

No. 635,596.

Patented Oct. 24, 1899.

B. R. HERMAN.
COMMERCIOGRAPH.

(Application filed Mar. 20, 1899.)

(No Model.)

3 Sheets—Sheet 1.

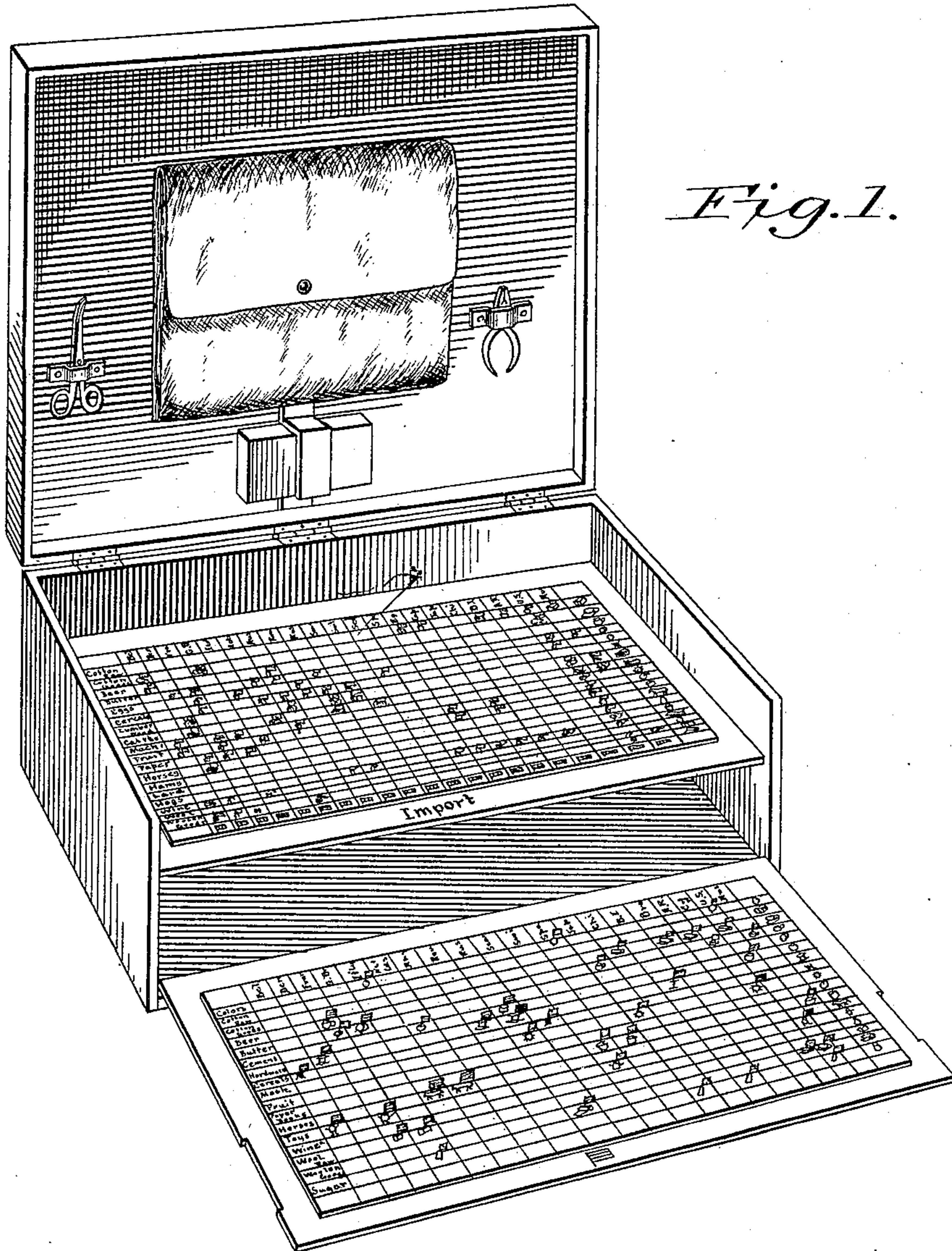


Fig. 1.

WITNESSES

A. B. Dege
Jas. A. Richmond

INVENTOR

Beno Reinhardt Baron von
Herman

by G. Dittmar
Attorney

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Fig. 2.

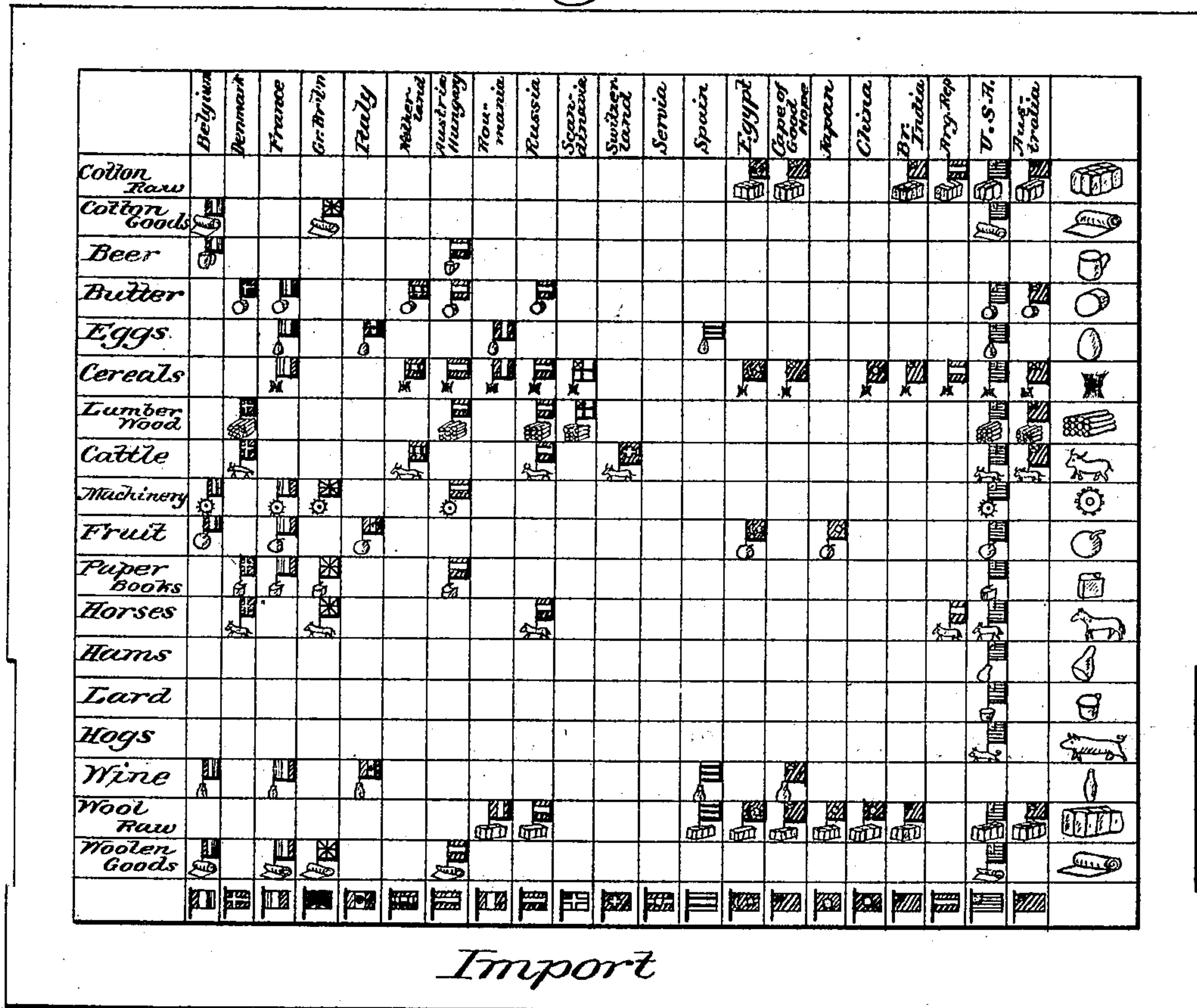
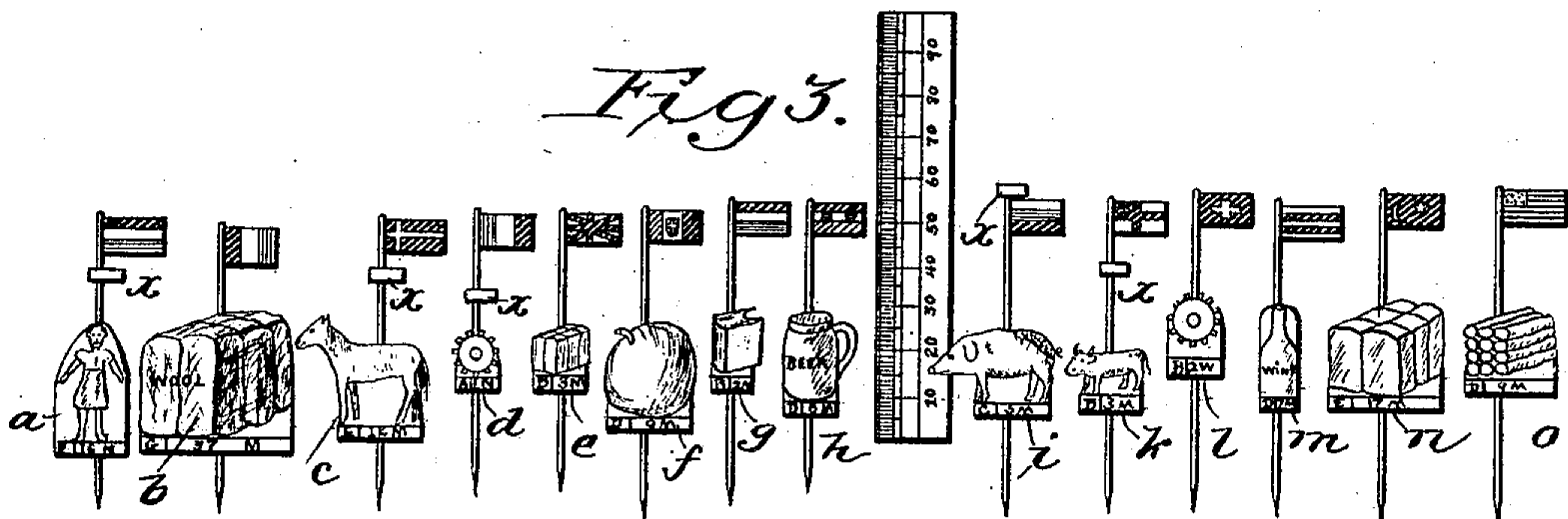


Fig. 3.



WITNESSES

A. B. Deegres
 Jas. A. Richmond.

INVENTOR

Beno Reinhardt Baron von
Herman

by G. Pittman,

Attorney

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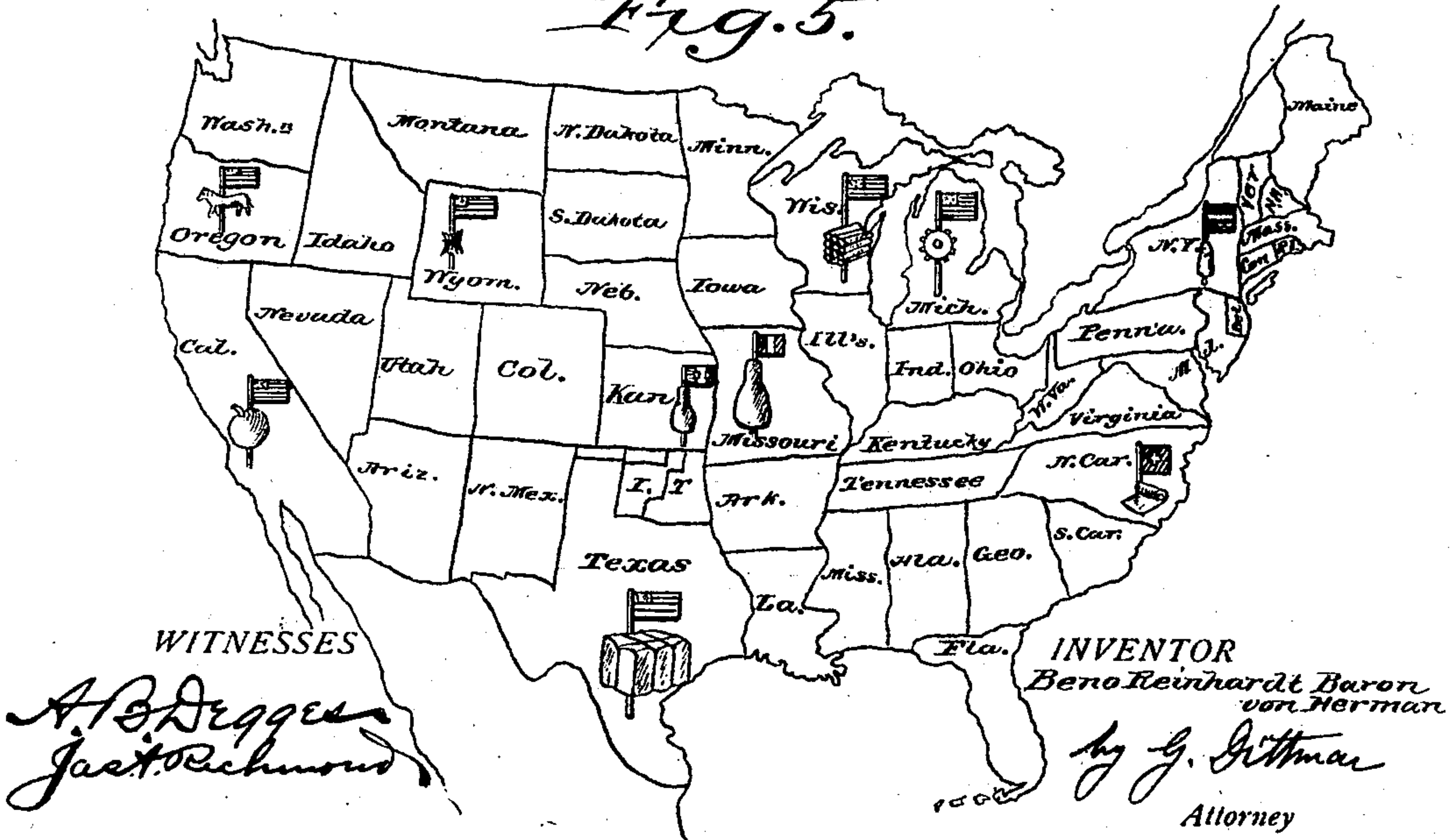
(No Model.)

3 Sheets—Sheet 3.

Fig. 4.

	Belgium	Denmark	France	Gr. Brit.	Italy	Netherl.	Austria	Hungary	Romania	Russia	Serbia	Switzerl.	Spain	Japan	China	British India	Brazil	Arg. Rep.	Cape of Good Hope	U. S. A.	Aus. Straits	
Colors																						
Cotton Raw																						
Cotton Goods																						
Beer																						
Butter																						
Cement																						
Hardware																						
Cereals																						
Machinery																						
Fruit																						
Paper Books																						
Horses																						
Toys																						
Wine																						
Wool Raw																						
Woolen Goods																						
Sugar																						

Fig. 5.



UNITED STATES PATENT OFFICE.

BENO REINHARDT HERMAN, OF WASHINGTON, DISTRICT OF COLUMBIA.

COMMERCIOGRAPH.

SPECIFICATION forming part of Letters Patent No. 635,596, dated October 24, 1899.

Application filed March 20, 1899. Serial No. 709,832. (No model.)

To all whom it may concern:

Be it known that I, BENO REINHARDT BARON VON HERMAN, a subject of the Emperor of Germany, residing at Washington, District of Columbia, have invented certain new and useful Improvements in an Educational Appliance called "Commerciograph;" and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention has for its object to produce a means by which it may be ascertained at a glance what quantity of goods are produced in any country of the world and how much is exported in actual commerce to another country. Thus all the fluctuations of commerce may be readily ascertained, so that it is no longer necessary to look up printed lists and reports containing the different figures or changes. To this end I have provided emblems or symbols of merchandise and have connected the same with the flags of the various countries wherein said merchandise is produced. The symbols vary in size according to the amount of merchandise they represent, having other marks besides to indicate the value, and they are arranged on pins, so that they can be easily secured to appropriate maps to indicate that part of the world where the respective goods are produced, as well as the parts where they are consumed. The pins are provided with small clamps adapted to slide thereon, having different colors, so that by their displacement on the pins the higher or lower entrance duty or the premiums for export in some countries may be indicated. Maps of the world or parts of the world marked with the emblems of goods and the flags bring at once before the eye the international exchange of goods of actual standing, and any change in commerce can easily be marked on the said maps, so that they always indicate the conditions of the present time. Thus the invention is adapted to indicate the conditions of production of goods in the different countries of the world and their exchange in international commerce. With this object in view I provide a box, of wood or any other suitable material, with a lid hinged or otherwise secured to the body portion. One side of the box is prefer-

ably removable, so that maps of the world or any part thereof, preferably mounted on cardboard supported by wood or metal or thin plates of cork or other similar material, such as are adapted to receive and to securely retain a number of pins, may be drawn out of the box laterally from their supports, which latter may consist of strips secured to the side walls. The box or kit is besides adapted to receive a full complement of the emblems or symbols and the necessary tools for their application, the former being secured to pins carrying at their upper ends the flags of those countries which partake in the world's commerce.

In the accompanying drawings, forming part of the specification, Figure 1 is a perspective view of the box or commerciograph opened, representing as samples two plates provided with the marks of actual commerce, one in the box right under the cover, which is arranged on hinges, and the other drawn out adapted to rest on the bottom of the box when in place. Other plates with maps are supported in a similar way in the box, which can be made higher accordingly. Fig. 3 shows as samples a number of representations at a small scale of the goods produced in various countries. Figs. 2 and 4 show the plates in detail. Fig. 5 represents as a sample a political card of the United States, showing the manner of marking or indicating what kinds of goods are produced within its limits, the samples of the goods being made large or small to correspond to the total value of the respective goods produced and showing several goods imported from the countries of their production, which is indicated by the different flags.

The box, Fig. 1, can be made of sufficient height to receive similar maps of the whole world in a number of sections which when correctly marked with the symbols of commerce can all be placed into the box, so as to be ready for immediate use when any question arises as to what class of goods is produced in any one country and exported to another. When changes occur in the actual commerce, the corresponding changes are made by displacing the symbols with the flags, and thus the maps will be always ready for inspection.

The symbols on the pins, with flags, as more fully described in the following specification, may be stored in the receptacle or box in any suitable way, in a drawer, bag, or otherwise; but I prefer to use for this purpose one or more of the plates, such as shown in Fig. 2. This figure discloses on one margin the names of various articles of merchandise, which are represented on the opposite side by corresponding figures, such as a horse for horses, a hog for pork, a bale for cotton, &c. The upper and lower margins are divided and marked with the names of countries at the top and by the representations of the corresponding flags at the bottom. Thus the whole plate is divided into squares ready to receive the pins with the symbols of goods and the flags in a manner adapted to make it very easy to find one or the other when it is necessary to make use of the same on a map of any country of the world. If, for instance, it is desired to mark on a map of any country that machinery is exported to that country by the United States, in order to find the respective pin it is only necessary to go down on the left-hand margin, Fig. 2, to about the middle, where machinery is marked, and then to go to the right across the squares to the end last but one in the line of the United States, and there the pin with the United States flag and a cog-wheel representing machinery will be found. If it is required to indicate the import or export of wine from France, the respective symbol is found by going down the left margin to the third row from the bottom, marked "Wine," and then to go to the right across the squares to No. 3, which is in the line of France, where the pin with the French flag and a bottle as a symbol will be found to designate the merchandise. It is obvious that it is far more easy to locate the symbols and the countries of production in this way than it would be were they all in disorder in a drawer or bag. Moreover, a plate of the form shown in Fig. 2 can be used to show the import of any country without rendering it necessary to make use of a geographical map. Taking Spain, for instance, the operator, according to the printed lists of actual commerce, places in the upper row the symbol for the amount of raw cotton which is exported from the United States in the square to the right, last row but one, which is a small bale of cotton with the United States flag, &c. In the same manner in the second row he would place the symbol of cotton goods, woven fabrics, a small symbol with the Belgian flag in the first row, and a symbol with the British flag in the fourth row, &c. In a similar manner the third line for beer would be used, and thus the whole plate would be marked correctly to show how much goods produced in the different countries is imported into one special country. In order to mark the amount of merchandise produced in the different countries and exported into others, I make use of several means.

In Fig. 3 a few of the symbols of merchandise are represented, and thus, for instance, at the left, *a* represents toys, with the German flag. *b* represents wool in the shape of a bale, with the Roumanian flag. *c* represents horses, under the Danish flag. *d* is intended to indicate machinery manufactured in Belgium, with the Belgian flag. *e* designates wool, (marked by a bale,) with the English flag. *f* is intended for fruit produced in Italy. The next, *g*, indicates in the form of a book the merchandise—paper—produced in Holland. The following, *h*, indicates beer produced in Austria-Hungary. Then follows a scale, the object of which will be hereinafter explained. *i* is a hog, under the Russian flag, indicating pork. *k* indicates cattle from Australia. *l* is machinery produced in Switzerland. *m* indicates wine from Spain. *n* is to mark cotton grown in Egypt, and *o* is lumber from the United States. It can at once be seen from this figure that by the sizes of the symbols the quantities of production can be approximately marked; but besides this under every symbol a numeral with the letter "m" is printed to indicate how many millions of any unit of money of the respective goods are produced in a country. To the left of the strip showing this mark of size are capital letters, which indicate the size in classes, as follows: Class A is for goods produced to the value of one million; B, for goods of two or three millions; C, four to six millions; D, seven to ten millions; E, eleven to twenty millions; F, twenty to thirty-five millions; G, thirty-five to sixty millions; H, sixty to one hundred millions; I, one hundred to two hundred millions, and K two hundred to three hundred millions. Thus in taking, Fig. 3, the symbol for fruit, Italy, the letter D would indicate that fruit to the value of seven to ten millions is produced in Italy and besides the more specific mark of 9 m., indicating exactly nine millions.

Another means for marking the size is the scale shown in Fig. 3, representing any convenient measure in inches or centimeters, &c. By using the scale the first ten units would correspond to the smallest class, A, thirteen units to class B, sixteen units to class C, and twenty units to class D, &c., so that, for instance, the horse at the left in Fig. 3 under the Danish flag, belonging to the class E, would measure twenty-five units in height on the scale indicated from the bottom line of the lower strip with the impression 12 m. to the back of the horse where the shank of the pin is visible.

In Fig. 3 small clamps *x* are indicated on the shanks of several of the pins, and I preferably make use of clamps in two colors—black and red—which I use for the following purpose: The black clamps are to indicate the entrance duty for merchandise in any country, and in placing the clamp upon the flag itself it indicates that the entrance duty is high. If placed near the symbol—that is, very low—it indicates a low entrance duty,

and when placed in the middle it would mean that a medium entrance duty is to be paid for the respective class of goods on importation. Therefore in having a map of a country before the eye with all the symbols of the imported goods by placing clamps on each in the above-described manner it can at once be seen whether high or low entrance duties are payable. No clamp on a pin would mean that importation of a certain class of goods is free. The red clamps are used in a similar way to indicate by a higher or lower position the higher or lower premium which is paid by any country for exportation—as, for instance, on sugar in Germany.

Fig. 4 represents a plate similar to the plate shown in Fig. 2, showing more especially the export or the production of goods in a certain country. This plate is used also for storage of the symbols in the above-described manner or for indicating the goods produced in one country—for instance, as represented in Fig. 4, Germany. Any or all of the other countries can be provided in a similar manner.

Fig. 5 shows a plate with a geographical map—the United States, as an example—with a few flags of the stars and stripes and symbols of goods produced in the United States and, besides, a few foreign flags with the respective goods imported from the respective foreign countries. In using the maps it is easy to mark the approximate values of production and importation by placing the symbols and flags at the very spot of production or consumption right in the respective States where the goods are made and where the imported goods go to for consumption.

It will be understood that in the figures only a small number of the universal goods are indicated as examples with the respective flags of the countries of their origin and that a plurality of plates like those shown in Figs. 2 and 4 are necessary to represent the total international commerce.

The advantages offered by the commercio-graph in its many applications are numerous. It facilitates memorizing the export and import statistics of the various countries and serves in a similar capacity as a handy record of commerce. It is obvious that also the different means of transportation may be easily indicated on the maps—that is to say, railroads, lines of traffic of the commercial marine, telegraph lines, and cables—in order to complete the picture of international trade. The lines of ocean steamers can easily be indicated by flags with ships as symbols of different sizes to indicate the smaller and greater importance. The cable lines may be indicated in a similar manner by means of flags and strips with impressions, showing how many thousands of messages are annually sent through the wires. The changes of the war vessels can easily be indicated in the same manner by marking the ships with the respective flags in the harbors of the various countries where they are actually located; also, emi-

gration and immigration having become so important in the international relations can be represented on the maps by means of human figures, and thus a figure of said description under the Italian flag would find its place in New York, as well as in the Argentine Republic and other countries to which Italians of the poorer class mostly emigrate. Thus the commercio-graph is important for schools. The student can see at a glance the fields of international exchange of goods at the present century and time. He can see by way of three dimensions—height, length, and depth—by symbols and by colors what he could learn heretofore with the help of dry figures only. The commercio-graph is of like importance to the teacher of political economy, to the statistician of commerce, to the statesman, and to the trader, who can readily ascertain with the aid of the device the present conditions of the production of certain countries and the exchange of certain merchandise between certain countries.

The commercio-graph may also be used as a game in teaching, which would contribute greatly in committing to memory what heretofore could be retained only with difficulty and was then liable to be soon forgotten. The students can form two parties, with the object to correctly mount the maps of the countries represented by them and to indicate the kinds of merchandise, according to prominence and value, imports, exports, &c. Further, the students may then make the necessary changes, which would be produced under the influence of certain custom laws or commercial treaties, or changes may be made in the placement of the symbols to represent conditions as the statesman may consider them of advantage for the country he represents.

Having thus described my invention, I claim—

1. An educational apparatus such as described, embodying a highly-illustrated map-surface adapted and arranged to have assembled thereon, a plurality of symbols representing in miniature the various exports and imports of a country and their respective values, and bearing adjustable means for indicating the relative tariff rates and other important data, substantially as described and for the purpose set forth.

2. An educational appliance for demonstrating the relative commercial, political and other characteristics of a country as compared with those of another country, embodying a highly-illustrated map-surface, adapted and arranged to have assembled thereon a plurality of symbols illustrative of such characteristics, representing in miniature the various exports, imports and other matter, with their values, and having the name of the product and other related indicia inscribed thereupon, adjustable means carried by the symbols, adapted to indicate the tariff rate, and a flag surmounting each symbol, adapted to denote

the place of origin of the product, substantially as specified.

3. A symbol, emblem or figure illustrative of the commercial, political or other characteristics of a country, consisting of a body portion, representing in miniature the nature of the respective characteristic and bearing indicia for the same, a removable pin carrying said body portion, diversely-colored clamps slidably mounted upon the pin and adapted to indicate tariff rates or export bounties, as described, and a flag surmounting said pin adapted to indicate the place of origin of the product, substantially as described.

4. A symbol, emblem or figure such as described, consisting of a body portion representing in miniature a certain commercial product and adapted to indicate according to its size, by means of a scale, the aggregate values of the export or import, a removable pin carrying said body portion, and one or more adjustable clamps slidably mounted upon the pin and adapted to indicate, the respective tariff rates or export bounties, and a flag surmounting said pin adapted to indicate the place of origin of the product, substantially as described.

5. A card or plate, adapted to illustrate the imports or exports of a certain country, subdivided into columns of squares, adapted and

arranged to have assembled thereon a plurality of symbols illustrative of commercial products, the margin to the left containing the names of the various products, which are illustrated in the opposite margin; the upper margin containing the names of the respective countries, and the opposite margin the flags of the several countries; said plate being inscribed "import" or "export" as the case may be, and bearing separately the flag of the country, substantially as described.

6. The herein-described commerciograph, consisting of a box-like receptacle or kit, having a hinged cover and a drop side, and adapted to receive a series of maps, and a series of illustrated cards or plates having subdivisions adapted and arranged to have assembled thereon, illustrative symbols, and a plurality of such symbols, each borne upon its proper subdivision, with suitable marginal annotations and illustrations opposite the respective symbols, to designate the same, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

BENO REINHARDT HERMAN.

Witnesses:

A. B. DEGGES,

JAS. A. RICHMOND.