightships, semaphore signalling ships, tankers, etc. In view of the very great differences in the existing classification in the various Customs nomenclatures, and the diversity of maritime law in the different countries, it appeared desirable to leave the initiative in this matter for the most part to the countries concerned.

Item 904.

Tugs are quite distinct from the vessels included under the previous item. The present item refers to tugs which do not carry goods—that is to say, which cannot be used, even in a subsidiary capacity, for the transport of goods, and the power of which is used exclusively for the traction of other vessels. The value of these vessels, their special appearance, the particular

shape of their hulls (designed specially to overcome resistance) and their powerful engines make it easy to distinguish them from other vessels.

This item includes seagoing tugs as well as those for inland navigation.

Item 905.

The vessels for inland navigation included under this item comprise those for navigation on lakes, rivers, canals and estuaries, which are used for the transport of passengers.

The international nomenclature classes them in three groups : those with propelling machinery, those with sails and " other ". This distinction has been made in view of the great variety of types used.

Sub-item *(a)* includes mechanically propelled vessels, whatever the method of operation and position of the propeller-screw (under water or above water).

Hence vessels of the hydroglider type must be classified here.

Sub-item *(b)* includes sailing-ships and, besides these, vessels with mixed method of propulsion (vessels with auxiliary engines).

Lastly, sub-item *(c)* includes vessels propelled in any other manner (barques, gondolas, Rob Roy canoes *(périssoires)*, canoes, etc.).

Item 906.

As distinct from the river craft covered by the previous item, the craft to which item 906 relates are used exclusively for the *transport of goods*.

As in the case of seagoing vessels, there is a great variety of types of river craft.

It has not appeared necessary to indicate in the nomenclature details of the characteristics which differentiate one type from another. A distinction has, however, been made between vessels of metal construction and those of wood or other materials (concrete, paper, etc.).

This category includes, *e.g.*, the various kinds of barges *(péniches, chalands, gabares)*, lighters, chain-boats, tankers, etc.

Item 907.

This item includes vessels for special purposes, such as dredgers with buckets, dredgers with skip scuttles, earthworks carrying or removing vessels, lighters with valves, appliances for carrying blocks of stone, etc., excavating dredgers of all kinds, floating elevators, floating cranes, floating sheers (mast cranes), floating docks, floating fire-engines (fire-floats), floating pump-stations, laundry boats *(bateaux-lavoirs)*, ferry-boats, ferry-steamers.

Section XVIII.

SCIENTIFIC AND PRECISION INSTRUMENTS AND APPARATUS; WATCHMAKERS' AND CLOCKMAKERS' WARES; MUSICAL INSTRUMENTS.

Chapter 77.

OPTICAL, MEASURING AND PRECISION INSTRUMENTS AND APPARATUS, AND OTHER INSTRUMENTS AND APPARATUS NOT ELSEWHERE SPECIFIED OR INCLUDED.

Optical instruments and apparatus, scientific apparatus and instruments and testing and measuring apparatus made with particular care for scientific and industrial requirements, and geological, astronomical instruments, etc., form a separate class, owing to their careful finish and the specially selected material from which they are made. It was accordingly decided, in conformity with most modern tariffs, to include these products in a special chapter. However, Chapter 77 cannot consist solely of these high precision instruments, because ordinary instruments used for purposes similar to those of instruments of precision cannot be scattered about in other chapters. Consequently, ordinary instruments in common use for measuring, reckoning, recording, etc., have been included in Chapter 77.

Instruments and apparatus operated by electricity are included in this chapter.

Instruments with certain parts made of precious metal are also placed in this chapter.

Instruments mounted on office, drawing-room and similar articles, and, generally speaking, instruments so mounted as to constitute articles of which the instrument is only a subsidiary part are classified with the articles on which they are mounted.

Specially shaped cases made expressly for the instruments and apparatus with which they are imported are classified with the latter. They might, if thought advisable, be placed in a sub-item. When the case contains two or more instruments or apparatus classed under different items, the case should be classed with the most important instrument or apparatus.

* * *

The first group, which is strictly limited, consists of products of the optical industry, which are included in items 908 to 915. Since crude optical glass intended either for spectacles or other purposes is included in item 677, Chapter 60, the series of optical products in Chapter 77 begins with optical glasses *worked but unmounted* (item 908).

Item 908.

The spectacle glasses and other corrective glasses included in sub-item *(a)* are cut on one or both surfaces. Protective glasses are excluded from this item, as no optical work is needed for them.

Sub-item *(b)* consists of lenses and prisms for instruments—namely, optical lenses and prisms.

Sub-item *(c)* covers unmounted optical mirrors, for whatever purpose intended. It includes, in particular, mirrors for microscopes, telescopes, etc., mirrors for surgical and medical instruments, projection apparatus, etc.

Item 909.

Owing to the great importance of the trade in spectacle mountings, etc., they have been placed in a separate basic item, divided into sub-items according to the principal materials from which they are made. The finished mountings and their parts (bridges, temples, rims, handles for lorgnettes, etc.) belong to this category, but it does not include the screws and hinges, which are to be classified according to the component material.

No account is taken, in classifying metal bridges, temples and rims, of superimposed parts of artificial plastic material.

Item 910.

Item 910 includes spectacles, etc., and their mountings—namely, spectacles, eyeglasses and—under the term " similar articles "—lorgnettes, pince-nez, monocles, etc. This item is subdivided in the same way as item 909.

Item 911.

Item 911 consists of optical articles coming under items 908*(b)* and *(c)*, with their mountings.

Sub-item *(a)* covers objectives and eyepieces for microscopes, stereoscopes, photographic apparatus, etc., with the exception of objectives combined with eyepieces.

Sub-item *(b)* includes mounted optical mirrors. It should be noted, however, that mounted optical mirrors for surgical and medical purposes are to be classified in item 923.

Sub-item *(c)* applies in particular to mounted prisms, converging or diverging lenses of all kinds, photographic and projection lenses and their tubes, mounted magnifying and enlarging glasses of all kinds, and thread counters, etc.

Item 912.

This item includes spy-glasses of all kinds, hand or on stands, also telescopes and binoculars ; however, theodolites and other geodesic instruments with telescope, which come under item 922, are excluded.

Sub-item *(a)*—telescopes and similar astronomical glasses—also includes land telescopes on stands, which, generally speaking, are of similar manufacture to astronomical telescopes. Binoculars and spy-glasses not on stands are included in sub-item *(b)* when fitted with prisms and in sub-item *(c)* when without prisms (so-called Galileo binoculars or lenses).

It was thought that it could be left to the various countries to make further subdivisions according to the component material of the mounting or body of the binoculars. It should be noted that opera glasses, even with a body of mother-of-pearl, etc., are not excluded from this item.

Item 913.

This item covers photographic apparatus with or without finders and with or without objectives, and also parts thereof. All cinematographic and enlarging apparatus, which come under the following item, are, however, excluded. In order to separate apparatus generally used by amateurs from professional apparatus, a special sub-item has been made for apparatus not exceeding 13 cm. by 18 cm., this being the only practical means of giving effect to this idea.

To sub-item *(c)* belong, in particular, plate frames, shutters, triggers, the bodies of photographic apparatus, bellows, view-taking devices, and the front parts of cameras, etc.

Lenses and objectives not forming part of an apparatus or of the body of an apparatus are included in item 911.

Item 914.

Sub-item *(a)* covers all cinematographic apparatus—*i.e.*, view-taking and projection apparatus. It also covers the corresponding apparatus for sound films of any system, including synchronising tables and amplifiers, but not loud speakers, which are specially placed in item 868*(b)*.

Under sub-item *(b)* are grouped projection apparatus either with mirror or lenses and also photographic enlarging apparatus. In addition, this sub-item covers, by analogy, non-electric projection lamps fitted with lenses or precision mirrors.

Item 915.

The last item of the group relating to optical articles is a collective item, which includes even the mountings of the articles coming under this item.

Sub-item *(a)* being limited to microscopes, sub-item *(b)* includes all other optical apparatus not elsewhere specified or included, in particular, stereoscopes, polarisation apparatus, *cameræ obscuræ* and *lucidæ*, optimeters, precision kaleidoscopes, cryptometers (used to determine the area which paint in successive coats can cover), etc.

It should be noted that precision apparatus and instruments, etc., combined with auxiliary optical appliances for reading, focussing or the lighting of scales (for instance, reading-glasses, magnifying glasses, converging lenses, etc.) are classified under their respective items, although combined with these optical appliances. The apparatus and instruments excluded are chiefly precision balances with microscopes for reading, vernier goniometers, with glasses or microscopes for reading, sextants with reading appliances, horary and declination circles with reading-glasses, gradient indicators with reading-glasses, slide-rules with reading-glasses, lighting appliances with converging lenses for lighting scales, reticles, etc., micrometer-gauges with optical reading appliances, optical dividing apparatus ; screw micrometers with optical reading appliances for the teeth of gear ; screw-thread compasses with reading-glasses, instruments for testing dividers with microscopes for reading, etc.

Theodolites, levels and indexes with telescopes are included in item 922.
Special medical optical instruments are included in item 923.

Item 916.

The precision balances coming under item 916 include assay balances, gold scales, analysis balances, and, in general, balances with a sensitiveness of at least five centigrammes.
Balances with a sensitiveness below this weight are to be included in item 851, Chapter 72.
Items 917 to 921 include apparatus for mensuration or recording. Item 921 also includes drawing instruments.

Item 917.

This item covers instruments of all kinds for measuring the temperature (thermometers), atmospheric pressure (barometers), the humidity of the air (hygrometers), and the density of liquids (areometers or densimeters). These instruments may be combined with a recording apparatus.
Thermometers and barometers combined are classified with barometers.
Vacuometers are also included in sub-item *(b)*.
Areometers and all other instruments for weighing liquids, such as alcoholometers, galactometers, acetometers, acidimeters, etc., and instruments similar to areometers, such as viscosimeters, alkalimeters, etc., come under sub-item *(c)*. Instruments of this kind, when combined with a thermometer, are, notwithstanding, classified in sub-item *(c)*.

Item 918.

In view of their importance in trade, gas and water meters have been placed in a separate item with two sub-items.
The first sub-item comprises gas meters, including both the large meters used in works or factories to record the volume of gas produced or supplied and the meters used by consumers.
Sub-item *(b)* applies to water meters for checking the amount of water conveyed to distribution pipes, and also to meters in consumers' premises.
This item also includes distribution meters operating on the insertion of a coin. Apparatus (valves) to restrict the flow of the water, but not having a meter proper, are not included here but in item 856, Chapter 72.

Item 919.

This item includes, in particular, revolution counters for machines, spinning and weaving counters, speedometers (tachymeters, cinemometers) and kilometric meters, and also combinations of the foregoing—taximeters, pedometers, etc.

Item 920.

This item applies to manometers for measuring steam and gas pressure, steam-recording meters, analyser-recorders for analysing combustion gas and automatically registering its carbonic acid content, water-level indicators, water-pressure gauges, pyrometers, whether electrical or not, etc.

Item 921.

This item includes precision instruments and instruments in common use.
Sub-item *(a)* comprises compasses, ruling pens, protractors, etc., whether imported in cases—namely, as cases of mathematical instruments—or singly. Pantographs are also included.
Sub-item *(b)* is confined to *precision instruments*, such as metrological and graduation instruments, precision calipers, gauges, micrometer gauges, verniers, micrometers, nonius and other instruments for precision measurement.
Sub-item *(c)* covers *instruments in common use*, such as rulers, divided or undivided, T-squares, squares, and curvilineads, " double decimeters " (measuring rules) and meter (yard) measures, whether folding or not, tape-measures, surveyors' chains.
Sub-item *(d)* covers chiefly planimeters, curvometers, spirit-levels, plumb levels and plumb lines.
Appliances in the form of discs, cylinders, watches, etc., similar to slide-rules, are assimilated to the latter.

Item 922.

The instruments covered by this item include chiefly surveyors' compasses, squares and plane tables ; mariners' and other compasses ; diopter rules ; surveyors' levelling staffs ; water levels, theodolites, tacheometers, octants and sextants, logs, mariners' sounding leads,

perspectometers, cyclographs, seismographs, magnetometers, variometers for recording the earth's magnetism, anemometers, pluviometers, slide and turn indicators, clinometers, accelerometers, telemeters, altimeters, navigraphs, flight controllers, astrolabes, azimuth circles, transit instruments and circles, helioscopes, goniometers, limnimeters, pantometers, etc.

Item 923.

Medical, surgical, dentists' and veterinary surgeons' instruments and apparatus form a sufficiently important and well-defined group to justify their classification under a separate item. This item refers exclusively to instruments and apparatus normally used only by a medical practitioner. It includes chiefly hypodermic injection syringes, medical inhalation apparatus, surgical probes, œsophageal probes, spirometers, stethoscopes, pessaries, sphygmomanometers, ophthalmoscopes, laryngoscopes, gastroscopes, otoscopes, cystoscopes, rhinoscopes, chloroforming apparatus; various surgical instruments, such as needles, lancets, scalpels, scissors, saws, trocars, etc.; dental instruments, such as articulators, forceps, mould-holders, fraise-holders, milling machines, fraises and drills, dental mirrors, etc.

Item 924.

This item should be understood to cover orthopædic apparatus for physical deformities, apparatus, instruments and appliances for dislocations, fractures and wounds; mechanotherapy apparatus with passive movement; artificial limbs, sets of artificial teeth, trusses, hernia belts, etc. It should be noted that artificial eyes are classified under item 681*(b)* and that artificial teeth are included under item 661.

Item 925.

Special treatment is accorded in a large number of tariffs to apparatus and models for demonstration and instruction; they also constitute a special industry. A separate item has accordingly been devoted to them. This includes all kinds of apparatus, even electrical, for use only for instruction in schools, universities, etc.

Among these models, mention should be made in particular of miniature machines, machines and apparatus cut into sections to show how they are made, human and animal anatomical models, even in the form of jointed boards, and globes. The question has been examined whether it would not be preferable to extend this item—as is done in several tariffs—to scientific apparatus. But since, in many cases, the instruments employed in industrial laboratories cannot be distinguished from scientific laboratory instruments, it was thought better to leave these instruments in the respective items to which they belong.

Item 925 also applies to microscopical preparations.

Item 926.

Sub-item *(a)* covers apparatus for testing materials, a class of apparatus which, in view of its importance, merits a special place. It should be noted that only testing apparatus weighing less than 20 kilogrammes is included, while testing machines and apparatus weighing 20 kilogrammes or more are to be classified under item 855 (see explanatory notes to this item).

Sub-item *(b)* comprises graphic recording apparatus. As such are considered instruments which automatically and graphically record, by clockwork, the progress of a given phenomenon. Recorders for attachment to machines, apparatus and instruments are classified under this item, even when presented with the machines and apparatus in question. Recorders combined with machines, apparatus and instruments are classified with these machines, etc.

Sub-item *(c)* covers all physical, chemical and precision instruments and apparatus not elsewhere specified or included. It comprises, in particular, hydrostatic balances, colorimeters, saccharimeters, polarimeters, spectroscopes, chronographs, photometers, graphometers, microtomes, refractometers of all kinds, sonometers, phonometers, etc.

Item 927.

Item 927 is the collective item for detached parts and pieces of instruments and apparatus included in Chapter 77, not elsewhere specified or included. It should be noted that several of these parts and pieces are mentioned under the various items of the chapter—for instance: mountings for spectacles come under item 909; mountings for field glasses, etc., under item 912; parts of photographic apparatus, together with the actual apparatus, under item 913; parts of cinematographic apparatus, etc., together with the actual apparatus, under item 914; mountings for other optical apparatus or instruments, etc., together with the actual apparatus, under item 915; detached parts or pieces of meters, etc., together with the actual meters, under items 918 and 919; parts of orthopædic apparatus, together with the actual apparatus, under item 924.

Item 927 is thus of minor importance, especially as it was decided to classify incomplete instruments under the same item as complete instruments. It should also be noted that stands and other supports for photographic apparatus and other instruments are classified in a separate item, according to kind, when they do not form an integral part of the apparatus or instruments in question and are not essential for their working. On the other hand, these stands and supports are considered as detached parts or pieces of the apparatus to which they belong.

Save the exceptions provided for, detached parts and pieces of instruments and apparatus coming under this chapter are classified therein, even when submitted in the rough. Detached pieces made of base metal submitted in the rough within the meaning of General Note 3 A relating to Section XV are, however, excluded, together with pieces in stone or ceramic material, when not combined with parts of other material.

Chapter 78.

WATCHMAKERS' AND CLOCKMAKERS' WARES.

In certain Customs tariffs a distinction is made between " clockmakers' wares " and " watchmakers' wares ", this distinction being usually based on the diameter or depth (thickness) of the movement. This is a somewhat artificial subdivision, hardly suitable for an international nomenclature.

Technically a distinction should be drawn between watches proper and watchmakers' and clockmakers' wares provided with a watch movement, on the one hand, and clocks, as well as wares fitted with a clock movement, including alarm clocks, on the other hand. This latter differentiation has been adopted in the international Customs nomenclature. As a rule, it is not difficult to classify watchmakers' and clockmakers' wares in one or other of these groups. Nevertheless, it is necessary to define a watch movement in order to provide for the somewhat rare cases in which it would be difficult to draw a distinction. This definition cannot be based only upon the dimensions of the movement, as there are watch movements proper of fairly large dimensions, while some clock and alarm movements do not exceed the dimensions of an ordinary watch movement.

On the proposal of experts, watch movements have been defined as follows :

> " Simple or complicated movements regulated by a balance-wheel provided with a hairspring, and not exceeding 12 mm. in depth measured with the plate and bridge pieces. "

Clockmakers' wares with electric winding or mechanism are also included in this chapter. Certain electric clocks, and particularly so-called " secondary " clocks, are rather products of the electro-technical industry, but it is preferable to include in the present chapter all watches and clocks without distinction. Hour-glasses and sun-dials are, of course, excluded from the present chapter. In each of the two groups, finished articles have been placed first and are followed by the detached parts thereof.

Item 928.

This item includes all watches proper—*i.e.*, pocket-watches, wrist-watches, reticule-watches, pendant-watches, jewel-watches, etc. Watches ornamented with precious stones are also included. If considered necessary, they could be allotted a sub-item.

No distinction has been made between watches without complicated mechanism and watches with complicated mechanism (chronographs, repeaters, striking watches, date-showing watches, etc.), a large number of tariffs not making this distinction and the quantity of complicated watches compared with simple watches being negligible. Moreover, watches with a simple movement but very carefully made have a value equal to and sometimes greater than that of certain complicated watches.

Nor has any distinction been made between pocket-watches proper and other watches (wrist-watches, reticule-watches, etc.), this being a question of fashion rather than of manufacture. If, for statistical or other reasons, certain countries wish to introduce this subdivision, they can do so in tertiary items.

Certain tariffs, again, make a distinction between watches according to their system of escapement : lever escapement, cylinder escapement or Roskopf escapement. This subdivision is not of great importance ; the cylinder escapement has practically disappeared, and the Roskopf escapement is only a variety of the lever escapement for cheap watches.

This item comprises subdivisions according to the component metal of the case which, generally speaking, is in bearing with the quality of the movement.

In sub-item *(a)* have been placed watches with gold or platinum cases. It seems necessary to group these two metals together, since cases are also made of white gold which have the same appearance as cases made of platinum, and of alloys of gold with metals like platinum

(palladium, etc.). The difference in value between the two kinds of cases is, moreover, small and would not justify a distinction. The different countries will be able to apply their domestic legislation in regard to the fineness of the gold or platinum.

Watches of low-standard gold are also included in this item. As a tertiary item can always be introduced for these articles, there will be no difficulty in applying domestic legislation.

Sub-item *(b)* comprises watches with silver cases, including watches with silver-gilt or gold-plated cases.

Finally, sub-item *(c)* covers watches with cases of base metal, even when the metal is gilded or silvered, or plated with gold or silver. The gilding or silvering of base metal cases would not justify a different classification, while gold and silver plating, which is almost exclusively done by electro-plating, is only a stronger form of gilding or silvering.

Cases of " other material " are, for example, those of mother-of-pearl, agate, tortoise-shell, etc.

Item 929.

This item includes all watchmakers' and clockmakers' wares, other than watches proper, provided with a watch movement. Three subdivisions have been introduced in order to separate certain special articles.

Sub-item *(a)* includes marine chronometers, characterised by their very careful construction and scientifically controlled time-keeping, and which require to be dealt with separately. Chronometers of this kind sometimes have a movement of greater dimensions than an ordinary pocket-watch, but which, nevertheless, is a real watch movement.

Sub-item *(b)* includes special clocks for motor-cars, boats and aeroplanes. These articles have an ordinary watch movement and are distinguishable only by the thickness of the plates and of certain cogs. They are sometimes operated by means of a small electric motor.

Lastly, sub-item *(c)* consists of small clocks and of all other articles with watch movements. In view of the type of movement, such articles must be placed here and not in the clock group. This sub-item includes, first, small desk and travelling clocks, watches on stands, and also special watches (recording watches) for timing carrier-pigeons, etc.

The item also includes watches combined with cigarette-lighters, and all watches fitted on ordinary or other objects, such as portfolios, handbags, sticks, lamps, etc. In such cases, the ordinary objects to which the watches are affixed are classified separately in the chapter to which they belong.

Item 930.

Watch-cases are classified in this item in three sub-items according to the metal or substance of which they are made, in the same way as watches in item 928. The idea of drawing a distinction between rough-cast and finished cases was abandoned, because this distinction is unnecessary in many tariffs.

The item naturally also includes parts of watch-cases—*i.e.*, backs, *carrures*, rims and the lids of hunters.

The classification into sub-items should follow the same rules as for the classification of watches in the subdivisions of Item 928. Thus, for example, silver-gilt or gold-plated cases should be classified with silver cases in sub-item *(b)*.

Item 931.

In this item are classified the movements of the watches found in items 928 and 929, including those in the rough.

" Movement " is understood to mean the watch alone—*i.e.*, without the case, but finished and in working order—namely, with escapement and regulating balance-wheel. The movement may be rough, nickelled, gilded, with or without jewels and with or without dial and hands.

By the expression " in the rough " is understood the unfinished, incomplete watch movement, including the plate on which are mounted the motor and transmission parts (bridge-pieces, barrel, cog-wheels, winding-up and hand-turning mechanism), but without jewels, escapement, dial or hands.

Item 932.

This item comprises the detached parts of watches. No distinction has been made between finished and rough parts, since many tariffs do not make this distinction, which indeed is not always very easy. However, parts simply cut out for plates and bridge-pieces are classified as wares of the component metal.

This item includes, first, plates—*i.e.*, the plate supporting the movement, perforated and hollowed, ready to take the different parts of the watch ; and then bridge-pieces, barrels, cogs, cocks, bars, hairsprings, winder-stems, regulators, dials, hands. Watch-cases alone are excluded, having been placed in a special item (item 930).

Watchs-prings, which also come under this item, and springs for other purposes, for apparatus, etc., can only be differentiated on the basis of the width of the strip of steel forming the spring, as is already done in certain countries. It is proposed to fix three millimetres as the limit of width which is sufficient for a watch-spring.

Jewels for watchmakers' wares, worked—*i.e.*, ready to be fixed in place, this meaning hollowed, curved or flat jewels for pivots. Jewels for counter-pivots, lever bearings, etc., are not included in this item, but are classified with precious stones in Chapter 61.

Item 933.

Clocks for buildings, which are of very large size and often of considerable weight, are included in this special item. This item also covers public clocks, generally—*i.e.*, clocks of the usual size of those for buildings, but not placed on buildings.

These clocks are subdivided into two main groups : electric clocks and non-electric clocks. Electric clocks are of several kinds :

(1) " *Independent* " electric clocks, the movement of which is wound up by some electrical appliance and governed by a mechanical regulator (pendulum, escapement, etc.) ;

(2) " *Independently synchronised* " electric clocks, the movement of which consists of a small synchronised electric motor directly driving the hands by means of a reducing gearing set ;

(3) Electric " *controlling* " *clocks*, the movement of which is wound up by some electrical appliance and is governed by a mechanical regulator ; this movement drives either a contact system or an electro-magnetic appliance emitting current at regular intervals for the purpose of driving one or more secondary electric clocks ;

(4) " *Secondary* " electric clocks, the movement of which is driven by intermittent current from a controlling clock ; this movement generally consists of an electro-magnet, the armature of which actuates a set of gears moving the hands.

All these electric clocks, whatever their mechanism, are included in this item.

Clocks with ordinary movements but wound by electricity come under sub-item *(b)*.

Item 934.

This item includes clocks other than clocks for buildings and public clocks—*i.e.*, indoor clocks, wall clocks, mantelpiece clocks and also alarm clocks.

Electric clocks of this kind are also included in this item. There are several kinds of electric clocks. Some are provided with a battery working an electro-magnet, or with a small motor which winds up the spring of the clock. There are other systems in which the battery or motor sends the electric current through a solenoid that works the clock direct. In this latter type, the movement consists only of the transmission, escapement and striking parts ; there is no barrel.

The first sub-item *(a)* comprises alarm clocks, which are articles of a well-defined and generally cheap description.

The second sub-item *(b)* refers to control clocks—*i.e.*, clocks for recording the hour of arrival and departure of factory operatives. It also includes watchmen's checking clocks, and, generally speaking, all clocks for indicating or recording the time at which an action or operation was performed.

The third sub-item includes, finally, other standing or hanging clocks—*i.e.*, the large group of indoor clocks.

Item 935.

This item comprises the movements of the watchmakers' and clockmakers' wares classified under items 933 and 934 and their detached parts, so far as they are recognisable as such, which is usually the case. This item also includes so-called clock movements for apparatus, mechanical toys, etc.

These movements are, in fact, commonly described as clockwork movements, although their construction is, as a rule, more simple than the movements of watches, clocks, etc. The question was considered whether these movements, which are not actually used for clocks and watches, should not rather be classed with parts and detached pieces of apparatus in Chapter 77. It was thought preferable, however, to group them here with watch and clock movements proper.

Detached pieces entering into the manufacture of clock movements, etc., are also classified in this item, with the exception, however, of springs, which are specially included in item 732, Chapter 63. Large springs may be used, not only for watches and clocks, but for many different purposes. They cannot be distinguished, as can watch-springs, by their size or other specific characteristics. It is preferable, therefore, to classify all springs other than watch-springs in the category of metal wares.

Clock frames and cases are also excluded from this item. It was proposed that a special item should also be introduced in this chapter for clock frames and cases, corresponding to the item for watch-cases. But while the latter are well-defined articles for which a specialised industry exists, clock frames and cases take the most varied forms, even, in some cases, the form of usual objects, and are made of the most diverse materials. It was therefore thought preferable to classify these articles in the same chapter as articles made of the same material. Porcelain frames for miniature clocks thus come in the chapter on ceramic products, wooden cases into the chapter for wooden wares, and so on. Nevertheless, frames and cases in which are mounted parts of clocks (plates, striking mechanism, etc.) should be classified with clocks.

Item 935 also covers, in addition to detached parts of movements, other clock parts, such as dials, hands, etc.

Small chains, and weights for articles of this kind, are not included here, but with metal wares.

Chapter 79.

MUSICAL INSTRUMENTS.

Chapter 79 includes all musical instruments, of which there is a great variety and which are made of the most diverse materials. Musical instruments of precious metals or in combination with precious metals also come under this chapter. On the other hand, instruments which are in the nature of children's toys, together with cardboard imitations of instruments, must be classified with toys in Chapter 84.

The question of the classification of detached parts was solved by the creation of a group of special items at the end of the chapter for detached parts of all kinds, with the exception of parts of organs, gramophones and talking machines, which are expressly classified with the instruments for which they are intended. In some tariffs all parts of musical instruments are classified with the corresponding instruments. But as this latter system would make it necessary to have a subdivision for detached parts in each item, and as these parts are so numerous and diverse that it would, in many cases, be difficult to assign them to a particular instrument, the preference was eventually given to the method of classification as figuring in the draft. The reason for the exception made for items 939 and 943 is that organs are always imported in an unfitted condition, and gramophones are instruments of a very special kind.

Instruments incomplete or not fully finished must be classified with the same instruments when finished, as stipulated in a note at the end of the chapter.

Specially shaped cases expressly made for the instruments with which they are imported are classed with the latter.

Item 936.

This item includes all pianos, including automatic keyboard pianos capable of being played by hand (player pianos). To take into account the technique of construction and the value, three subdivisions have been introduced, the first for upright pianos, the second for grand pianos and the third for automatic pianos, including electrically played pianos.

Upright pianos are those with vertical strings ; in the same category are placed oblique and semi-oblique pianos with strings which, instead of being vertical, are mounted obliquely.

The second subdivision includes " concert grand " pianos and " semi-grand " (" baby grand ") pianos.

Automatic or player pianos are instruments provided with a pneumatic or other apparatus playing by means of perforated sheets of cardboard, etc. Automatic pianos without keyboards —*i.e.*, which can only be played mechanically—are not included here, but in item 940.

A new type of instrument has recently appeared, the radio-electric piano, by means of which music is reproduced by electro-magnetic vibrations. Another similar type of instrument is the photo-electric piano, which produces mechanical sounds whose tonality varies according to the frequency of photo-electric cell illuminations.

Instruments of this kind also belong to item 936.

Item 937.

This item includes harmoniums and similar keyboard instruments in which musical sounds are produced by metal tongues (free reeds) vibrating under the influence of bellows.

Although harmoniums and similar instruments are not of great importance in international trade, it has been necessary to give them a separate main item, as they can hardly be classified with other instruments.

Keyboard and percussion instruments, in which the sounds are produced by the vibration of metal reeds (celestas and the like) are also placed in this item.

Item 938.

This item includes detached parts and pieces of pianos and harmoniums.

Sub-item *(a)* refers to assembled keyboards.

In sub-item *(b)* are placed piano mechanisms—*i.e.*, the hammer mechanisms, with the lever by which they are worked, including dampers.

Finally, sub-item *(c)* comprises all the other detached pieces of pianos and harmoniums. In it are placed, for example, cases of pianos and harmoniums, whether or not in the rough, sounding-boards, frames of cast iron or wood, pedals, pegs to fix the strings, keyboard keys, hammers, etc.

On the other hand, pieces capable of another use, such as hinges, handles, candlesticks, locks, etc., are not included here, but with articles of the material of which they are made. This also applies to ivory, bone, celluloid and other plates for covering the keys.

Item 939.

This item includes church and similar organs, even electrically played pianos and their detached pieces. On the other hand, mechanical instruments like barrel organs, etc., are not included here, but in item 940.

The essential parts of an organ, which are generally assembled on the spot, are the console with the keyboards, the pedal-board and the stops, the mechanism connecting the keyboards or stops with the wind-chests, then the pipes of wood or metal, the wind-chests and the bellows. The valves, clappers, special elbow pipes and relays which form part of the transmission mechanism are also included in this item.

Organ cases are also included in item 939.

Radio-electric organs are now made on the same principles as the radio-electric piano (see above). In these organs, vibrating circuits, which produce musical frequency vibrations, are controlled by means of keys. Item 939 also covers these organs.

Item 940.

In this item are placed orchestrions, automatic organs and other similar instruments, and musical boxes. It relates to instruments without keyboards which produce music mechanically by means of perforated cardboard, discs or bands, or by means of cylinders, etc.

They may be worked either by a motor mechanism or by a handle.

Musical boxes, which are also included, are instruments fitted with a cylinder having bearing pegs operating metal plates.

" Singing-birds ", which are small musical boxes imitating the song of birds, and aristons, which are crank instruments producing music by means of perforated discs, are also placed in this item.

Item 941.

This item relates to apparatus for playing a musical instrument automatically. It applies to accessory apparatus for keyboard instruments which are used to work the latter by means of perforated paper or cardboard.

They are worked by means of handles, pedals, motors or bellows, and may be placed either inside or outside the piano or harmonium. The best known are pianolas, phonolas, pianistas, etc. Having regard to the very special character of these articles, they must be placed in a main item covering all articles of this kind.

Item 942.

In view of their importance, it was thought necessary to set aside a main item for accordions and mouth-organs.

Accordions are instruments formed of small metal reeds which are made to vibrate by means of bellows.

The item also includes hexangular or square-shaped accordions, also accordions ornamented with fine materials, ivory, mother-of-pearl, etc., or precious metals.

Mouth-organs, which are also placed in this item, are based on the same principle as accordions.

Two sub-items have been set aside, one for accordions, the other for mouth-organs.

Item 943.

This item covers gramophones and similar talking machines, and their detached parts. These are apparatus reproducing music or speech by means of an engraved disc or cylinder of

special composition. The detached parts—*i.e.*, motors, turntables, arms, diaphragms and gramophone needles—are also classified under this item.

The latter also includes gramophones with amplifiers and loud-speakers, as well as dictaphones used in offices for taking down letters from dictation, which are constructed on the same principle as the phonograph.

On the other hand, gramophones combined with wireless apparatus are excluded from this item and classified under item 868, Chapter 73.

Gramophone records are classified separately in item 944.

Item 944.

In this item have been placed, first, gramophone records, and then all cylinders, plates, bands, etc., for the use of mechanical musical instruments.

A first sub-item *(a)* has been created for gramophone records, which are of special importance in international trade. This subdivision comprises only recorded discs, including matrices (metal or galvanic moulds) for the reproduction of gramophone records. Blank records, as well as blank rolls for dictaphones, are not included here, but should be treated as articles of the material of which they are made.

Sub-item *(b)* includes plates, cylinders, bands and rolls of all materials, metal, paper, cardboard, etc., used to play musical instruments mechanically.

Item 945.

This item includes wind instruments, among others flutes, oboes, clarinets, horns, bagpipes, ophicleides, saxophones, trumpets, *cornets-à-piston*, clarions and other similar instruments of metal, etc. Subdivisions have been introduced to differentiate these instruments according to the material of which they are made. Those of precious metal or with parts of precious metal are also included.

Item 946.

This item includes string instruments, which are subdivided into two groups : sub-item *(a)* includes instruments played with a bow, such as violins, violoncellos, double-basses, and the like ; sub-item *(b)* covers other string instruments, such as harps, guitars, mandolines, zithers, banjos, etc.

Item 947.

In this item are placed musical instruments of direct percussion, such as drums, bass drums, cymbals, kettle-drums, xylophones, tubular bells, tambourines, triangles, castanets, tom-toms, Chinese gongs, etc.

Item 948.

This item covers all musical instruments not included in any of the previous items, and, among others, Chinese bells, chimes, etc.

In this item have also been placed mouth instruments for calls and signals, which, though not strictly speaking musical instruments, are based on the same principle. In this item should be included whistles, coach-horns, bugles, " decoy calls ", etc., of horn or metal, etc. On the other hand, instruments for calls and signals worked mechanically or by electricity are excluded from the present chapter.

In item 948 are also placed tuning instruments (sounded with the mouth and other) and metronomes. Although, strictly speaking, they are not musical instruments, these special instruments are classed with musical instruments in nearly all Customs tariffs, in view of the use to which they are put.

Item 949.

A separate item has been set aside for musical instrument strings, which it is difficult to classify with other detached pieces.

Musical instrument strings are of different kinds, some being of steel or silver wire, while others are of gut or silk, or metal wire wound on gut or silk—*i.e.*, formed of a core of gut or silk round which is wound a base metal wire, silvered or not, or even a silver wire.

Strings for musical instruments are frequently imported on reels giving instructions for use. As regards strings simply made of polished steel wire, classification in this item can only be based on the make-up, provided the strings are not already cut into lengths.

Sub-item *(a)* includes metal strings or strings combined with metal, and therefore also covers strings wound on silk or gut.

Sub-item *(b)* includes all other strings of gut, etc.

Item 950.

This last item of the chapter includes all detached parts of musical instruments not contained in items 938, 939 and 944 or in item 949.

It therefore covers the most varied parts, either in the rough or in a finished state, and made of the most different materials. It also comprises bows for stringed instruments, sticks for drums and bass drums and similar accessories, in so far as the requisite number of these are not imported with the instrument for which they are intended.

In this item, therefore, should also be placed, *inter alia*, reeds of clarinets, saxophones, etc., appliances for guitars and mandolines (pegs and toothed screws), mandoline or guitar cases, pistons, cylinders, mouthpieces, music stands, bells (flares) of metal instruments, pieces of turned wood, rings and keys for wooden instruments. On the other hand, heads for drums and bass drums should be classed in the chapter for leather and leather articles.

Section XIX.

ARMS AND AMMUNITION.

Chapter 80.

ARMS.

This chapter does not include :

(1) Children's guns, pistols, swords *(épées)*, sabres, etc., which can be used only as toys ;

(2) Antique side-arms intended for collections, for interior decoration, and for suits of armour (panoplies) ; rifles and other portable firearms of more or less antique manufacture, which cannot be used as arms ; and, in general, all old arms which have ceased to be serviceable for the purpose for which they were manufactured, and are of value only for the curio trade ;

(3) Imitation arms for stage purposes.

Item 951.

This item includes :

(a) Sabres, yataghans, swords *(épées)*, foils, lances, bayonets, sabre-bayonets, sword-bayonets, cuirasses, etc. ;

(b) Detached parts of side-arms, even in the rough, such as blades of sabres, swords *(épées)*, bayonets, foils, etc., hilts, guards, basket-hilts for sabres, swords *(épées)* and foils, etc. ;

(c) Scabbards for side-arms, including leather scabbards.

Arms of this kind with gilt or silvered parts, even when these are combined with precious metals or fine materials (mother-of-pearl, tortoise-shell, etc.), are not excluded from item 951.

Item 952.

The term " arms of war " includes, as a general rule, all arms exclusively designed for war on land, at sea, or in the air, or utilised for such war, both those included or to be included in the armament of the national armies, and those having formed part of that armament. An exception is made, however, for side-arms, which come under the previous item, and for certain firearms, which belong to item 953.

(a) *Rifles, muskets and carbines.*—Among these arms may be mentioned rifles, carbines or muskets of the Mauser, Comblain, Albini, Beaumont, Teersen, Chassepot, Gras, Kropatschek, Lebel, Daudeteau, Lee, Enfield, Springfield, Wetterli, Mannlicher, Nagant, Mosin, Remington, Martini-Henry and other types.

(b) *Machine-guns of all kinds.*—This heading includes machine-guns proper, whether portable or not, machine-rifles and machine-pistols of all calibres.

(c) *Guns, howitzers and mortars.*—This heading applies to long and short guns, howitzers and mortars of all types and all calibres, as well as to revolving cannon.

(d) *Other arms of war, etc.*—This sub-item includes in particular tanks and armoured cars, torpedo-tubes, flame-throwers and all apparatus and implements for the discharge of bombs, torpedoes, grenades and other kinds of projectiles.

(e) *Detached parts and pieces, even in the rough.*—This category contains all detached parts and pieces and spare parts required for the construction or employed for the mounting and repair of the arms of war enumerated under *(a)* to *(d)*.

By pieces *in the rough* are meant rough-forged, cast, stamped or flanged pieces.

Pieces *in the rough* not made of metal are also included in this category, if their purpose is easily recognisable. It includes, *inter alia*, wooden rifle-butts in the rough.

Gun-carriages and parts of gun-carriages are also included under *(e)*.

Item 953.

This item is subdivided as follows :

(a) *Sporting and target-shooting rifles and carbines.*—This category applies to rifles and carbines designed for non-military purposes or intended for, or adapted to, non-military purposes.

It includes *sporting guns and carbines*, whether smooth-bore or rifled, having one or more barrels and particularly designed for shooting game for the table, or for hunting elephants, lions and other big game.

Carbines for miniature rifle-ranges and shooting-galleries also belong to this group. The carbines in question are those used for target-shooting on rifle-ranges, for indoor shooting-practice, for itinerant rifle-ranges at fairs or for shooting small birds in gardens with small shot. The commonest type of such arms is the Flobert carbine.

There are two subdivisions for arms under sub-item *(a)* :

(1) *Muzzle-loading.*—This refers to portable rifles and carbines, generally of an old type, loaded at the muzzle, such as flint-lock rifles, ramrod or percussion rifles, carbines and duck-rifles, having the same system of loading.

(2) *Breech-loading.*—This group is further subdivided into three categories :

A. *With hammer.*—Rifles and carbines with hammer—that is, rifles with visible percussion-hammer—include arms with *pin firing* and those with *central firing*.

B. *Hammerless.*—Arms are considered hammerless if they have no visible hammer, the latter being contained inside the firearm.

C. *Repeating, automatic, or semi-automatic.*—*Repeating* arms are provided with a charger or magazine holding a number of cartridges and thus enabling the shooter to keep up a rapid fire, as he is not obliged at each shot to insert by hand a new cartridge in the chamber.

In *automatic* rifles and carbines, the recoil is used to carry out a whole series of movements which ordinarily have to be made by the shooter : opening the mechanism, ejecting the empty cartridge, inserting a new cartridge in the chamber and closing the mechanism. Type : Winchester, Browning.

With *semi-automatic* arms, the shooter places a cartridge in the chamber and closes the breech. He fires, and the force of the recoil ejects the cartridge-case, leaving the breech open to admit a new cartridge. Type : Bayard carbine.

(b) *Revolvers.*—Revolvers are single-barrelled ; between the barrel and the butt they have a revolving magazine called the cylinder, containing a number of cartridges.

(c) *Pistols.*—These include single- or double-barrelled pistols for practice, shooting-matches, etc.

As with the rifles and carbines under *(a)*, a distinction is made between muzzle-loading and breech-loading pistols.

Among the latter, a special subdivision has been made for *automatic* or *repeating* pistols of the Browning and similar types.

(d) *Firearms not elsewhere specified or included.*—The following firearms are comprised in this sub-item : cannons and mortars for public celebrations and festivities, warning guns for parks, etc., starting-pistols, cloud-cannon, rocket-throwers, duck cannons for shooting waterfowl (with a stand or support to be fixed on to the boat), stick-guns, humane killers, etc.

(e) *Detached parts and pieces, even in the rough.*—This category comprises various detached parts and pieces, metal or otherwise, even in the rough, employed in the manufacture of the firearms mentioned under *(a)* to *(d)* of item 953, including such parts and pieces as barrels, breeches, butts, breech-closing gear, locks, trigger guards, tumblers, levers, hammers, cocking pieces, triggers, springs, extractors, safety-catches, guards, percussion hammers, etc.

It may be noted that boxes, cases, holsters, scabbards, sheaths, etc., containing firearms do not come under the chapter " Arms ", but are classified as manufactured articles, according to the material of which they are made.

Nor does this chapter comprise rifle-slings or any accessories for the upkeep and cleaning of arms, such as brushes, scrapers, oilers, wad hooks, etc.

Item 954.

This item comprises in particular rifles, carbines, pistols and other arms (with the exception of arms of war) which employ springs, compressed air, liquefied gas, etc., for propulsive power, including air-guns and air-pistols.

Chapter 81.

AMMUNITION.

Item 955.

Projectiles and ammunition for arms of war are divided into three sub-items.

Sub-item *(a)* has two subdivisions :

(1) *Cartridges for rifles, muskets, carbines and machine-guns ;*
(2) *Other.*

The latter class comprises various loaded projectiles and ammunition for arms of war, such as explosive bullets, bombs, gas-bombs, case-shot, hand-grenades, filled shells and loaded parts of shells, torpedoes, land mines, fixed and floating submarine mines, submarine grenades, etc.

Sub-item *(b)* comprises the same articles as *(a)*, but unloaded.

Sub-item *(c)* covers detached parts and pieces of projectiles and ammunition for arms of war, such as cartridge-cases, shell-cylinders, gun-cartridge cylinders, etc. ; round-shot bullets ; heads, fuses, shell-loading tubes, cases or bodies of shells, etc. Pieces in the *rough* are not included in this sub-item.

Item 956.

Under " other projectiles and ammunition", the following categories are given :

(a) *Loaded cartridges.*—This term comprises articles intended for arms of item 953 or 954. The following are deemed to be loaded cartridges under sub-item *(a)* : cartridges simply charged with powder, without projectile, primed cartridges with projectile but without powder, and cartridges charged with gas.

(b) *Bullets, buckshot and leadshot.*—This sub-item covers bullets, buckshot and leadshot intended for the manufacture of the cartridges mentioned under sub-item *(b)* above, for the priming of certain arms mentioned under items 953 and 954, or for any other purpose.

(c) *Empty cartridge-cases, whether primed or not.*—This sub-item comprises empty cartridge-cases whether primed or not, wholly or partly made of metal and intended for the manufacture of the cartridges mentioned in sub-item *(a)*.

Sub-item *(c)* further comprises parts or pieces of the same cartridge-cases, with the exception of pieces in the rough.

Section XX.

MISCELLANEOUS GOODS AND PRODUCTS NOT ELSEWHERE INCLUDED.

Preliminary Observations.

In this section are brought together products or articles which, from their nature, have not found a place in the previous chapters of the Customs tariff nomenclature, or which it is desirable to group together, owing to the great variety of substances used for their manufacture. This grouping of articles made of different substances was not generally approved. Though it is undoubtedly appropriate for certain articles like buttons, it was, on the other hand, by some, not thought desirable to group together in one single chapter objects like articles of personal ornament or for personal use (bracelets, brooches, necklaces, cases, sweetmeat boxes, etc.) made of base metals and various other materials, all of which objects the draft framework placed in the present section under Chapter 85. This classification was, however, abandoned, the idea being that articles of personal ornament or use, also small articles and accessories of base metals and diverse materials, for the setting off or used in the manufacture of clothing, footwear, necklaces, albums, memorandum books, purses, etc., will come under items 818 and 819 (Chapter 71) if made of base metals, under item 680 (Chapter 60) if of vitrifications, under item 404 (Chapter 40) if of wood, and in Chapter 82 of the present section if they are wares of carved or moulded material included in that chapter. Buttons, however, will remain in Chapter 85.

Chapter 82.

WARES, NOT ELSEWHERE SPECIFIED OR INCLUDED, OF CARVING OR MOULDING MATERIAL, NATURAL OR ARTIFICIAL.

The raw materials used for the manufacture of wares included in this chapter are classified under raw products of animal origin (items 33 to 35, Chapter 5), raw material of vegetable origin (item 96, Chapter 14), minerals (item 194, Chapter 25), and lastly in the chapter on chemicals (items 277 to 279, Chapter 28). These materials in sheets, plates or pieces, simply cut out or split, are classified with the raw product (even when ground, in the case of artificial resins), whereas pieces which have undergone an additional working—*i.e.*, polishing, drilling, turning, etc.—are included in Chapter 82, even though they are not finished articles. This is also the case with pieces turned out in a specific shape, and with blanks—*i.e.*, simply moulded pieces.

Objects overlaid with mother-of-pearl, ivory or other materials included in this chapter are classified with objects made wholly of mother-of-pearl, ivory, etc. But furniture and other articles mentioned hereafter, inlaid with ivory, mother-of-pearl, bone, etc., are classified with non-inlaid objects of the same nature, unless they are completely covered with the materials mentioned in the present chapter, in which case they also would be classified here.

Objects of this nature combined with precious metals fall within the chapter on precious metals (Chapter 61) unless they are merely small accessories which do not justify a different classification.

Objects made of more than one of the materials included in this chapter are classified as if they were made entirely of the material predominating in weight in their composition.

Thus, in the different groups of Chapter 82, there will be classified small articles of personal ornament or use, made of carving or moulding materials or artificial plastic materials, such as

bracelets, brooches, necklaces, cufflinks, sweetmeat boxes, etc., as well as set-offs for clothing and for other made-up articles manufactured from the same materials.

Sub-items have been provided according to the stage of finishing.

The last sub-item, which covers "Wares", includes not only finished goods, but also all articles finished beyond the stage provided for in the preceding sub-item or sub-items.

* * *

Item 957.

Coral is a calcareous formation produced by numerous colonies of polyps. It may be red, pink or white.

This item is subdivided into :

(a) Not set ;
(b) Set.

The first sub-item includes all articles of coral finished or not but not combined with other materials (*e.g.*, handles of paper-knives, etc.), whilst those combined with other materials fall under sub-item *(b)*.

Coral from which merely the crust has been removed is treated as raw coral (item 35).

Item 958.

Tortoiseshell is procured from the shells of tortoises and particularly from the sea-tortoise called " caretta." As regards the subdivision into two sub-items, see preliminary remarks above.

Item 959.

Mother-of-pearl is the inside lustrous, iridescent part of several shells, the most important of which, commercially and industrially, is the pintadine. It is formed of very thin, slightly undulated layers of carbonate of lime mixed with a small quantity of a special organic substance. Other nacreous shells are assimilated to mother-of-pearl.

This item is subdivided in the same way as the previous item.

Item 960.

Ivory is the bony structure of the tusks of the elephant. The material obtained from hippopotamus teeth, walrus tusks, narwhal tusks and rhinoceros tusks is treated as ivory.

The subdivision is the same as in the previous items.

Item 961.

Here are classified semi-manufactured products and wares of cattle bones, horns and hoofs, or of antlers and horns of stags, deer, elks, etc., which are used for making knife-handles and many other small articles.

In this item are also placed wares made of shells of crustacea or mollusca (other than mother-of-pearl), whalebone and barbels of whales, worked, prepared or mounted, prepared quills—*e.g.*, for the inside of cigars or cut for tooth-picks—cuttle-bone, boars' teeth, nails and claws of animals—all these articles worked.

" Melted " horn—*i.e.*, horn and hoof debris softened in water and then heated and moulded—will also be treated as horn.

The subdivision of this item is the same as for the previous items.

Item 962.

This item includes wares of hard seeds capable of being carved, the chief of which is the corozo. These seeds, which are also known in the trade as vegetable ivory, come from certain species of palms and pandanaceæ, found in tropical America ; owing to their durability, structure and colour, on being worked they may appear more or less like ivory. The " *dum* palm "—a sort of African corozo—is also treated as corozo, but corozo buttons come under Chapter 85.

Item 963.

This item covers carving materials of mineral origin.

Jet or " jayet " is a sort of fossilised carbon or lignite of a beautiful black shiny colour.

Yellow amber or succinite is composed of fossilised resins ; its colour varies from bright yellow to a more or less dark brown.

Amberoid is merely composite amber ; it is made from softened amber chips, warmed, treated with sulphide of carbon and compressed.

Meerschaum is a natural hydrosilicate of magnesia, white, yellowish, grey or pink in colour, found especially in Asia Minor. Here is also included composite meerschaum made from deposits of natural meerschaum subjected to a special treatment.

In this item are also included wares of a similar composition, such as those made of Kil-kenny coal (a sort of jet), cannel-coal and the like.

Item 964.

This item includes moulded articles of animal or vegetable wax, stearic acid and similar materials, such as busts, heads, statuettes and other plastic articles, also coloured, ornamented or set-off. Wax combs for beehives and wax plates for dentists will also be classified here.

On the other hand, wax candles and tapers are excluded from this item and come under item 325, Chapter 32. The same applies to artificial fruit and flowers, which come under item 625, Chapter 57.

There are no subdivisions of this item. States which think it necessary may insert such sub-items as they desire.

* * *

The last three items of this chapter include artificial plastic materials grouped according to their origin. In a raw state, these materials, which are chemically produced, fall under the chapter dealing with chemical products (Chapter 28).

As simply moulded articles of artificial plastic materials are moulded in the factories which manufacture the raw material, it was proposed to leave in the chapter on chemical products also objects of that nature, simply moulded, and likewise polished sheets and slabs, the latter because compression under heat between plates of polished metal gives these sheets or slabs a more or less glossy surface. But it was rightly pointed out that moulded articles requiring forms and moulds should be placed, not in the chapter on chemical products, but with worked articles.

Nor can sheets and slabs of artificial resin which, after manufacture, have been worked on the surface—*e.g.*, by polishing, moireing, etc.—be classified in the group of chemical products, but the case is different with sheets which, although they receive a certain gloss in the process of manufacture, have not been subsequently worked.

The three items are each subdivided into three identical sub-items, viz. :

(a) Blocks, slabs, tubes, rods or sheets—*i.e.*, which have not yet received a definite shape, but which have been worked on the surface ;

(b) Articles moulded but not otherwise worked—*i.e.*, not polished or drilled ;

(c) Wares that have been worked on to a higher degree than that provided for in the first two sub-items.

It was proposed that each of these items should also contain a special sub-item for " technical articles "—*i.e.*, articles used in factories as auxiliary appliances for the manufacture of goods—for instance, bobbins for spinning and weaving, receptacles for acids, moulded articles used in electrical engineering for the building of machinery, apparatus, etc.

But it is sometimes difficult to define with sufficient clearness the expression " technical article ". Moreover, the need for such a sub-item is not equally strong for each of the three items in question.

The proposal was therefore abandoned in respect of items 965 and 966. In the case of item 967, however, which includes in particular plastic materials of so-called artificial resin, there was some advantage in introducing the notion of " technical articles ", as this item contains machine parts. Under item 967, a tertiary item has therefore been inserted for wares intended for technical purposes.

It is to be observed that insulating parts for electrical apparatus and installations made of these materials, but not mounted—*i.e.*, not combined with metal—are classified in the chapter dealing with electro-technical articles (Chapter 73).

Item 965.

This item includes all plastic materials with a base of cellulose, of which the most important is celluloid manufactured from nitrated cellulose mixed with camphor and other materials. In this group, products made from viscose (xanthogenate of cellulose) and from acetate of cellulose or acetyl cellulose (materials serving also for the manufacture of artificial silk) are of growing importance in commerce. Thin transparent sheets of viscose or acetate of cellulose, at present much used for packing and imported under various names—cellophane, cellosite, etc.—come, however, under the chapter dealing with chemical products (Chapter 28), even if they are coloured in the mass, but provided they have not been subsequently worked. On the other hand, these same sheets, if printed, count as " wares " coming under the present item.

Photographic films are classified, not in this group, but in Chapter 29, which comprises products for use in photography.

However, wares of wood or other materials, completely covered with celluloid, come under this item.

Item 966.

This item covers artificial plastic materials with a base of casein, the most important of which is galalith, which is made of casein, treated with formol.

Plastic materials with a base of gelatine or starch are also covered, though much less used, as well as articles made therefrom. Gelatine itself is classified under item 328, Chapter 33.

Item 967.

There are many artificial plastic materials with a base of phenols, urea, phthalic acid and other, which constitute artificial resins and of which the best known is bakelite. With these materials are made, not only a large number of articles for insulation and electrical installation, but also objects of common use and for massage. Here are also included wares made of bakelited paper, cardboard or fabric. These are paper, cardboard or fabric impregnated with bakelite and assembled in sheets or moulded under high pressure when hot. Paper, cardboard and fabrics, simply bakelited—*i.e.*, retaining the nature of paper, cardboard or fabric—come within the respective chapters for paper and fabrics.

Item 967 also includes, amongst articles of artificial plastic materials not elsewhere specified or included, wares of gum tragacanth, bassorine, etc.

Chapter 83.

BRUSHWARE, BRUSHES AND SIEVEWARE.

In this chapter are included all objects of brushware (except those mounted on precious metals, which come under Chapter 61) and sieveware. The raw materials used for the manufacture of articles of this group are classified—viz., some with vegetable raw materials (Chapter 14), others with animal raw materials (Chapter 5).

Item 968.

This item includes brooms, which are distinguished from brushes by their method of manufacture. Brooms coming under this number are made of a bundle of roots or vegetable fibres simply bound at one end, whereas brushes are animal or vegetable fibres fixed in small bundles on a piece of wood, bone, metal, etc.

Item 968 is subdivided into two sub-items according to the material of which these objects are made.

The first sub-item *(a)* includes brooms of very coarse fibre—*i.e.*, birch, broom, heather and similar twigs, amongst which, in particular, come hazel twigs. As these coarse brooms are, as a rule, imported without handles, no subdivision was made in this sub-item for brooms with handles.

Sub-item *(b)* includes brooms with finer fibre, such as sorghum, rice-stems, piassava, aloe-fibre, camelina, coco, palm, bamboo, fine wood strips, etc.

Brush-brooms used as brooms, but with the twigs fixed in a piece of wood like brushes, come, not under this item, but are articles of brushware classified under the following item.

For sweeping streets, cleaning windows, etc., instead of brooms proper, use is made of appliances formed of bands of rubber or felt, pressed between two strips of wood or metal. These may be assimilated to brooms and will therefore be classified under the present sub-item 968*(b)*.

Item 969.

Certain tariffs subdivide brushware into two classes, common and fine. This subdivision is made to distinguish between the materials used in manufacture. A similar subdivision has been introduced here, but with a formula permitting articles to be easily distinguished for the purpose of classification in one or the other of the sub-items.

Item 969 includes only brushes mounted on rough wood or simply stained, but neither polished, varnished, nor otherwise worked. No distinction has been made between mountings in common or fine woods owing to difficulties in defining such woods (see explanatory notes to Section IX).

Brushes mounted on *papier-mâché* or vulcanised fibre will be treated as brushes mounted on wood.

This item is divided into four sub-items, according to the nature of the fibres forming the brush.

The last sub-item *(d)* includes brushes of rubber, felt, wood, etc., and also brushes made of threads of textile material, cotton, etc.

Item 970.

This item includes all brushes properly so called, other than those mounted on wood, whether rough or simply stained.

The first sub-item relates to brushes with mountings of worked wood—*i.e.*, polished, varnished, lacquered, decorated, etc. Here will be included also brushes consisting of fibres glued on to a metal plate with a backing of wood polished or varnished, etc. ; also brushes mounted on wood, in combination with metal parts.

The second sub-item includes fine brushes mounted on tortoise-shell, ivory or mother-of-pearl, also brushes mounted on a strip of wood overlaid with tortoise shell, ivory or mother-of-pearl.

The third sub-item covers brushes with mountings somewhat more common than the foregoing, particularly of bone, horn, hardened rubber, celluloid, etc., including mountings of artificial plastic materials, or celluloid imitating tortoiseshell, ivory or mother-of-pearl.

The last sub-item relates to brushes mounted on base metal, even silvered or gilt or gold or silver plated. Under this sub-item come also brushes with a mounting of wood covered with base metal.

These two items cover brushes proper of every kind, such as hair-, clothes-, shoe-, flesh- or friction-, tooth-, nail-brushes, etc., but excepting parquet-brushes, rotary carpet-sweepers and brushes for machines to be classified in item 972.

Item 971.

This item includes all kinds of paint and like brushes. These brushes generally consist of a bundle of hairs or vegetable threads, strongly secured to the end of a handle, or fixed in a quill, with or without a metal collar; they are used for applying or spreading colours, varnish, glue, etc.

A special sub-item has been made for shaving or badger brushes, because these brushes are of quite a different nature. Certain countries will no doubt wish to subdivide this sub-item further, according as the brush-handle is of common materials or fine materials.

The sub-item " other " in turn is subdivided according to the usual tariff criterion—namely, the nature of the fibres forming the brush.

In sub-item *(b)*2 are classified, with paint and like, brushes of coarse animal hair, brushes of neat cattle hair, of the common goat's hair, of quills or of split whalebone. In the same sub-item will come brushes of pigs' or boars' bristles, or of the animal fibres enumerated in this group, even mixed with vegetable fibres.

The last group, *(b)*3, covering paint and like brushes of fine hair, will include those of the badger, otter, fox, marten or human hair.

Item 972.

This item includes brushware other than brushes proper and paste or like brushes.

Here will be placed first (sub-item *(a)*) mechanical brushes and brushes for machines—*i.e.*, roller brushes for fitting in machines and mounted on a metallic axle. It was considered whether these brushes for machines should not be classified with spare parts of machines, but, owing to their special character, and particularly as they are true brushes, it was thought preferable to classify them in this group.

The second sub-item is confined to parquet-brushes and rotary carpet-sweepers.

A special sub-item has been provided for feather brooms and feather dusters, articles similar to whisks, made of a bundle of feathers or long vegetable or animal fibres secured to a handle generally of turned wood, cane or bamboo.

The last sub-item covers all other kinds of brushes, such as lampglass-brushes, bottle-brushes and like brushes, gun-barrel brushes, brush foot-scrapers for hall entrances.

Item 973.

This item includes hand sieves and riddles.

Sieves and riddles for machines are not included here, but are classified with spare parts of machines (Chapter 72).

For classification in one or other of the sub-items into which this item has been subdivided, alone the material of the bottom is taken into account and not the mounting or rim.

Sub-item *(d)* includes sieves with a bottom of gut, straw, slivered wood, etc.

Chapter 84.

GAMES, TOYS, ARTICLES FOR AMUSEMENT AND SPORTS.

It was originally proposed to include in this chapter, not only games, toys and articles for Christmas trees, but also all sports appliances.

The term " sports appliance " is somewhat vague ; it may even cover gymnastic appliances, articles for skating, fencing, archery, the crossbow, etc.

To group together, for instance, all gymnastic appliances and sports requisites was found to be a matter of difficulty, having regard to the great diversity of the articles in nature and manufacture. It would have been as difficult to draw a line between sports appliances to be classified in this chapter and appliances which are already covered by other chapters of the nomenclature. The gymnastic appliances, for instance, must be classified according to their nature and component material, as wares of iron, wood or rope. Skis, which, moreover, are not used exclusively for sport, must come in the group of wares of wood ; this is also the case for flyers, bob-sleighs, etc. It was therefore decided to limit this chapter to sporting games, which are defined hereinafter.

The following articles, which are articles of sport but not for sporting games, are therefore excluded from this chapter, and must be classified according to the material of which they are made : expanders, muscle developers, javelins, discs, weights and hammers for throwing, high-jump posts, jumping-stands, cords and rings for gymnastics, rope and other ladders, trapezes, " recks ", fixed bars, parallel bars, dumb-bells (also spring chest-pads), fencing-gloves, masks and boxing-gloves, sandbags and punching-balls, swimming-belts, skis and ski-sticks, snow-shoes, flyers, skates (including roller-skates), alpine axes, swings (with or without support), etc.

Fencing swords *(épées)*, foils and sabres are also excluded as being more suitably included under side-arms, in item 951, Chapter 80.

Parts of articles classified in this chapter also come under the respective item to which the whole article belongs, in so far as the purpose of such parts is easily recognisable.

* * *

Item 974.

In this item have been classified toys of a special character which serve at the same time as means of locomotion.

The first sub-item includes more particularly children's sporting objects, such as the child propels by his own force. The cycles classified therein are much more simple and rudimentary than true bicycles and cannot serve for long distances. Children's bicycles constructed similarly to those for adults, but smaller, come under the section " Transport Material ", Chapter 75.

The first sub-item also includes mechanical horses, toy cycle-cars, quadricycles, etc.

The second sub-item, on the other hand, includes cars and carriages which the child pulls or pushes—for instance, small toy carts.

Item 975.

Owing to the importance of dolls among toys, it was thought advisable to place them under a special item. This will include dolls of all sorts : babies, figures, mascot dolls, fetishes, dolls for Punch-and-Judy shows, marionette theatres, etc., including decorative dolls which are not toys in the proper sense of the word. On the other hand, animals of stuff or other materials, rubber, etc., are not included here but are classified with other toys in item 976. Under item 975 will also be classified dolls' dresses and shoes and parts of dolls—heads, bodies, arms, etc., and wigs.

There is no distinction to be made according to the material of which the dolls are manufactured, so that those of rubber, celluloid, etc., are included here.

Item 976.

Here are included all games and toys for children such as are not classified under the first two items of the chapter ; also musical instruments serving only as toys, children's garden and seaside tools, provided their size and construction does not admit of their use as ordinary tools, balls of rubber and other materials, building games, magic lanterns and projectors that can be used only as toys, etc.

A first sub-item *(a)* includes mechanical toys either worked simply by a spring or with a more complicated mechanism—*e.g.*, clockwork—and also toys worked by steam or electricity.

As mechanism is the characteristic of all these toys, it was not thought necessary to make any other sub-item.

A certain number of sub-items, according to the material of the toys, were required here. In the case of toys made of various materials, the principal material—*i.e.*, that which imparts its character to the object—is the decisive factor as regards classification under one or other of the sub-items. Small parts or simple accessories of other materials are not taken into account ; nor are, for the purpose of classification under sub-items, the boxes containing the toys (dolls' furniture, etc.), even though they are specially fitted to receive the toys.

Animals of every kind, of stuff, wood, cardboard, rubber, etc., are also included in this item, but not, for instance, rubber animals for the seaside, which must be classified with rubber wares.

Item 977.

This item includes parlour games—*i.e.*, games intended rather for adult persons, such as table croquet, tennis and billiards, parlour roulette, fortune-tellers' card packs and other packs of cards that cannot serve as ordinary playing-cards, *nain-jaune*, draughts, backgammon or " tric-trac ", chess, dominoes, mah-jongg, halma, " happy families ", fox and geese, etc.

Here four sub-items have been introduced, one for sets and pieces made of ivory, including only articles of true ivory. Those of imitation ivory or of artificial plastic material come under sub-item *(b)*.

In this case also, when games are made of several materials, classification is made according to the most important material in the game. Thus a table-croquet set of wood and iron will come under sub-item *(c)* as being a game made of wood ; a game of halma of cardboard, with pieces made out of wood, will come under *(d)* as being a game made of " other materials ".

Item 978.

Under this item are included articles for entertainments and fêtes ; ornaments and accessories for Christmas trees.

Under this item come also accessories for cotillons, cockades, badges, masks, surprise packets, confetti, Chinese lanterns, etc.

Crackers and paper hats with detonators are likewise included in this item. Here are also classified all objects for dressing and ornamenting Christmas trees, except candles, sweetmeats and sugar articles. Here, therefore, come all objects of glass, fabric, metal, paper and other materials for hanging on Christmas trees, candle-holders, etc. Also small artificial Christmas trees of feathers, fabric or other materials.

A proposal was made to provide a special basic item for Christmas tree articles, but this was not thought advisable, as Christmas trees are only important in certain countries.

Item 979.

This item includes articles and accessories for sports and games of skill. By the expression " sports " in this item is meant open-air games generally played according to fixed rules and of the nature of sport : water-polo balls ; footballs ; balls and baskets for basket-ball ; hockey sticks and balls ; golf clubs and balls ; nets (including poles) ; tennis rackets, racket presses and balls ; racket covers ; garden croquet ; *jeu de tonneau*, bowls and skittles, darts, etc.

Here are also classified billiard cues and balls, but billiard tables are classified with furniture.

Item 980.

A final item in this chapter has been set apart for articles for angling, which it was thought better to bring together under one item rather than to spread them over the whole nomenclature.

This item includes fishing-rods, mounted and unmounted, fishing-lines mounted, landing nets, fishing-reels, hooks, line accessories such as gut, extra lines, chainlets, feathers and floats, flies and artificial bait, etc.

Chapter 85.

WARES OF VARIOUS MATERIALS ; BUTTONS ; PENHOLDERS AND PENCIL-HOLDERS ; SMOKERS' REQUISITES.

Originally it was proposed to insert in this chapter a whole series of minor articles which are made of greatly varied materials, and which, on that account, and for the sake of simplicity, it was desirable to classify together, as is done in some tariffs. It was proposed to classify here, *inter alia*, small articles of personal ornament or use made of base metals and various

materials, also small articles and accessories for the trimming or make-up of clothing, footwear, necklaces, albums, memorandum books, etc.

After careful consideration, it was thought preferable to classify articles of personal ornament or use with other wares made of the same material—*e.g.*, bracelets, brooches, necklaces, watch-chains, cigarette cases, chain bags and purses, sweetmeat boxes, etc., of base metal—under Chapter 71, where a special item (No. 819) has been opened for them, the same articles in carved or moulded materials or artificial plastic materials being included in Chapter 82 with wares of those materials. Minor articles and accessories made of base metals for the make-up of clothing, footwear, etc., are already classified in item 818, Chapter 71.

The contents of the present chapter 85 are thus reduced to a small number of special articles : buttons, penholders, pencil-holders and smokers' requisites.

A note at the head of the chapter lays down that such objects, if made wholly or partly of precious metals or precious or semi-precious stones or pearls, come under Chapter 61.

Item 981.

In this item areplaced buttons for clothing, including ornamental buttons.

Owing to the large number of materials used in making buttons, and as a special industry is involved, buttons of every kind for the make-up of clothing, footwear, small leather articles, including ornamental buttons—*i.e.*, buttons for ladies' cloaks, sleeve-links, shirt-studs, etc.—have been brought under this item, but press-studs, which are classified in item 818, Chapter 71, with dome fasteners for gloves and " bachelor " buttons, are excepted.

Nine sub-items have been provided according to the material used, in order to enable the duty to correspond as far as possible to the value of the goods.

Accessories for button manufacture, such as the core of wooden, metal or *papier-mâché* buttons, stems, shanks, eyelet holes and backing for the outside part, do not affect the classification in the sub-items.

A special sub-item *(b)* has been made for mother-of-pearl buttons, so as not to assimilate them to fine buttons (of coral, tortoiseshell, ivory, amber or jet) included under sub-heading *(a)*, for the former are generally of much smaller value, as they include, not only buttons of genuine mother-of-pearl, but also of nacreous shell (trocas, etc.).

Sub-item *(c)* also includes buttons of ox-blood, dried and compressed ; the trade in this is considerable in some countries.

In sub-item *(d)*, with buttons of corozo are also classified buttons of *dum* palm and similar hard seeds.

In sub-item *(e)* are also included buttons of cardboard or vulcanised fibre.

The last sub-item, *(i)*, includes stuff buttons and also buttons for underwear, of linen or cotton thread fixed on a wire ring. But buttons of the nature of trimmings—*e.g.*, olives for uniforms and such like—are excluded from this item.

Item 982.

This item includes fountain-pens, stylographic pens, propelling pencils and their detached parts. Fountain-pens, with gold nibs but without other mounting or accessory of precious metals, come under sub-item *(a)*, 2. Fountain-pens of this sort entirely or partly covered with precious metals are not included here, but are classified with jewellery wares (Chapter 61).

Spare nibs are also excluded from this item, and treated as wares of precious metal or base metal as the case may be.

Item 983.

In this item are placed ordinary penholders, pencil-holders, other than propelling pencils, and their spare parts.

Here are classified ordinary penholders of wood, base metal, artificial plastic materials, etc., also ordinary pencil-holders, generally of metal, and pencil-point protectors.

Item 984.

Only complete pipes and pipe-bowls are included here, and other detached parts for pipes are included and classified under the next item.

For the classification of pipes in one or other of the four subdivisions of this item, the material used for the bowl is the determining factor, except for pipes with mountings or accessories of precious metals, which are classified under sub-item *(a)*, of whatever material they be made.

Sub-item *(a)* includes pipes of meerschaum, also with stems of amber or wood. Here are also placed pipes of composite meerschaum—*i.e.*, made of deposits of true meerschaum very finely ground and agglutinated with a fatty substance—also pipes of wood covered with meerschaum ; pipes imitating meerschaum but not containing true meerschaum come under sub-item *(d)*.

Sub-item *(c)* includes pipes of wood or root, while pipes of all other materials not mentioned in the preceding sub-item come under sub-item *(d)*. This sub-item also includes, *inter alia*, pipes of asbestos or asbestos composition, pipes of agglutinated starch imitating meerschaum, etc.

Item 985.

This item for cigar and cigarette holders is set out on parallel lines to the preceding one for pipes and contains similar subdivisions. Here are also classed detached parts of pipes other than pipe-bowls. As regards classification in one or other of the sub-items, the same rules will be applied as in the preceding item. It should be noted that cigar and cigarette holders, stems, etc., of cane are regarded as made of wood, and, therefore, come under sub-item *(c)*.

Special parts for the inside of pipe-stems will also be classified here.

On the other hand, quills prepared for use inside cigars come under item 961, Chapter 82.

Section XXI.

WORKS OF ART AND ARTICLES FOR COLLECTIONS

Chapter 86.

WORKS OF ART AND ARTICLES FOR COLLECTIONS.

Preliminary Observations.

Section XXI consists of a single chapter (86) covering " Works of Art and Articles for Collections". It is difficult to give any *a priori* definition of what is to be understood by the general title : " Works of Art and Articles for Collections ". There is, however, a very clear difference between the two classes of articles included in Chapter 86. In the case of works of art, the value depends upon the *artistic merit* of the article. In the case of articles for collections, the value lies rather in their *rarity*.

The majority of Customs tariffs place works of art and articles for collection in a class by themselves, subject to special rules conferring either exemption from, or reduction of, Customs duties.

The following considerations are advanced in support of this special treatment :

(1) The character, antiquity or sentimental value of works of art and articles for collections, their importance as part of the material or spiritual heritage of a country, have rightly led them to be regarded as contributing to the intellectual, historical or artistic education of the country which acquires them and into which they are imported.

(2) Works of art and articles for collections often consist of unique or very rare specimens of works or articles, which, for that very reason, cannot be acquired at any moment or whenever wanted.

They cannot *normally* be dealt with in the ordinary course of trade, as their number is necessarily limited. Most of them may be regarded as " non-commercial " articles and should therefore be given a treatment different from that applied to articles which habitually form the subject of commercial transactions.

(3) The high artistic level or the rarity of works of art and articles for collections often makes them extremely valuable. But this enhanced value is not due simply to the intrinsic value of the materials from which they are made. Unless it is proposed to tax them purely for revenue purposes, it is difficult to see what benefit would accrue to home industry by the imposition of high duties on works of art and articles for collections.

It is thus clear that there are well-founded reasons for not including works of art and articles for collections in the general nomenclature items along with articles most closely corresponding to them in their character or purpose, or in the material of which they are made.

This distinction, however, places upon the Customs authorities the obligation to define the characteristics entitling an object of art or article for collection to be excluded from the class of similar articles devoid of artistic value or special interest.

For the settlement of these points, the principal countries have adopted various combinations of widely different rules.

Broadly speaking, these rules are based on the following principles :

1. *Antiquity*.—Only works of art and articles for collections which are of a certain antiquity are entitled to special privileges. The most important instances of the application of this principle are : United Kingdom, where an imported article must be at least one hundred years old ; Belgium, where certain articles for collections must date back prior to the eighteenth century ; France, where the same rule is applied to various classes of articles of a date earlier than the seventeenth century ; the Netherlands, where an antiquity of seventy years is sufficient.

2. *Recognition of the special character of the article by an expert authority*.—In some countries, works of art are not admitted to special treatment entitling them to exemption from, or reduction of, Customs duties unless they are certified as such by an expert authority (Academy of Fine Arts, museum boards, corporations of special experts, etc.).

3. *Purpose*.—Some countries do not allow works of art and articles for collections to receive the benefit of exemption from, or reduction of, Customs duties unless such articles are imported *for the public benefit*, in order to be exhibited in public museums or collections, or for the purposes of art education, in schools, faculties, universities, etc.

4. *Administrative authorisation*.—In some countries, the Customs administration reserves the right to extend the privilege provided for in the Customs laws to works of art and articles

for collections if the administration has examined the articles and issued an authorisation in respect of them.

5. *Original character of the articles imported.*—In principle, the first characteristic of a work of art should be uniqueness—that is to say, it should exist in a single specimen only. Some countries, however, allow the rules applicable to works of art to be extended to reproductions (though only a limited number) of original works, on condition that such reproductions originate with the artists who have conceived and carried out the original work.

6. *Non-commercial character of the articles.*—In some tariff laws, the first requirement laid down is that any work of art or article for collections for which it is sought to secure the benefits of special terms must be " non-commercial ".

This criterion is difficult to apply, however. Although not often the subject of commercial transactions, works of art and articles for collections are nevertheless bought and sold like other articles. For this reason, in some countries, exemptions from, or reductions of, Customs duties are granted only if the importers give an undertaking that the articles imported will never be offered for sale.

The very diversity of the principles and rules applicable to the import of works of art and articles for collections makes it very difficult, if not impossible, to adopt any rule which shall be common to all countries. The various countries should be left free to settle as deemed fit by each of them the rules which they consider to be properly applicable to works of art and articles for collections, advisable though it be that these articles should be classified separately in the nomenclature and should be given a definition sufficiently clear to avoid any confusion with similar articles or objects included in other chapters.

Such a classification is, moreover, clearly of statistical value, at least in the case of countries in which dealings in works of art and articles for collections are at all numerous.

The draft scheme of international nomenclature arranges under six items, Nos. 986 to 991, the whole field of what appears capable of inclusion under the general heading : " Works of Art and Articles for Collections ".

* * *

Item 986.

This item covers pictures, paintings and drawings done entirely by hand, whether framed or not.

Here are included all works by artists (painters and draughtsmen).

Such works must be *done entirely by hand*, and no process may therefore be used by which the hand of the artist can be in whole or in part replaced, as, for instance, in the case of paintings produced, even on canvas, by photo-mechanical processes, or hand-paintings based upon a tracing or drawing obtained by the ordinary processes of engraving or printing.

But in the case of pictures, paintings and drawings done entirely by hand as provided in item 986, no distinction can be made between paintings in oil, water-colour or gouache, pastels, miniatures and pencil or pen-and-ink drawings, etc.

Similarly, no distinction can be made according as the works in question are upon canvas, paper, wood, metal, pottery, ivory or any other material.

When the pictures, paintings or drawings are framed, the presence of the frame does not preclude the article from being classed among works of art and articles for collections.

Conversely, this item does not include articles and objects decorated with hand-paintings, such as travel souvenirs—*e.g.*, boxes, plates, shellwork, decorative cups, etc. The same applies to canvases for studio backgrounds, stage scenery, panoramas, etc., which must be included under item 571, Chapter 50.

Item 987.

This item includes engravings, prints, lithographs and other products of the graphic arts, *provided that they have a genuinely artistic or antique character.*

No distinction is made between copper-plate engraving by the burin or by etching. Similarly this item includes prints, whether in black-and-white or in colour.

The engravings, prints and lithographs included under item 987 need not necessarily be such as exist in a single copy only. Nevertheless, such works must not have any sort of commercial character—*i.e.*, they must not contain any announcement, advertisement or indication of a similar nature. They are generally printed upon special paper and, in the case of limited editions, they usually bear the serial number and reference or the artist's signature.

In addition to engravings, prints and lithographs, item 987 also covers " other products of the graphic arts, artistic or antique ". This refers to works having the same characteristics as those defined above, but obtained by other processes or other methods of pulling or printing. Such, for instance, are incunabula, rare or old copies of books, engravings, maps, etc., produced by various methods of printing.

This item does not include photographic reproductions or picture wares on paper or cardboard, which remain under item 439, Chapter 10. On the other hand, it includes photogravures, phototypes and other products of undoubted artistic character produced by various processes or pulling and printing.

Clichés on copper, stone, wood or other material remain classified under the respective items according to the component material.

Item 988.

This item covers the whole field of *original* productions of the art of statuary in marble, stone, wood, metal or any other material.

It thus covers statues, busts, high and low reliefs, subject pieces, groups, reproductions of animals, etc., provided they are original works. *Antique* reproductions of original works of statuary art, however, remain classified in the present item.

Ornamental sculptures of a commercial character (capitals, columns, chimney-pieces) and casts of works, even antique, in plaster, staff, cement, *carton-pierre*, etc., are not included, but remain classified with wares of stone or mineral material according to kind.

Item 989.

Under item 989, a special place has been reserved for *collections* of objects which are often of small intrinsic value but the interest of which lies in their rarity or arrangement. Under this item are included zoological, botanical, mineralogical and anatomical collections.

Under item 989 are included, in particular, natural history collections such as animals of all kinds, including birds, stuffed or preserved by any other method, butterflies, insects, empty shells, blown eggs, dried plants or herbaria, choice minerals other than precious stones, petrifications, skeletons, animal or vegetable fossils, fossil shells, anatomical specimens prepared or preserved, etc. The individual items of these collections are also included here.

Item 990.

Under this item are included, not collections of articles brought together with an educational object, but *various articles for collections* of " historical, archæological, palæontological or ethnographic value".

This very comprehensive item includes a large number of articles among which may be mentioned medals, old coins no longer current, autographs, used postage stamps, Egyptian, Greek, Roman or other antiquities, mummies, sarcophagi, old armour, bows, arrows and other weapons and various instruments and utensils, clothing worn by savage peoples, etc.

Item 991.

Under this final item are brought together all works of art and articles for collections which do not come under any of the preceding items.

Their number is considerable ; it is difficult to give even a limited indication. Among the articles coming under this item may, however, be mentioned (provided always that they are objects of artistic or antique character) clocks, portable and other, old musical instruments, engraved stones, cameos, artistic medals, antique goldsmith's or silversmith's work (ewers, cups, candlesticks, plate of gold, silver or platinum), antique furniture, antique lace and cloth, antique tapestry or antique artistic carpets, stained-glass windows, etc.

Among other articles for collections may be included manuscripts and, in general, all pieces of an artistic or antique character such as could appear in a collection.

Annex I.

PLANTS, PARTS OF PLANTS, SEEDS AND FRUITS UTILISED IN PERFUMERY AND MEDICINE.

(*Item* 88, *Chapter* 12.)

A. UTILISED IN PERFUMERY.

Scented woods such as :

Agra, so-called "*senteur*"
Aloes, also called "agalloch"
Aspalathus
Balm of Gilead (xylobalsamum)
Camphor wood
Cinnamon wood
Clove (roots)
Eaglewood (or calambac)
Garou
Linaloa, or sua
Rhodium wood
Tamarind

Leaves of coumarou, scented liatris, patchouly.

Beans of tonka.

B. UTILISED IN MEDICINE.

Medicinal woods :

Guaiacum
Quassia amara
Quassia excelsa
White sandalwood
Yellow sandalwood
Sassafras (including the root)

Roots, bulbs and rhizomes :

Aconite (wolfsbane)
Angelica
Arnica
Artemisia
Belladonna
Bistort
Bryony
Burdock
Calumba
Cochlearia (scurvy grass)
Colchicum
Comfrey
Dandelion
Gentian
Ginger
Hellebore
Hyoscyamus (henbane)
Imperatoria (masterwort)
Ipecacuanha
Iris
Jalap
Liquorice
Male fern
Mandragora
Marshmallow
Medicinal couch-grass
Pyrethrus
Rhatamy
Rhubarb
Salep
Sarsaparilla
Squill
Tansy
Tormentil
Valerian
Violet

Barks :

Cascara sagrada
Cascarilla
Cinchona
Clove bark
Clove tree
Danewort
Elder
Mezereon
Sassafras
Tamarisk
White cinnamon

Fruits and seeds :

Berries of belladonna, elder, juniper, laurel, morel, myrtle, sorb, viburnum, winter cherry, etc.
Cassia fistula
Coculus indicus (Indian berry), areca nut, kola nuts, *nux vomica* and other medicinal nuts.
Colocynths
Physic-nuts and sweet pine-kernels
Pips of calabash, cucumber, gourd, melon, pumpkin, quince, etc.
Poppy-heads (with or without seeds)
Seeds of musk mallow (abelmosk) or amber-seed, angelica, colchicum, corn-cockle, fleawort, garou, hemlock, hyoscyamus (henbane), lavender, lovage, paradise-tree, saxifrage, senna, spurred rye, stavesacre, stramony, tansy
Tamarind (seeds and pods)

Herbs, twigs or herbaceous stalks :

Alchemilla
Angelica
Borage
Celandine
Centaurea
Common origan
Fir buds
Fleawort
Fumitory
Ground-ivy
Hemlock
Horehound
Hyoscyamus
Lavender
Marjoram
Plantain
Pulsatilla
Rosemary
Scabious
Scented woodruff
Silver-weed
Tansy
Thyme
Verbena
Veronica
Wild thyme

Leaves :

Absinth	Foxglove	Peppermint
Arnica	Fraxinella	Plantain
Ash	Hepatica	Rosemary
Balm (melissa)	Hyoscyamus	Rue
Bearberry	Ivy	Sabine
Belladonna	Mallow	Sage
Borage	Marshmallow	Spearmint
Cherry-laurel	Morel	Stramony
Dandelion	Oak mistletoe	Walnut
Dittany of Crete	Patchouli	

Flowers :

Absinth	Fumitory	Myrtle
Arnica	Gentian	Orange-blossom
Balm (melissa)	Hyssop	Pansy
Bedstraw	Immortelle	Peppermint
Belladonna	Lavender	Pomegranate
Borage	Lime	Primrose
Camomile	Lungwort (mullen)	Sage
Danewort	Mallow	Salted or dried roses
Dried violets	Marjoram	
Elder	Marshmallow	

Cherry stalks
Corsican moss, Iceland moss, lichens and medicinal algæ
Lycopodium powder
Pyrethrum powder (pulverised stalks and leaves of Caucasian pyrethrum)

Annex II.

DISSOLVENTS.

(*Item* 273, *Chapter* 28.)

The term " dissolvents " in this item comprises the following products :

1. Ether oxides of the glycols and their derivatives, dibenzylic ether oxide ;
2. The ether salts (esters) of the following acids :

Acetic	Formic	Phosphoric
Adipic	Lactic	Phthalic
Butyric	Oxalic	Proprionic
Citric	Paratoluene-sulfon	

with :

(a) Amyl, butyl, ethyl, methyl, and propyl alcohol ;
(b) The glycols and their derivatives, the ether oxides of the glycols ;
(c) Glycerine ;
(d) Phenol, hexahydrophenol and homologues.

Note.—1. The phthalic ethers of glycol and glycerine are classified in item 285 as artificial resins.

The butyric ethers of methyl and ethyl alcohol are classified as synthetic perfumes in item 316, Chapter 31.

2. As solvent matters, other products are found in trade which, according to their chemical constitution, are not ethers or esters and which should therefore be included under other items, for example :

A. Hydrocarbides :	
Substitutes for essence (oil) of turpentine, such as petroleum benzine	(Item 206*(b)*, Chapter 27).
Benzine (coal benzol)	(Item 205, Chapter 27).
Toluene	(Item 205, Chapter 27).
Cresol	(Item 205*(b)*2, Chapter 27).
B. Chlorated hydrocarbides :	
Tetrachlorethane	(Item 268*(b)*, Chapter 28).
C. Alcohols :	
Ethyl alcohol	(Item 158, Chapter 22).
Methylic, butylic, amylic alcohol	(Item 269, Chapter 28).

D. Phenols :

Hexahydrophenol	(Item 274*(d)*, Chapter 28).

E. Ketones :

Acetone, methylethylcetone	(Item 271, Chapter 28).
Cyclohexanon, methylcyclohexanon, etc.	(Item 274*(h)*, Chapter 28).

Sulphuric ether is included under Chapter 28, item 273*(a)*.

Annex III.

SYNTHETIC PERFUMES.

(*Item* 316, *Chapter* 31.)

The term " synthetic perfumes " comprises the following products :

Acetates (or acetic ethers) of :

Benzyl	Linalyl	Phenylpropyl
Bornyl	Nonyl	Rhodinyl
Citronnellyl	Octyl	Santalyl
Geranyl	Paracresyl	Terpenyl
Isobornyl	Phenylglycol	

Alcohols :

Anisic	Methylphenylethylic	Phenylbutylic
Benzylic	Octylic	Styralilic
Cinnamic (Styrone)	Phenylethylic	Styrolic
Fenchylic	Phenylpropylic	

Aldehydes :

Anisic (artificial essence of white-thorn ; liquid white-thorn)	Decyclic	Myristic
	Dihydrocinnamic	Monylic
	Heptylic	Octylic
Cinnamic	Lauric	Phenylacetic
Citrylidene-acetic	Hydrocinnamic	Undecylic
Cuminic (cuminol)	Methylnonylacetic	

Anethol

Anthranilates (or antranilic ethers) of :

Ethyl	Isobutyl	Methyl

Benzoates (or benzoic ethers) of :

Amyl	Butyl	Methyl
Benzyl	Ethyl	Propyl

Benzyl-ethylic ether (see *oxide of benzyl and ethyl*)

Benzyloxyisoamyl

Benzyloxyisobutyl

Borneol

Bourbonal (ethylic ether of protocatechic aldehyde)

Butyrates (or butyric ethers) of :

Benzyl	Geranyl	Methyl
Citronnellyl	Linalyl	Rhodinyl
Ethyl		

Camphene

Caprylates (or caprylic ethers)

Carvacrol (oxy-cymene)

Carvone

Cedrol

Cineol (eucalyptol, cajeputol)

Cinnamates (or cinnamic ethers) of :

Benzyl	Ethyl	Phenylethyl
Butyl	Methyl	Propyl

Citral
Citronellal (citronellone)
Citronellol
Coumarine
Cyclogeraniol
Cymene
Decylates (or decylic ethers)
Diphenylmethane
Ethers :
- Acetic (see *acetates*)
- Anthranilic (see *anthranilates*)
- Benzoic (see *benzoates*)

Ethers :
- Butyric (see *butyrates*)
- Caprylic (see *caprylates*)
- Cinnamic (see *cinnamates*)
- Decyclic (see *decylates*)
- Ethylic of the fatty acids of chaulmoogra oil

Ethers :
- Formic (see *formiates*)
- Heptylic (see *heptylates*)

Ether :
- Lauric ether of ethyl alcohol (see *laurine*)
- Methylanthranilic ether of methyl alcohol (see *methylanthranylate of methyl*)
- Methylic ether of beta-naphthol (yara-yara) ; neroline (old product) (oxide of methyl and of beta-naphthyl)
- Methylic ether of paracresol

Ethers :
- Myristic ethers (see *myristates*)
- Œnanthic ethers (see *œnanthates*)
- Pelargonic ethers (see *pelargonates*)
- Phenylacetic ethers (see *phenylacetates*)
- Propionic ethers (see *propionates*)
- Ricinic ethers (see *ricinates*)
- Salicylic ethers (see *salicylates*)

Ethylic ether of beta-naphthol (bromelia ; neroline, new product) (oxide of ethyl and beta-naphthyl)
Ethylvaniline
Eugenol
Farnesol
Fenchone (fenone)
Formiates (or formic ethers) of :

Benzyl	Isobornyl	Phenylethyl
Bornyl	Linalyl	Rhodinyl
Citronellyl	Menthyl	Terpenyl
Geranyl		

Geraniol
Guajol
Heliotropine (piperonal)
Heptylates (or heptylic ethers)
Hydroxycitronnellal
Indol
Ionone
Irone
Isoborneol
Isoeugenol
Isopulegol
Isosafrol

Ketones :

Acetophenone	Hexylmethylcetone	Octylmethylcetone
Benzylidene-acetone	Methylnaphtylcetone	Paramethoxycinnamenyl-ethylcetone
Butyrone	Methylnonylcetone	
Diphenylethanone		

Laurate of ethyl (lauric ether of ethyl alcohol)
Laurine (see *ethyl laurate*)
Linalol
Menthol
Menthone
Methylanthranilate of methyl (methylanthranilic ether of methylic alcohol)
Methylgeraniol

Methylheptenone
Methylisoeugenol
Methyllinalol
Methylvaniline
Musks (artificial)
Myristates (or myristic ethers)
Nerol
Nerolidol
Œnanthates (or œnanthic ethers)
Oxide of benzyl and ethyl (benzyl-ethylic ether)
Oxide of diphenyl
Oxide, metacresyl
Oxide, phenyl-cresyl
Pelargonates (or pelargonic ethers)
Phenylacetates (phenylacetic ethers)
Piperonal (see *heliotropine*)
Propionates (or propionic ethers) of :

Benzyl	Geranyl	Terpenyl
Citronnellyl	Linalyl	

Pulegone
Rhodinol
Ricinates (or ricinic ethers)
Safrol
Salicylates (or salicylic ethers) of :

Amyl	Butyl	Methyl
Benzyl	Ethyl	Propyl
Bornyl		

Santalol
Sebacic ether of ethyl alcohol
Sebate of ethyl (sebacic ether of ethyl alcohol)
Styrol (bromated)
Tanacetone (thuyone)
Terpineol
Thymol
Valerianates (or valerianic ethers) of :

Amyl	Citronnellyl	Menthyl
Benzyl	Ethyl	Propyl
Bornyl	Geranyl	Rhodinyl
Butyl		

Valerianic ethers (see *valerianates*)
Vaniline (methylic ether of protocatechic aldehyde)
Vetyvenol

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