W. J. EISENHARDT.

DISPENSING APPARATUS.

APPLICATION FILED JULY 6, 1917.

1,313,174.

Patented Aug. 12, 1919.

2 SHEETS—SHEET 1.

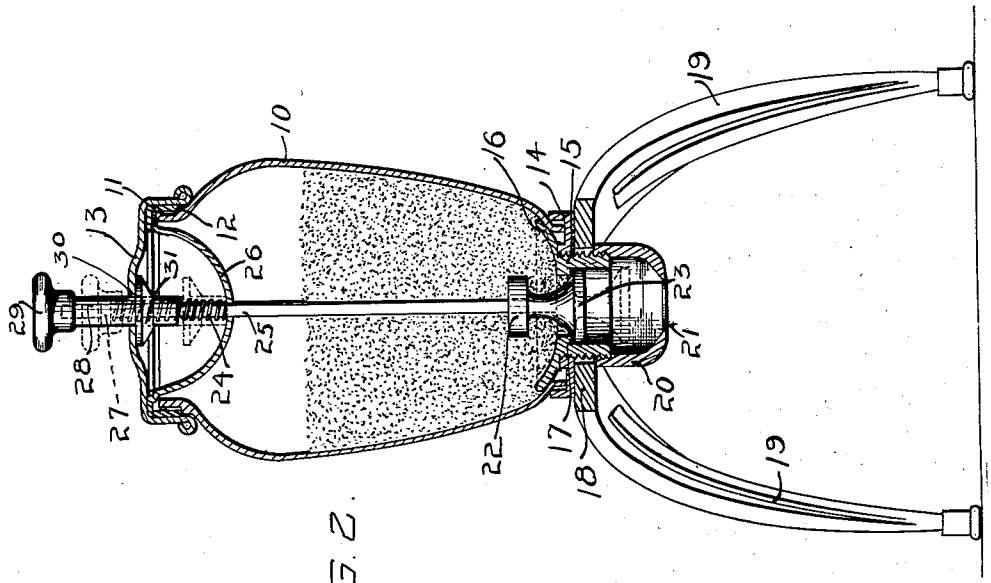


FIG. 2.

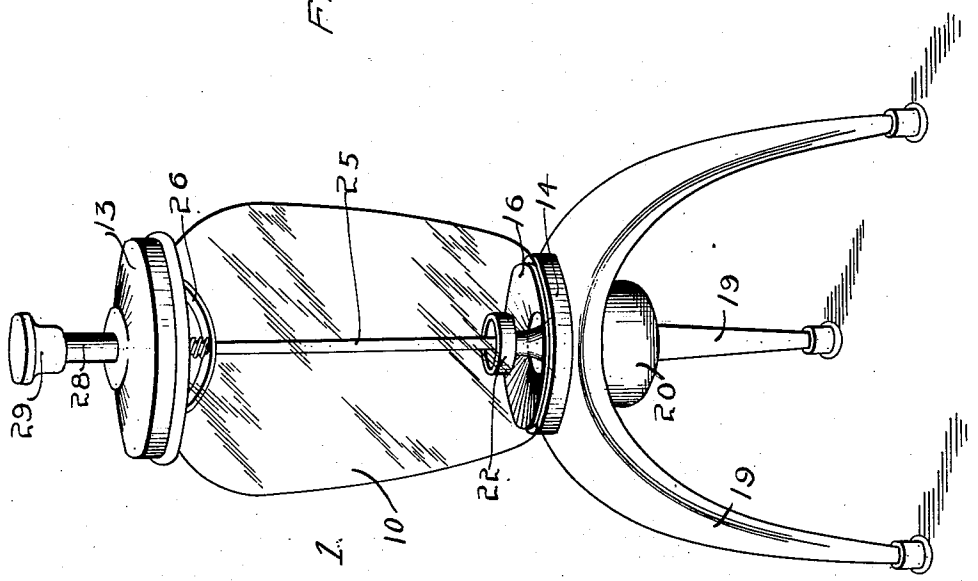


FIG. 1.

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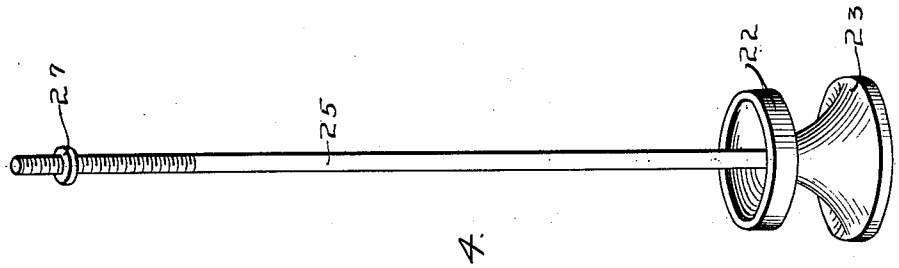


FIG. 4.

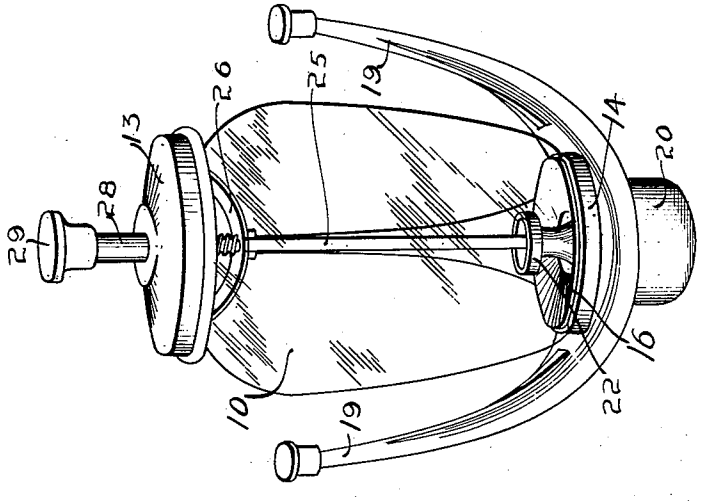


FIG. 3.

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UNITED STATES PATENT OFFICE.

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DISPENSING APPARATUS.

1,313,174. Specification of Letters Patent. Patented Aug. 12, 1919.

Application filed July 6, 1917. Serial No. 178,944.

To all whom it may concern:

Be it known that I, WILLIAM J. EISENHARDT, a citizen of the United States of America, residing at Baltimore city, State of Maryland, have invented certain Improvements in Dispensing Apparatus, of which the following is a description, reference being had to the accompanying drawing, forming a part thereof.

The object of the invention is to provide a simple, efficient, economical and ornamental dispensing apparatus capable of discharging measured quantities of fluid commodities, particularly of granular form, such as sugar, which will move readily under the influence of gravity, such a device being particularly adapted for use on lunch counters, at soda-water fountains and the like, where it is desirable to accurately control the amount of discharge for each operation of the device, while keeping the bulk of the stock inclosed and covered at all times, and thus free from contamination by flies and other insects, dust, etc.

Further objects and advantages of the invention will appear in the following description of a preferred embodiment, it being understood that changes in the form, proportion and minor details may be resorted to within the scope of the appended claims without departing from the spirit of the invention.

In the drawings,

Figure 1 is a perspective view of an apparatus embodying the invention.

Fig. 2 is a vertical sectional view of the same.

Fig. 3 is a perspective view showing the device folded for shipment.

Fig. 4 is a detail view of the plunger and its rod.

In the illustrated embodiment of the invention, the container 10 for the commodity is preferably transparent as of glass, and may be made of any suitable ornamental shape to suit the taste of the designer, dealer or customer, the open upper and lower ends thereof being protected by suitable metallic or other reinforcements to minimize the risk of fracture. For example, the upper end of the container may be inclosed in a collar 11 seated upon a shoulder 12 and forming a suitable rest for the cap 13 which is removable to permit of filling the receptacle while the lower end may be seated in a flanged ring 14 threaded or otherwise removably attached to the sleeve 15 of a base which also embodies a flange 16 peripherally bearing upon the inner surface of the lower contracted end of the jar, to hold the latter firmly against vibration in the flanged seat. Obviously the removal of the seat from the sleeve of the base permits of the removal of the jar from the base while the protecting collar at the top of the jar may be interlocked therewith by spinning or in any preferred manner.

The inner concaved surface of the flange 16 forms a funnel or deflector in communication with the bore of the sleeve 15 which constitutes a measuring chamber or cylinder through which the contents of the receptacle may be discharged under the control hereinafter explained. At its upper end this measuring chamber is preferably contracted to form a stop shoulder 17 and removably fitted exteriorly upon the sleeve is the ring 18 of a support also embodying the legs 19, said ring and consequently, the support being held in proper position with reference to the other parts of the apparatus by means of a hollow nut 20, threaded upon the sleeve of the base and constituting a concentrating outlet or discharge member for the apparatus, the said discharge member being contracted toward its outlet 21.

When it is desired to pack the apparatus for shipment or storage, the support may be removed by disengaging the nut 20 and inverted and again secured in place, as shown in Fig. 3.

Disposed for operation in the measuring chamber consisting of the bore of the base sleeve is a double-headed plunger having the upper head 22 and the lower head 23, the upper side of the latter being preferably coned so that when the plunger is in the position indicated in dotted lines in Fig. 2, the sugar or other commodity of more or less fluid characteristics may readily be discharged to prevent accumulations thereon.

The upper plunger head is adapted to fit in the reduced upper portion of the measuring chamber while the lower head operates in the lower portion of the chamber, and the interval axially between said heads is such that in depressing the plunger, the upper head enters the chamber before the lower head leaves the same whereby a definitely measured quantity of the commodity is contained within the chamber before any discharge thereof can be effected as by the

further depression of the plunger. In other words, the upper head constitutes a cut-off to definitely determine the amount of material contained in the measuring cavity or space between the heads. On the reverse or upward movement of the plunger, the lower head enters the chamber before the upper head is removed therefrom so as to permit the inflow of a further quantity of the commodity. The lower head of the plunger is adapted in the normal position of the parts to come in contact with and be limited in upward movement by the stop shoulder 17, the plunger being yieldingly held in its elevated position by means of a spring 24 arranged upon the plunger stem 25 bearing upon a yoke 26 which is suspended from the collar 11 and through which said plunger stem operates and by which it is guided. At its upper end, said plunger operating spring bears against a shoulder 27 consisting in the construction illustrated of a nut threaded upon the upper end of the plunger stem and adapted to be adjusted to vary the tension of the spring and hence its resistance to downward movement of the plunger.

Also removably fitted upon the upper end of the plunger stem and inclosing the upper portion of the spring and said tension adjusting nut is the thimble 28 of a button or knob 29 by which the plunger may be depressed to effect the discharge of a measurement of the contents of the receptacle. Said button carrying thimble operates in a suitable guide opening 30 in the cap or cover 13, and independent upward movement of the sleeve with reference to the cover is limited by a stop shoulder 31 whereby the raising of the thimble will, if continued, result in elevating the cap or cover and remove it from the jar without disturbing the plunger, to permit of refilling.

It will be understood from the foregoing description that in operation it is simply necessary after placing a receptacle such as a cup beneath the outlet, to depress the plunger to its full extent and then release it for return by the yielding means provided for that purpose, in order to have a measurement of the commodity discharged into the cup, and said operation obviously can be repeated if a greater quantity is required. There is no intermediate position of the plunger however in which a continuous flow of the commodity through the outlet can be secured as the cut-off between the storage receptacle and the measuring chamber is effective before the release of the material from the measuring chamber can be secured.

It will also be noted that the parts of the device are readily removable or detachable to permit of thorough cleansing and for purposes of replacement or repair.

What I claim is:—

1. A dispenser for fluid material having an open-ended storage receptacle, a base having a flange engaging the inner surface of the lower end of said receptacle and provided with a depending sleeve forming a discharge chamber, a flanged ring threaded upon the exterior of the sleeve for engagement with the exterior surface of the receptacle, a plunger operating in the bore of said sleeve from above said receptacle for controlling the discharge of the contents of the receptacle, and means within the receptacle and above the contents thereof for returning the plunger to its normal position.

2. A dispenser for fluid material having a storage receptacle provided at its lower end with a base having a depending measuring cylinder, a double-headed plunger operating in said cylinder, the interval between the heads being less than the length of the cylinder, a reversible support and a concentrating cap fitted to the cylinder to secure the support in place and provided with an outlet.

3. A dispenser for fluid material having a storage receptacle provided at its lower end with a base having a depending measuring cylinder, a double-headed plunger operating in said cylinder, the interval between the heads being less than the length of the cylinder, a reversible support, and a concentrating cap removably fitted to said cylinder and provided with a reduced outlet.

4. A dispenser for fluid material having a storage receptacle provided with a base having a depending tubular outlet, means for controlling the passage of material from the interior of the receptacle through the outlet, a reversible support having a ring for fitting exteriorly upon the outlet, and an annular cap for clamping said ring to the base.

5. A dispenser for fluid material having a storage receptacle provided with an elongated outlet, a double-headed plunger operating in said outlet, a guide yoke for the plunger stem within the receptacle, a plunger actuating spring above the contents of the dispenser fitted upon the stem and bearing at one end upon said yoke, and a stop shoulder adjustably mounted upon the stem to seat the other end of said spring, the said outlet being shouldered to limit the movement of the plunger in opposition to the spring.

6. A dispenser for fluid material having an open-ended storage receptacle, a base having a flange engaging the inner surface of the lower end of the receptacle and provided with a depending sleeve forming a discharge chamber, a flanged ring threaded upon the exterior of the sleeve for engagement with the exterior surface of the receptacle, and means for controlling the discharge of the contents of the receptacle.

7. A dispenser for fluid material having

a storage receptacle provided at its lower end with a base having a depending measuring cylinder, means for controlling the discharge from said cylinder, a support, and a concentrating cap fitted to the cylinder to secure the support in place, and provided with an outlet.

8. A dispenser for fluid material having a storage receptacle provided at its lower end with a base having a depending measuring cylinder, means for controlling the discharge from said cylinder, a support, and a concentrating cap removably fitted to said cylinder, and provided with an outlet.

9. A dispenser for fluid material having a storage receptacle provided with an outlet, a plunger operating in the outlet and having an actuating stem, a guide for the stem within the receptacle, and a plunger actuating spring bearing at one end on the guide, the stem having a shoulder on which the other end of the spring bears, and the aforesaid outlet being shouldered to limit the movement of the plunger in opposition to the spring.

10. A dispenser for fluid material having a storage receptacle, a measuring chamber into which the receptacle discharges and provided with an outlet, said chamber having portions of different areas, the smaller portion being at the inlet end and the wider portion at the outlet end of the chamber, a plunger in the second-mentioned end of the chamber and movable out of the same to permit a discharge of material therefrom, said plunger normally closing the first-mentioned portion of the chamber, and a cut-off head movable with the plunger and normally positioned outside the first-mentioned portion of the chamber, and movable thereinto when the plunger is carried out of the second mentioned portion of the chamber to permit the discharge from the latter.

11. A dispenser for fluid material having a storage receptacle, a measuring chamber into which the receptacle discharges and provided with an outlet, said chamber having portions of different areas, the smaller portion being at the inlet end and the wider portion at the outlet end of the chamber, a plunger in the second-mentioned end of the chamber and movable out of the same to permit a discharge of material therefrom, said plunger normally closing the first-mentioned portion of the chamber, said chamber being shouldered to provide a stop for the plunger in its normal position, and a cut-off head movable with the plunger and normally positioned outside the first-mentioned portion of the chamber, and movable thereinto when the plunger is carried out of the second mentioned portion of the chamber to permit the discharge from the latter.

This specification signed and witnessesd this 26″ day of May, A. D. 1917.

WILLIAM J. EISENHARDT.

Witnesses:
JOHN O. WISE,
WILLIAM T. EISENHARDT, Jr.