

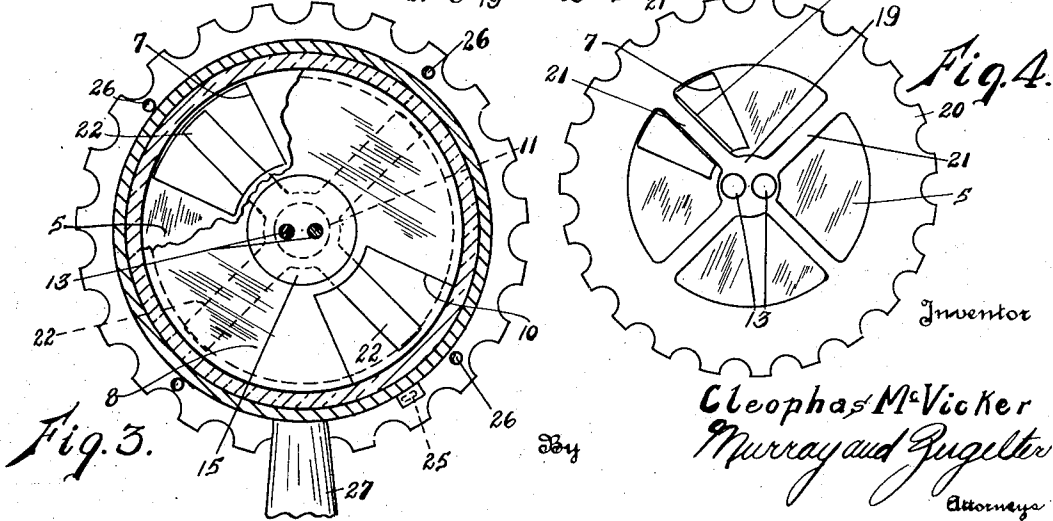
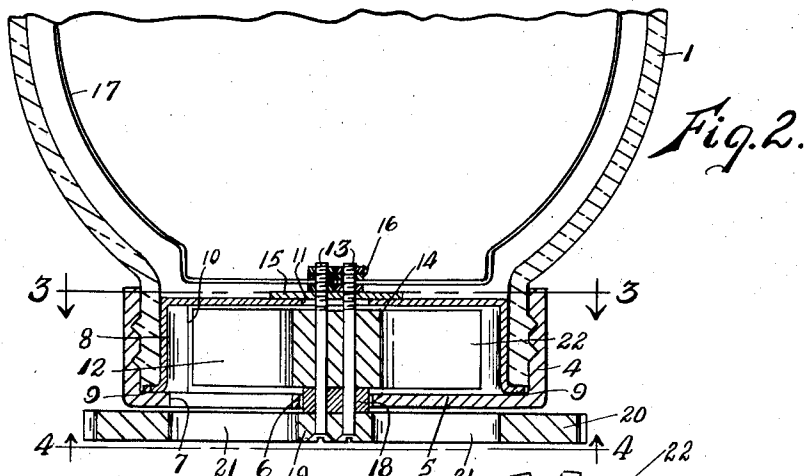
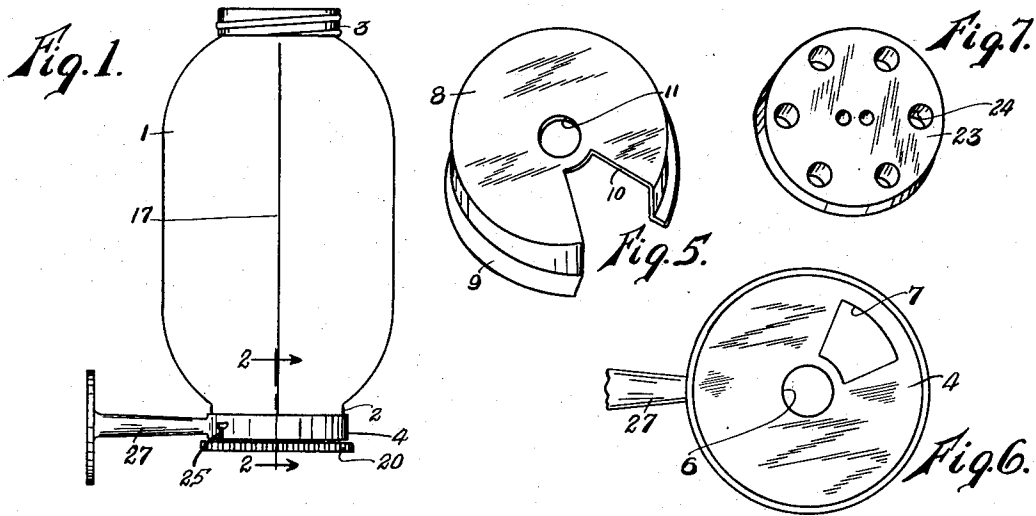
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C. McVICKER

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SOAP DISPENSER

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SOAP DISPENSER

Cleophas McVicker, Cincinnati, Ohio

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3 Claims. (Cl. 221-108)

This invention relates to a dispenser for powdered soap and like materials and has for its principal object the dispensing of powdered soap in uniform quantities and in such manner as to preclude wasting of the soap and to assure constant and unvarying dispensing thereof.

Another object is to provide such a dispenser which operates by revoluble means rather than by means of a push rod or the like heretofore commonly in use.

Another object is to provide a dispenser equipped with means for agitating the contents of the container upon each operation of the dispensing mechanism.

Another object is to provide a device of the kind described which may be readily adapted for dispensing lesser or greater quantities of the dispensed material.

Another object is to provide an efficient dispenser of the kind described and adapted for simple operation and low cost manufacture.

These and other objects are attained by the means described herein and illustrated in the accompanying drawing, in which:

Fig. 1 is a side elevational view of the dispenser of this invention in operative position.

Fig. 2 is a cross-sectional view taken on the line 2-2 of Fig. 1.

Fig. 3 is a cross-sectional view taken on the line 3-3 of Fig. 2 and with parts broken away.

Fig. 4 is a view taken on the line 4-4 of Fig. 2.

Figs. 5 and 6 are detail views of parts of the invention.

Fig. 7 is a detail view of a modified part of the invention.

The commonest forms of soap dispensers heretofore in use have utilized push rods or similar means for effecting dispensing of the soap. Disadvantages of this type of mechanism lie in the fact that the dispensing is frequently retarded or stopped due to the fact that the powdered material becomes caked within the container or within the closed parts associated with the dispensing mechanism. In instances of this kind, the push rod is ineffective for re-establishing operating of the device since said rod would merely pass slidably through the caked material without moving it or breaking its caked formation. Hence it is necessary to disassemble the dispensing means in order to render it operative. Another difficulty encountered has been the use of such dispensing means with powdered soaps of the lighter flaky kind. This kind of soap, though in itself desirable as a dispensable soap, yet due to its of gravitational force was difficult of use due to the restricted passages forming parts of the dispensing mechanisms heretofore used.

The present invention overcomes these diffi-

culties by providing a dispenser which effects a direct gravitational feed of the dispensed unit quantities of soap and with a minimum of contact with the dispensing mechanism. In addition the entire mass of soap both within the container and within the dispensing portions thereof, is agitated and moved upon each operation of the device so that there is no possibility of caking or of portions of the soap becoming lodged in parts of the dispensing mechanism and of the container where no means is provided for releasing such portions. Moreover, due to the direct gravitational feed of the soap in the present dispenser, the lighter kinds of soap are as easily and efficiently utilized as the heavier types of powdered soap.

With reference to the drawing: the device comprises a container 1 which terminates at the bottom with an open neck 2 and which at the top may be provided with a refill opening and cap 3. The neck 2 may be exteriorly threaded in order to receive a cover member 4 which has fixed thereto a support arm and bracket 27 adapted to be secured to a wall surface for supporting the dispenser. The surface portion 5 of the cover is provided with a central aperture 6 and off-center segmental aperture 7. It is desirable that this aperture 7 be positioned at the front of the container and slightly to the right as indicated in Figs. 2, 3, and 6. Upon the upper face of the cover 4 an inverted cup member 8 is positioned. This member has its side walls in close relationship with the inner surface of the neck 2 of the container and may be provided with an edge flange 9 which is adapted to be clamped down upon the surface 5 by the edge of the neck 2 which is threadedly tightened upon said flange. Such positioning of the cup member is ordinarily sufficient for retaining it immovably in proper operative position. However, the flange 9 may be secured to the surface 5 by soldering at one or two places or by other suitable means. The surface portion, side wall, and flange of the cup 8 are cut to provide the inlet aperture 10. In addition the cup is provided with a central aperture 11 adapted for vertical alignment with the aperture 6 of the cover 4. The cup is so positioned, upon the surface 5 of the cover that the aperture 10 is disposed at the opposite side of surface 5 relative to the aperture 7.

Within the cup 8 a star wheel 12 is revolubly positioned. Said star wheel is carried by a pair of screw bolts 13 which pass through the hub 14 of the star wheel and which pass upwardly through the aperture 11 of the cup in non-contacting relation therewith. The washer 15 separately receives each of the bolts 13 and is adapted to rotate upon the surface of the cup member, small nuts 16 serving to lock the bolts in place. These nuts may likewise hold in place the ends

of a wire agitator 17 which preferably is formed to stir the remoter or outermost contents of the container where caking is most liable to occur. Below the star wheel 12 the bolts 13 pass through
 5 a washer 18 of greater thickness than the surface portion 5 of the cover member and the heads of said bolts are countersunk in the hub portion 19 of the operating wheel 20. The edges of said
 10 wheel project outwardly beyond the cover 4 so that the wheel may be readily rotated for effecting dispensing of the soap. The spokes 21 of the wheel are adapted to be positioned immediately beneath the arms 22 (Fig. 3) of the star wheel. This relationship is maintained by virtue of the
 15 pair of bolts 13 which render the wheel 20, washer 18, star wheel 12, washer 15, and agitator 17, rotatable as a unit. It will be seen in Fig. 2 that the opposite surfaces of the washer 18 serve as a bearing for the hubs of the star wheel and the
 20 operating wheel respectively.

By reference to Figs. 2, 3, and 4 it will be seen that the arms 22 of the star wheel have their ends disposed adjacent the wall of the cup member 8. It will be understood that powdered soap feeding
 25 gravitationally through the aperture 10 of the cup member, which serves as a baffle plate, is carried in limited successive quantities by the arms 22 of the star wheel and moved around upon the surface 5 until it is dispensed by said
 30 arms through the aperture 7 of the cover. Hence the arms 22 intermittently receive and dispense a limited quantity of the powdered soap. It is obvious that the star wheel of the carrier member may be made of different thicknesses in order
 35 to carry a greater or lesser amount of soap, it being clear that the carrier of lesser thickness will receive and deposit a smaller amount of soap than the carrier of greater thickness such as the one shown in Fig. 2. Furthermore this carrier
 40 member may be modified in form such as illustrated in Fig. 7 in which a plate member 23 is shown, said member being provided with a plurality of perforations 24 each adapted to receive and carry a small amount of powdered material.
 45 A regular and calculated rotation of the operating wheel 20 may be effected by the use of a spring strip 25 secured upon the side of the cover member 4 as shown in Fig. 1 and having a free end adapted to ride upon the outer portion of the
 50 upper surface of wheel 20. The latter surface portion is formed with depressions 26 so disposed relative to the arms 22 of the carrier that when each of said arms is in the depositing position, the end of the spring strip 25 is snapped into one of
 55 the depressions 26.

It will be seen that the device of this invention is readily assembled and disassembled. The dispensing unit may be separately put together and the container screwed down into place within the
 60 cover 4 until it rests upon the flange 9 of the cup member as shown. The powdered material may now be placed in the container, the mass thereof resting upon the upper surface of the cup 8 and constantly feeding downwardly through the aperture 10 therein whereby the spaces between the
 65 arms of the carrier are filled with uniform quantities of soap. It will likewise be seen in Fig. 2 that the portions of the agitator 7 adjacent the ends thereof may be formed into parallel adjacent relationship with the surface of the cup
 70 member so that the powdered soap resting thereon is constantly moved about. The operating wheel 20 may be rotated in either direction without varying the dispensing operation. Another efficient feature of this device is that the operat-

ing wheel is adapted to be rotated and a unit quantity of soap dispensed by one operation and with one hand of the person using the dispenser. This is an advantage over the dispensers commonly seen which are provided with levers operated by one hand while the other hand is held beneath the dispensing aperture. The device of this invention is adapted to be positioned so that the natural position of the hand grasping the operating wheel is such that the palm of the
 80 85

What is claimed is:

1. A dispenser for powdered soap and comprising a container having an open bottom, a cover
 90 attachable to the bottom and having an aperture therein, an inverted cup member fixed within the container upon the cover and having a soap inlet aperture disposed above an unapertured portion
 95 of the cover, a carrier positioned within the cup member and fixed upon an axis projecting through the cover and cup member, said carrier having compartments for embracing unit quantities of the soap normally deposited upon the cover through said inlet aperture, a soap agita-
 100 tor fixed to said axis above the cup member in the container, and a wheel fixed upon said axis exteriorly of the cover and adapted upon rotation to effect similar rotation of the carrier whereby the compartments thereof are moved successively
 105 into registration with the cover aperture to effect dispensing of the unit quantities of soap.

2. A dispenser for powdered soap and comprising a container having an open bottom, a cover
 110 attachable to the bottom and having an aperture therein, an inverted cup member fixed within the container upon the cover and having a soap inlet aperture disposed above an unapertured portion of the cover, a carrier positioned
 115 within the cup member and fixed upon an axis projecting through the cover and cup member, said carrier having compartments for embracing unit quantities of the soap normally deposited upon the cover through said inlet aperture, and a wheel fixed upon the axis exteriorly of the cover
 120 and adapted upon rotation to effect similar rotation of the carrier whereby the compartments thereof are moved successively into registration with the cover aperture to effect dispensing of the unit quantities of soap.

3. A dispenser for powdered soap and comprising a container having an open neck at the bottom, a cover attachable to the neck and having
 130 an aperture therein, an inverted cup member fitting snugly within the neck and fixed upon the cover, said member having a soap inlet aperture disposed above an unapertured portion of the cover, a carrier positioned within the cup member and fixed upon an axis projecting through the cover and cup member, said carrier having compartments adapted to embrace unit quantities of the soap normally deposited upon the cover through said inlet aperture, a soap agitator fixed upon said carrier axis and projecting upwardly above the cup member into the container, an
 140 operating wheel fixed upon said axis exteriorly of the cover and adapted upon rotation to effect like rotation of the carrier whereby the compartments thereof are moved successively over the cover aperture for dispensing the unit quantities
 145 of soap, and means yieldably checking rotation of said wheel when said compartments are in dispensing position.