J. N. REED.

DEVICE FOR COLLECTING SAMPLES OF FINELY DIVIDED MATERIAL.

APPLICATION FILED SEPT. 19, 1910.

1,024,282.

Patented Apr. 23, 1912.

FIG. 1.

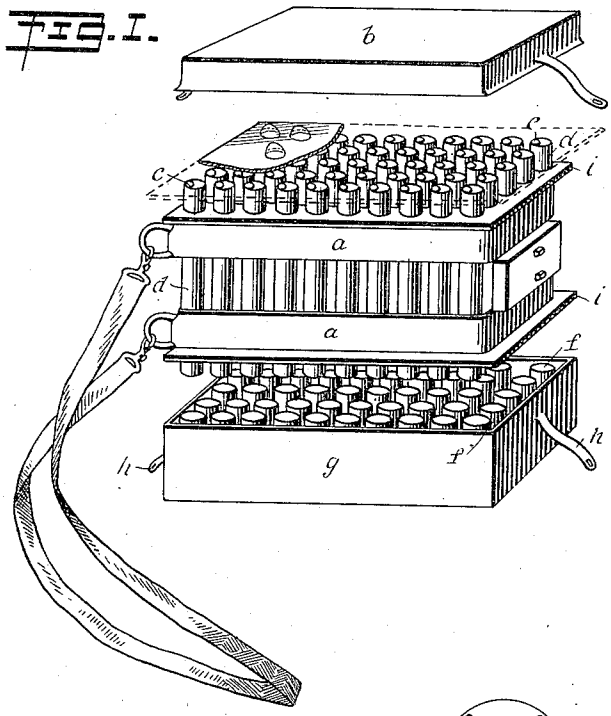


FIG. 4.

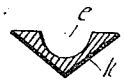
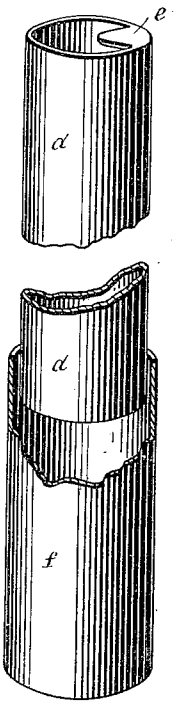


FIG. 2.



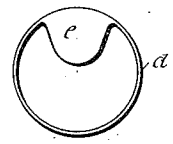


FIG. 3.

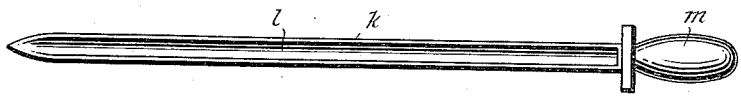


FIG. 5.

WITNESSES:

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DEVICE FOR COLLECTING SAMPLES OF FINELY-DIVIDED MATERIAL.

1,024,282. Specification of Letters Patent. Patented Apr. 23, 1912.

Application filed September 19, 1910. Serial No. 582,714.

To all whom it may concern:

Be it known that I, JOHN NICHOLAS REED, a subject of His Majesty the King of Great Britain and Ireland, residing at Cienfuegos, in the Province of Santa Clara, Island of Cuba, have invented a new and useful Device for Collecting Samples of Finely-Divided Material, of which the following is a specification.

My invention relates to devices of the above description, and more particularly consists in a portable apparatus for the collection and separate conveyance of the greatest possible number of samples of said material by one operator without much inconvenience, so as to afford the greatest guarantee of the individual character and condition of the material contained in each bag from which the samples have been collected for examination, because with the use of my device the vessels, once filled, may be removed and placed in boxes perfectly closed so as to prevent any alteration of the hygrometric conditions of the samples collected which is a serious inconvenience of the methods at present employed in the collection of samples of sugar and their transportation to the laboratories.

One of the advantages of my device is the combined use of a trier of triangular cross section which penetrates more easily thereby permitting the drawing of samples from the inner portions of the bag, while in accordance with the present methods the samples are usually obtainable only from the surface portion and are mixed to form a general sample for the whole stock which renders it impossible to ascertain the differences of color and humidity, which are very important data for a just appreciation of the sugar.

A further advantage of my invention is due to the fact that by means of the employment of a plurality of tubes relatively narrow, through which the material drawn by the trier is discharged into corresponding vessels which are of sufficient depth but of relatively small diameter, each sample is deposited in these vessels preserving the same correlated position of its particles as it was found in the bags, whereby the difference in humidity of the outer and inner portions of the material can be easily ascertained.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective of the chest for holding the vessels and showing the strap whereby the chest is carried; Fig. 2 is a perspective showing the arrangement of one of the vessels; Fig. 3 is a plan view of one of the vessels; Fig. 4 is a cross section through the trier; and Fig. 5 is a plan view of the trier.

The chest appears generally as indicated in Fig. 1. The cover is shown at *b* and at *g* is a box containing the various vessels *f* which are separated from the parts above it.

At *d* are shown a number of tubes which extend through frames *i*, *i'*.

In Fig. 2 is indicated the relative position of each tube and its corresponding vessel *f* into which it fits when the parts are assembled. The trier *k* shown more particularly in Fig. 5 is provided with a channel *l* and with a handle *m*. The trier is inserted through the tube *d* in order to discharge material, carried by the trier, into the vessel *f*. One of the tubes *d* with its inwardly projecting nail-shaped pieces *e* may be seen in Fig. 3. The nail-shaped pieces *e* are for the purpose of removing material from the groove or channel *l* of the trier whenever the operator withdraws the trier previously charged with the material from any one of the discharge tubes *d*. Over the tops of the tubes *d* is secured a sheet of paper or of cloth which may be either transparent or provided with marks indicating the relative positions of the tubes *d* so that the various tubes may readily be located. When, however, the trier is inserted into one of the tubes, the piercing of the paper will practically leave a mark showing which of the tubes have received charges of the material to be operated upon.

The operation is as follows: The apparatus is suspended from the shoulders of the operator by means of straps *a*, or by any other suitable means, the cover *b* being removed. The operator, who has introduced a sharp pointed trier of triangular cross section as shown in Fig. 4, in a bag of sugar or other material to be examined, then inserts the trier thus filled with the material through the upper end of one of the tubes *d*, then withdrawing the trier so as to engage the nail-shaped piece *e* in the grooved side of the trier, thereby removing the collected material from said grooved side; and the

material by its own gravity will fall into the corresponding vessel *f*, situated under the lower end of the tube *d*. The operation is successively repeated until the required number of samples have been taken. The vessels *f* are maintained in position under the tubes *d* by fastening or in any other manner securing the box *g* to the body of the apparatus, as by means of the fastener *h*. When the vessels are removed they may be placed in a box provided with bottom and top cork boards, whereby they may be held in position at the same time securing an air-tight closure.

Having thus described my invention with reference to the particular form of construction shown as an example, what I essentially claim is the following:

1. A device of the character described, comprising frames for holding tubes, a box to be connected with one of said frames, a plurality of vessels carried by said box, a plurality of tubes mounted within said frames and extending into said vessels, and scraping members carried by said tubes for facilitating the discharge of material from a trier into said tubes.

2. A device of the character described, comprising a plurality of vessels open at one end, a plurality of tubular filling members, and means to support said members with one of their open ends extending into the open ends of said vessels, said filling members having integral lips at their opposite ends and extended inwardly toward their axes, for the purpose described.

3. A device of the character described, comprising frames for holding tubes, a box to be connected with one of said frames, a plurality of vessels carried by said box, a plurality of tubes mounted within said frames and extending into said vessels, scraping members carried by said tubes for facilitating the discharge of the material from a trier into said tubes, and a member of sheet material disposed over the outer ends of the tubes and adapted to be punctured in alinement with each of the tubes by the trier, when the latter is inserted in the tube whereby to indicate the tubes which have received the fillings.

In testimony whereof I have signed my name to this specification in the presence of the two subscribing witnesses.

JOHN NICHOLAS REED.

Witnesses:

AURELIO DE ARMAS,

JUAN LANOUSSE.