March 6, 1962 G. L. WAGNER 3,023,935

DISPENSER FOR GRANULATED MATERIAL

Filed Jan. 15, 1959

Fig. 1

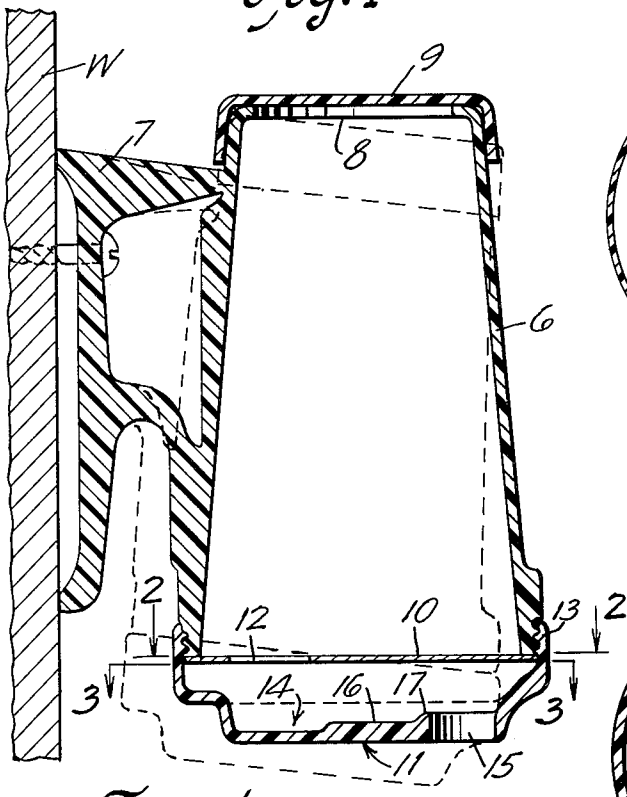


Fig. 2

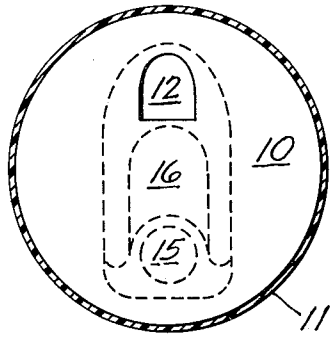


Fig 3

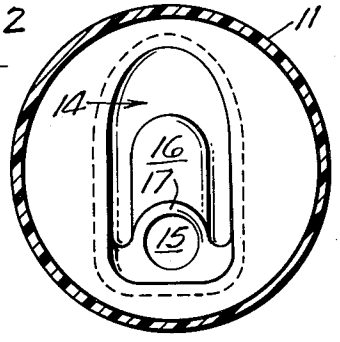


Fig. 4

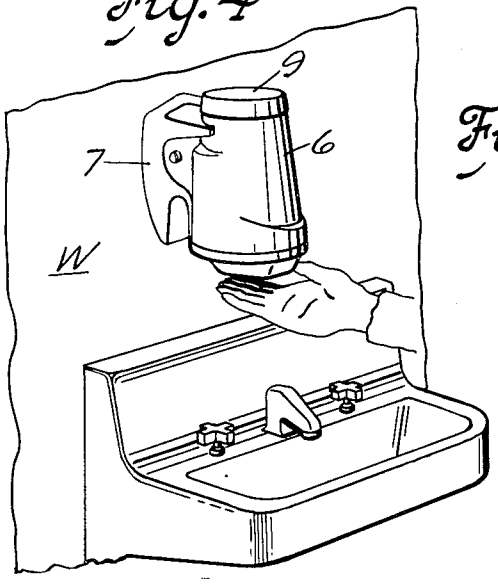
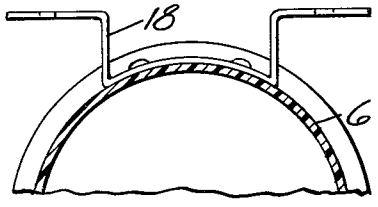


Fig. 5



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DISPENSER FOR GRANULATED MATERIAL

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This invention relates to simplified dispensers for granular and powdered materials such as soap, sugar, coffee, seasoning granules, chemicals and the like, where a supply container is supported in overhanging relation from a wall or other upstanding support.

Most dispensers for such purposes require manipulation by plunger or rotary valve parts; are difficult to clean and sterilize; and are relatively expensive to manufacture and assemble.

It is an object of my invention to provide a very simple and efficient dispenser of the class described adapted in response to an impact upon the outer portion of the body to dispense a substantially measured quantity of the granular or powdered material into the hand of the user or into a receptacle held below the device.

A further object is the provision of an impact-actuated dispenser for granular and powdered materials having a combination of container body and mounting therefor providing an inherent resiliency and constructed to provide for limited tilting of the container on a transverse, substantially horizontal axis when the front of the container is struck and combined with a lower charging and measuring chamber with dispensing passage whereby a charge will be dispensed upon the original impact of the container body and whereafter a new charge of the material will be deposited in the charging and measuring chamber by the resilient return of the container to its normal upright position.

More specifically it is an object to provide a dispenser of the class described having an impact-tilting supply container and mounting provided with a bottom wall having a charging passage in the rear portion thereof adjacent the mounting and having disposed below said bottom wall a forwardly extending charging and measuring chamber, the rear portion of which receives from said passage and the forward portion of which communicates with a dispensing passage disposed below the forward portion of the container whereby the sudden rearward tilting of said container bottom and measuring chamber through an impact delivered against the forward portion of the container because of the inertia of the material and the sudden rear displacement of the container, shifts a substantially measured charge of material to said dispensing passage and the rapid return of the container and charging chamber to the normal upstanding position produces shifting of the bottom material in the container and the dropping or discharge of a new charge of material upon the rear portion of the charging chamber.

These and other objects and advantages of my invention will more fully appear from the following description made in connection with the accompanying drawings, wherein like reference characters refer to the same or similar parts throughout the several views, and in which:

FIG. 1 is a vertical section taken diametrically of the container and charging chamber of an embodiment of my dispenser;

FIG. 2 is a horizontal cross section taken on the line 2—2 of FIG. 1 showing the configuration and discharge or charging passage through the bottom wall of the container;

FIG. 3 is a horizontal cross section taken on the line 3—3 of FIG. 1 showing the configuration and structure of the charging and measuring chamber of my structure;

FIG. 4 is a perspective view showing an embodiment of my dispenser mounted above a conventional lavatory for dispensing measured quantities of soap powder; and

FIG. 5 is a fragmentary cross sectional view illustrating a different form of mounting bracket wherein the resiliency of bracket and container body combine to produce longitudinal tilting and return of the dispenser upon impact against the forward portion of the body.

The dispenser of my invention, a preferred embodiment of which is illustrated in the accompanying drawings, comprises a container **6** of generally cylindrical cross section made preferably of a plastic material and resiliently or tiltingly mounted on an upstanding vertical support such as a wall W by means of a resilient supporting member **7**. The top or roof of the container is provided with an opening **8** for filling the container with a granulated or powdered material such as soap and a cap or cover **9** which removably overlies the top of the container in close fitting relation therewith.

The granular material within the container rests on or is supported by a partition or bottom wall **10** which encloses the lower open end of the container. This bottom wall may be permanently attached to the container, but in my preferred form is detachable therefrom to permit ready access to the interior of the container for cleaning thereof. In the form of my invention illustrated in the drawings, the bottom wall **10** is held against the circumferential lower edge of the container wall by the charging and measuring chamber, indicated generally by **11**. A discharge or charging passage or opening **12** is provided in the rear marginal portion of the bottom wall **10** adjacent the supporting member **7**.

The charging and measuring chamber indicated generally by **11**, which constitutes the bottom portion of the dispenser, is a dish-like member of generally cylindrical cross section and is removably attached to the container as by a threaded connection as indicated at **13**.

The bottom of the measuring chamber **11** has formed therein a shallow elongate material receiving channel **14** which is disposed longitudinally generally in the line of shifting or tilting movement of the container, with the rear portion thereof disposed beneath the charging opening **12**. Channel **14** connects with and has formed in the forward portion thereof a dispensing passage or opening **15**, and may have an intermediate shelf or deck **16** adjacent the dispensing passage **15** and connected therewith by a narrow upstanding retaining lip **17**. The supporting member **7** of FIG. 1 is of resilient plastic material and is so designed and mounted in relation to the container **6** that a blow on the lower forward portion of the container causes limited tilting thereof on a transverse substantially horizontal axis, so that the dispenser momentarily assumes a position indicated by the dotted line of FIG. 1, the degree of tilting obviously being dependent upon the force of the blow delivered to the lower portion of the container, and then returns to its normal substantially vertical position.

FIG. 5 illustrates another method of resiliently mounting my dispenser, in which form the container **6** is supported by a mounting bracket **18** made of spring metal, wherein the resiliency of the bracket and the container combine to produce tilting and return of the dispenser upon impact.

Although two means of resiliently supporting my dispenser has been shown, it is to be clearly understood that I do not wish or intend to be limited by these specific forms shown, and include as part of my invention any combination of dispenser and/or supporting means therefore which will produce a recoil type momentary shifting, vibrating or tilting movement of the bottom wall **10** and charging chamber **11** when a blow or pushing force is

delivered against the forward portion of the container **6**.

In operation, the dispenser of my invention is mounted on a vertical supporting structure such as a wall W in a readily accessible position, such as in FIG. 4, where it is shown mounted above a wash bowl and intended for use as a dispenser for granulated or powdered soap.

The container **6** is filled with granulated material to any height desired, a limited portion of this material passing through the charging opening **12** in the bottom wall **10** to at least partially fill shallow channel **14** of the charging chamber **11**. Because of this spaced apart relationship of openings **12** and **15**, the material does not spill over sufficiently to reach opening **15** and pass therethrough but comes to rest on that portion of the channel occupied by deck **16** adjacent opening **15**. The mass reaction of the material above and below the charging opening **12** will limit the amount of material flowing from the container **6** into the charging chamber **11** in a manner well known to those skilled in the art.

When some of the material contained in the dispenser is desired, a receptacle or simply a hand is placed beneath the dispensing opening **15** and a light blow or tap is delivered against the lower forward portion of the container. Because of the inherent resiliency in the structure provided by the supporting members in combination with the container, the blow causes the container and particularly the bottom wall **10** and measuring chamber **11** to momentarily tilt or vibrate rearwardly. This rearward movement of the measuring chamber **11**, combined with the inertia of the granular material resting in channel **14** on deck **16**, and the inclination of said deck and channel, causes a substantially measured portion of the material adjacent the opening **15** to be delivered to and through said opening to the receptacle or hand below.

The dispenser, upon reaching its maximum rearward movement, reverses direction and moves forwardly to return to its normal vertical position. The return movement shifts or moves the dispensing opening **15** away from the granulated material remaining in channel **14** of chamber **11** and prevents other dispensing thereof. The vibratory or tilting movement of the dispenser causes the material in container **6** resting on bottom wall **10** to shift position and move somewhat rearwardly, so that when the dispenser returns to its normal position, some of the material is positioned above charging opening **12** and passes therethrough to refill the measuring channel **14** of chamber **11**, the dispenser then being ready for another dispensing action of the type previously herein described.

From the foregoing, the advantages of my invention are apparent. My dispenser is of simple design and capable of inexpensive construction. It may be readily disassembled for cleaning, and has no moving mechanical parts which might malfunction due to wearing or clogging thereof and which might be difficult to clean or sterilize. Finally, the method of operating my dispenser is simplicity itself, requiring merely a tapping thereof to obtain a measured quantity of the material desired.

It will, of course, be understood that various changes may be made in the form, details, arrangement and proportions of the various parts without departing from the scope of my invention.

What is claimed is:

1. A dispenser for granular and powdered material comprising an upstanding supply containers having a bottom wall provided with a chamber-charging discharge passage in a rear portion thereof, resilient means for mounting and supporting said container to provide for rearward shifting and forward return of at least the lower portion of said container from and to normal upstanding position, said container having a charge-receiving and dispensing cahmber secured thereto and disposed below said bottom wall, said chamber extending longitudinally generally in the line of said container-shifting and having a material supporting bottom normally extending at least close to a horizontal position with the rear portion thereof positioned to receive from said charging passage of said bottom wall, said material supporting bottom shifting to a declined position when the forward portion of said container is subjected to a rearwardly moving impact and said material supporting bottom in the forward portion thereof having a downwardly extending discharge passage for dispensing a charge of the material when the forward portion of said container is subjected to a rearwardly moving impact.

2. The structure set forth in claim 1 wherein said resilient mounting and supporting means provides for tilting of said container and its dispensing chamber about substantially a horizontal axis extending transversely of said container.

3. A dispenser for granular and powdered material comprising an upstanding supply container having a bottom wall provided with a chamber-charging discharge passage in a rear portion thereof, resilient means for mounting and supporting said container to provide for rearward shifting and forward return of at least the lower portion of said container from and to normal upstanding position, a charge-receiving and dispensing section detachably secured to the lower end of said container and defining an open-top chamber disposed below said bottom wall and extending longitudinally generally in the line of said container-shifting and having a material supporting bottom, the rear portion of which is positioned below the charging passage of the bottom wall of said container, and said chamber in the forward portion of said material supporting bottom thereof having a downwardly extending discharge passage, said discharge dispensing passage having its lower end disposed below the bottom wall of said supply container for dispensing a charge of the material when the forward and lower portion of said container is subjected to a rearwardly moving impact.

4. The structure set forth in claim 3 wherein said discharge-dispensing passage is provided at the upper end thereof with a shallow upstanding lip.

5. The structure set forth in claim 3 wherein said chamber is of shallow channel form and said material supporting bottom has a slightly raised deck area disposed medially between the rear charge-receiving portion and the forward discharge and dispensing passage.

References Cited in the file of this patent

UNITED STATES PATENTS

977,298	Gorman	Nov. 29, 1910
1,495,683	Gates	May 27, 1924
2,580,947	Pacilio	Jan. 1, 1952
2,681,169	Watson	June 15, 1954