Sept. 8, 1931. R. S. BEATTON 1,822,557

DISPENSING APPARATUS

Filed Oct. 19, 1928

FIG. 1.

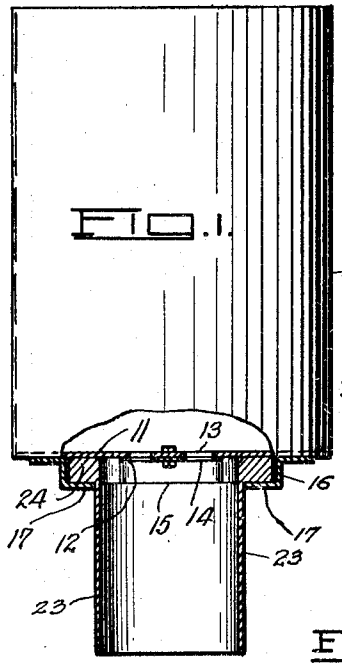


FIG. 2.

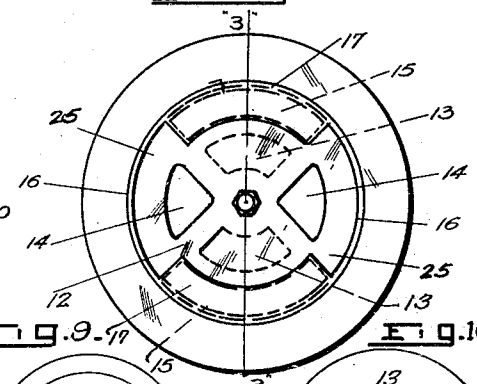


FIG. 9.

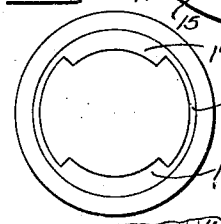


FIG. 10.

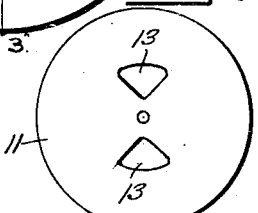


FIG. 3

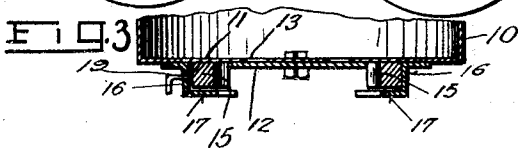


FIG. 4.

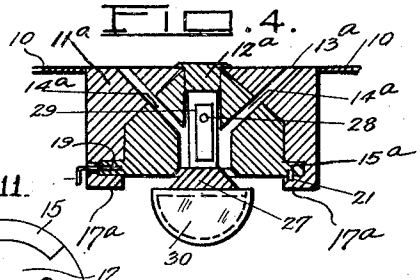


FIG. 5.

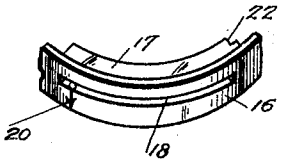


FIG. 11.

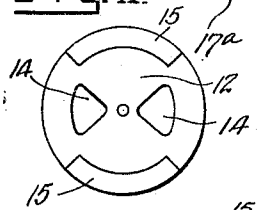


FIG. 8.

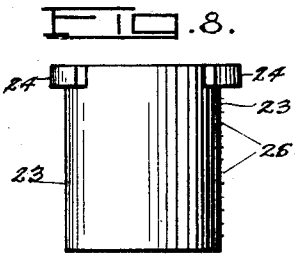


FIG. 6.



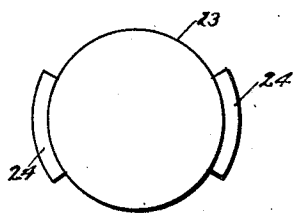


FIG. 7.

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UNITED STATES PATENT OFFICE

ROWLAND SUTTON BEATTON, OF YOUNG, NEW SOUTH WALES, AUSTRALIA

DISPENSING APPARATUS

Application filed October 19, 1928, Serial No. 313,475, and in Australia August 16, 1928.

This invention relates to improved apparatus for obtaining measured or unmeasured quantities of material from containers without the necessity for an additional measuring operation.

A container, which may be formed of any desired material such as metal, wood, glass, or the like, to hold discrete material such as powders, grain, granules, or liquids, is fitted with a valve seat and a valve, and with a receiver, preferably graduated, and adapted to open the valve when it is supported by the container and to close the valve as it is being removed from the container.

In the accompanying drawings:—

Fig. 1 is a partly sectional side elevation of a device embodying the features of the present invention;

Fig. 2 is a bottom plan view of the container illustrating a retaining ring forming a feature of the invention;

Fig. 3 is a cross sectional view taken on the line 3—3 of Fig. 2, the upper portion of the container being broken away;

Fig. 4 is a detail sectional side view illustrating a modified form of valve mechanism adapted for use in measuring liquids;

Fig. 5 is a detail perspective view of a portion of the retaining ring;

Fig. 6 is a detail perspective view of one of the lugs carried by the valve shown in Figs. 1 to 3;

Fig. 7 is a bottom plan view of the receiver;

Fig. 8 is a side elevation of said receiver;

Figs. 9, 10 and 11 are bottom plan views, respectively of the retaining ring, the valve seat and the valve.

The base of a container 10 forms a valve seat 11 having mounted thereon a valve 12 which is adapted to be rotated below said valve seat.

A pair of openings or ports 13 is formed in the valve seat and openings 14 in the member 12. The openings 13 are normally out of register with the openings 14 but when the member 12 is rotated through an angle of about 90 degrees its openings 14 will register with said ports 13.

The member 12 is fitted with a pair of oppositely disposed external lugs 15 each of which extends over a quarter of the circumference of the member 12.

Mounted on the container about the member 12 is a metal ring 16 having its lower edge fitted with a pair of oppositely disposed internal flanges 17 which are at a lower level than and lie below the lugs 15 when the member 12 is in normal closing position. Each flange 17 also extends over a quarter of the circumference of the ring 16. To facilitate the positioning of the valve a transverse guiding slot 18 is formed in the ring to guide a pin 19 mounted in a lug 15 of the valve 12 so that when the pin is in contact with the ends of the slot the openings 13, 14 are either in or out of register with each other. An indicator 20 is mounted on the outer end of the pin. An additional pin 21 is secured to the other end of the lug 15 and is prevented from further travel by a notch 22 formed in the flange 17.

A receiver 23, formed of glass, metal, or of other material as desired, is similarly provided with a pair of oppositely disposed external lugs 24 each of which extends over a quarter of the circumference of the receiver. These lugs are constructed to be pushed up into the ring 16 in the spaces 25 between the flanges 17 and contacting with the ends of the lugs 15 may be rotated above the flanges 17 of the ring 16.

The wall of the receiver is graduated at 26 to indicate the quantities of material received from the container.

The lugs 24 having been pushed up into the ring 16 the receiver 23 is horizontally rotated through an angle of about 90 degrees so that the pin 19 reaches the end of the slot 18. The lugs 24 push before them the lugs 15 of the valve 12 and bring the openings 14 into register with the openings 13 in the valve seat so that the contents of the container may pass into the receiver, the lugs 24 of which are now supported by the flanges 17 of the ring.

To remove the receiver it is backwardly rotated until the pin 19 reaches the other end of the slot 18 and the pin 21 enters the notch 22. By this operation the lugs of the men-

ber 12 are similarly rotated so that the valve seat openings are closed.

In Fig. 4 is shown a valve construction particularly adapted for dispensing liquids in measured quantities. In this form the valve seat 11^a is in the form of a block of substantial thickness having a valve chamber in which is mounted for rotation a valve 12^a, said valve seat and valve being provided with ports 13^a and 14^a, respectively, which are adapted to be brought into register when the valve is rotated to the proper position. The side wall of the valve seat at two diametrically opposite portions is extended below the valve chamber and each of said extended portions is interiorly grooved to provide flanges 17^a for supporting a pair of segmental lugs 15^a carried by the valve 12^a, it being understood that the receiving vessel will be provided with a pair of similar lugs adapted, when the receiver is rotated, to push the lugs 15^a before them and to take the place of said lugs on the supporting flanges 17^a, in the same manner as hereinbefore described in connection with Figs. 1 to 3. In the modified form, however, the valve 12^a is provided with a central opening forming at its lower open end a valve seat adapted to be closed by a valve 27, the stem of which extends up into the member 12^a and is provided with an elongated opening or slot 29 through which passes a pin 28 the ends of which are secured in the member 12^a. The valve 27 carries a float 30. When the liquid reaches a pre-determined height in the receiver the float 30 is automatically lifted by the liquid in the receiver thereby forcing the valve 27 to its seat and closing the outlet, thus preventing waste of liquid when the receiver remains unattended on the ring flanges 17^a.

With the above construction the valve is in open position when the receiver is supported by the flanges 17^a, and is in closed position when the receiver is removed from the container.

I claim:—

1. An apparatus of the character described, comprising a container having a valve seat in its bottom, a valve mounted for rotation below said seat and provided with oppositely disposed external quadrant lugs, a metal ring disposed about the valve and having oppositely disposed internal quadrant flanges at a lower lever than and projecting horizontally under the valve lugs when the valve is in its closing position, and a receiver provided with oppositely disposed external quadrant lugs adapted to pass vertically between the ring flanges and to be rotated above said flanges.

2. An apparatus of the character described, comprising a container having a valve seat in its bottom, a valve mounted for rotation below said seat and provided with oppositely disposed external quadrant lugs, a metal ring disposed about the valve and having oppositely disposed internal flanges at a lower lever than and projecting horizontally under the valve lugs when the valve is in its closing position, a valve chamber formed in said valve, a vertically movable valve adapted to close said valve chamber, and a float secured to said vertically movable valve.

3. An apparatus of the character described, comprising a container having a valve seat in its bottom, a valve mounted for rotation below said seat and provided with a pair of oppositely disposed external quadrant lugs, a metal ring disposed about the valve and having a pair of oppositely disposed internal flanges at a lower level than and projecting horizontally under the valve lugs when the valve is in its closing position, said ring being provided with a circumferentially extending guide slot, a pin carried by one of said valve lugs in engagement with said slot, said valve having a centrally disposed chamber opening at its base, a vertically movable valve adapted to close said chamber, and a float depending from said vertically movable valve.

4. An apparatus of the character described, comprising a container having a valve seat in its bottom, a valve mounted for rotation below said seat and provided with a pair of oppositely disposed external quadrant lugs, a metal ring disposed about the valve and having a pair of internal quadrant flanges at a lower lever than and projecting horizontally under the valve lugs when the valve is in its closing position, one of said flanges having a circumferentially extending guide slot, a pin carried by one of said valve lugs in engagement with said slot, and a receiver having a pair of external quadrant lugs adapted to pass vertically between the flanges of the ring into contact with the ends of the valve lugs and to be rotated above the flanges of the ring thereby to rotate said valve lugs until said pin reaches the end of said slot.

In testimony whereof I have affixed my signature.

ROWLAND SUTTON BEATTON.