May 16, 1950 C. J. GREEN 2,507,901

DISPENSER FOR LIQUID SOAPS AND THE LIKE

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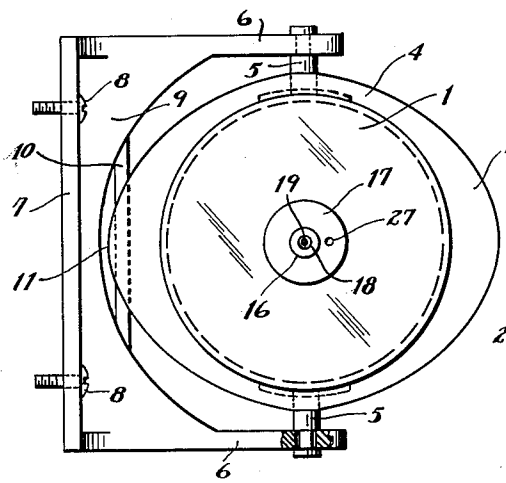


Fig. 1

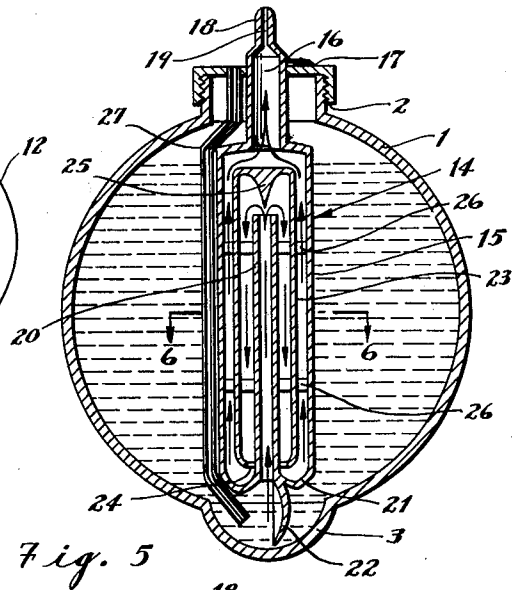


Fig. 5

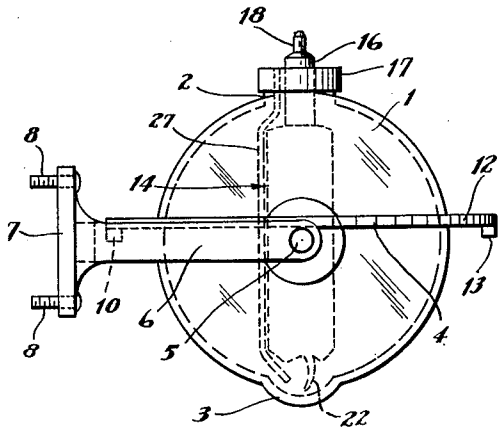


Fig. 2

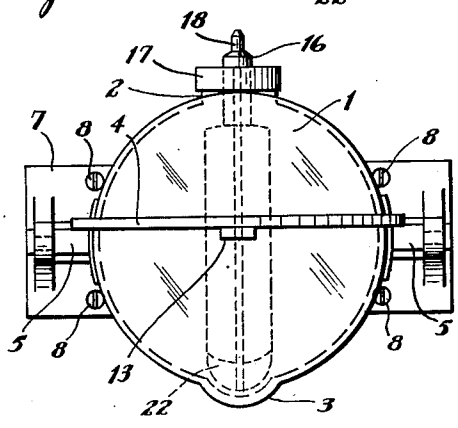


Fig. 3

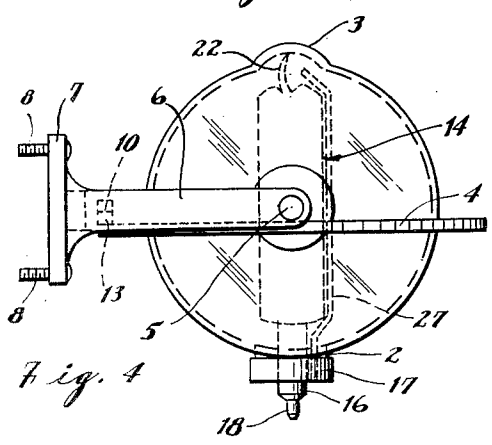


Fig. 4

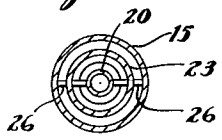


Fig. 6

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DISPENSER FOR LIQUID SOAPS AND THE LIKE

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8 Claims. (Cl. 222—456)

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This invention relates to a device for holding and dispensing liquid soap and it is one object of the invention to provide a device of this character including a bracket adapted to be mounted against a wall and a container pivotally carried by said bracket and having means associated with it for discharging a predetermined quantity of liquid soap when the container is turned from its normally upright position to an inverted position.

A further object of the invention is to provide a soap holder and dispenser wherein tilting movement of the container will progressively move measured quantities of liquid soap from the main reservoir of the container to a chamber from which the soap is eventually discharged as the container is turned from an upright position to an inverted position.

Another object of the invention is to provide dispensing mechanism in the container having, as one of its elements, a baffle for directing liquid soap into the dispensing mechanism when the soap holder and dispenser is in use.

Another object of the invention is to provide a soap holder and dispenser, wherein the dispensing mechanism is carried by a cap removably applied to the filling neck of the container whereby the dispensing mechanism may be withdrawn from the container when the cap is unscrewed therefrom and withdrawn so that the container may be readily filled with liquid soap.

Another object of the invention is to provide a device of this character wherein the cap not only carries the dispensing mechanism but also carries a tube through which air may enter the container and thus eliminate formation of a partial vacuum which would interfere with free discharge of liquid soap.

The invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a top plan view of the improved soap holder and dispenser,

Figure 2 is a side view thereof showing the container in its normally upright position,

Figure 3 is a front view,

Fgure 4 is a view similar to Figure 2 showing the container tilted to an inverted position,

Figure 5 is a sectional view taken vertically through the container and dispensing mechanism, and

Figure 6 is a sectional view through the dispensing mechanism taken along the line 6—6 of Figure 5.

This improved soap holder and dispenser has a container 1 which is of spherical or other appropriate shape and preferably formed of glass or other transparent material so that it can be readily determined when the supply of liquid

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soap in the container needs replenishing. A neck 2 projects upwardly from the top of the container and at its bottom the container is formed with a depression 3 constituting a sump. A band 4 formed of metal or other suitable material is mounted about the container and carries trunnions 5 rotatably engaged through openings in front end portions of the arms 6 of a bracket 7 which is adapted to be secured flat against a wall by screws or equivalent fasteners 8. Between its arms 6, the bracket 7 is formed with a web 9 carrying an abutment bar 10 for engagement by end portions 11 and 12 of the band 4. This band is substantially of eliptical outline, as shown in Figure 1, and it should be noted that the band extends about the container at such a point that its center of gravity will cause the container to normally remain in the upright position shown in Figure 2 with the inner end portion 11 of the band resting upon the bar 10. When pressure is applied to the outer end portion 12 of the band, the container will be turned to an inverted position for discharging liquid soap onto the hands, by means of which the container is turned to the inverted position, and since the outer end portion of the band has a block 13 mounted against its underface, this block will strike the under surface of the bar 10 to limit turning movement of the container when inverted and also constitute a weight for assisting in returning the container to its normally upright position.

The dispensing mechanism extends diametrically of the container between the neck 2 and the sump 3 as shown in Figure 5. This dispenser, which is indicated in general by the numeral 14, may be formed of metal or other suitable material and has an outer cylindrical casing 15 formed with a neck 16 which projects from its upper end and is mounted through a cap 17 internally threaded for detachable engagement with the neck 2 of the container. A nozzle 18 is formed at the outer end of the neck 16 and has a bore or passage 19 through which the liquid soap flows when discharged. Since the neck is fused or otherwise fixed to the cap 17, the dispenser will be withdrawn from the container when the cap is unscrewed and removed from the neck and a fresh supply of liquid soap may thus be poured into the filling neck and the container filled with soap without interference by the dispenser. A dispensing mechanism or soap inlet tube 20 extends longitudinally in the outer casing 15 centrally thereof and has its open, lower end exposed through the bottom 21 of the outer casing 15. At one side of the open lower end of the inlet tube 20, the bottom 21 of the outer casing carries a baffle plate or scoop 22 which extends down-

wardly into the sump 3 and serves very effectively for directing liquid soap into the tube when the container is turned to the inverted position shown in Figure 4. The inlet tube 20 is of appreciably less length than the outer casing 15 and is surrounded by an inner cylindrical casing 23 which has an opening 24 at its lower end and has its upper end closed and formed with a conical-shaped guide 25, the apex of which terminates in spaced relation to the open upper end of the inlet tube 20. The inner casing 23 and the inlet tube 20 are braced by narrow rods or webs 26 which hold them in concentric spaced relation to the outer casing and each other without interfering with flow of liquid soap through the spaces about the tube 20 and the inner casing 23.

When the soap holder is in use, the container 1 is filled with liquid soap, as shown in Figure 5, and the cap 17 then applied to the neck 2 so that the dispensing mechanism will be mounted vertically in the container 1 with the scoop or deflector 22 extending into the sump 3. A certain amount of the liquid soap will gather in the inlet tube 20 and within the inner and outer casings 23 and 15, and when a person's fingers are applied to the forward portion 12 of the band 4 and the container 1 tilted to the inverted position, a predetermined quantity of soap will be directed from the sump 3 into the inlet tube 20. This soap flows through the inlet tube 20 and from the inlet tube 20 into space within the inner casing 23. Upon return of the container 1 to the normally upright position, liquid soap in the inner casing 23 will flow through the opening 24 at the lower end thereof and into the outer casing 15 about the inner casing 23. When the container 1 is again tilted to the inverted position, liquid soap in the outer casing 15 will flow through the neck 16 and out through the nozzle 18 onto the hand of the person operating the device. When the container 1 is again allowed to return to its normally upright position, soap which has been directed into the tube 20 during the second inversion of the container will flow from the inner casing into the outer casing and will be dispensed when the casing is again inverted. It will thus be seen that during use of the device, each tilting of the container will cause liquid soap to be discharged from the outer container and a fresh supply directed into the tube for filling the inner casing and that when the container is allowed to return to its normally upright position, soap in the inner casing will flow into the outer casing. A vent tube 27 extends longitudinally of the dispenser with its outer or upper end mounted through the cap 17 and its lower or inner end extending into the top of the casing 1 at the depression or sump 3 when at the top of the inverted casing so that air may enter the casing 1 to prevent formation of a partial vacuum and since the inner end of this vent tube 27 will be above the level of soap when the container is inverted, soap cannot leak outwardly through this tube.

Since the device contains no internal moving parts which might become clogged with soap, the device will not become clogged and need to be taken apart for cleaning at intervals.

In view of the foregoing description taken in conjunction with the accompanying drawings, it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though I have herein shown and described a preferred embodiment of my invention that the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claims.

In conclusion, and preparatory to introducing the claims it is to be further pointed out that although the structure herein shown and described covers, primarily, a so-called soap dispenser, the construction is such as to lend itself adaptable to dispensing other liquid products such as for example hand lotions, after shave lotion and similar pharmaceutical preparations.

Having thus described the invention, what is claimed is:

1. A soap holder and dispenser comprising a container pivotally mounted for tilting movement from a normally upright position to an inverted position and having a filling neck at its top and a sump at its bottom, dispensing mechanism having an outer cylindrical casing extending vertically in said container between the neck and sump and having a neck at its upper end, a cap mounted about the neck of said outer casing and detachably engaged with the neck of said container, an inner casing extending vertically in the outer casing, closed at its upper end and open at its lower end, a dispensing mechanism inlet tube extending longitudinally in the inner casing and having its lower end exposed through the bottom of the outer casing, the inner casing having its closed upper end provided with a depending, conical deflector terminating in spaced relation to the open upper end of said inlet tube, a deflector extending downwardly from the bottom of the outer casing at a side of the open lower end of said inlet tube and into said sump for directing liquid soap into the tube when the container is tilted, and a vent tube extending longitudinally of said outer casing at one side thereof with its inner end extending into said sump and its outer end mounted through said cap and constituting means for admitting air into the soap container to prevent formation of a partial vacuum therein.

2. A soap holder and dispenser comprising a container mounted for tilting movement from a normally upright position to an inverted position, a filling neck at the top of said container, a cap for said neck removably engaged therewith, a dispensing mechanism extending vertically in said container and having a discharge neck mounted through the cap and adapted to discharge a predetermined quantity of liquid soap when the container is tilted to an inverted position, and a vent tube extending vertically in said container with its outer end portion mounted through the cap, said vent tube constituting means for admitting air into the container to prevent formation of a partial vacuum therein and being of a length adapting it to project above soap in the container when inverted and prevent leakage of soap through the tube.

3. A soap holder and dispenser comprising a container mounted for tilting movement from a normally upright position to an inverted position and having a filling neck at its top, a cap detachably engaged with said neck and dispensing means in said container including an outer cylindrical casing having a bottom at its lower end and a discharge neck at its upper end mounted through said cap, a dispensing mechanism inlet tube in said outer casing extending longitudinally therein, said inlet tube having its open lower end mounted through the bottom of the outer casing, a deflector carried by the bottom of the outer casing for directing liquid soap into the inlet tube as the container is tilted to an inverted position, means for admitting air to the container above

the liquid soap therein through the neck when the container is inverted and an inner casing in the outer casing disposed about said inlet tube in spaced relation to the inlet tube and the outer casing, said inner casing being open at its lower end and having its upper end closed and formed with a conical deflector extending downwardly with its apex spaced from the open upper end of said inlet tube.

4. A liquid soap holder and dispenser comprising a container mounted for tilting movement from a normally upright position to an inverted position, and dispensing means in said container extending vertically therein and including an outer cylindrical casing formed with a bottom at its lower end and with a discharge neck at its upper end projecting outwardly of said container, an inlet tube in said outer casing extending longitudinally of the outer casing centrally thereof and having its lower end exposed through the bottom of the outer casing a deflector extending downwardly from the bottom of the outer casing at one side of the inlet tube for directing liquid soap into said tube as the container is tilted to an inverted position, and an inner casing within the outer casing surrounding said tube and having its lower end open and its upper end closed.

5. A soap holder and dispenser comprising a container pivotally mounted for tilting movement from a normally upright position to an inverted position and having a filling neck at its top and a sump at its bottom, dispensing mechanism having an outer cylindrical casing extending vertically in said container between the neck and sump and having a neck at its upper end, a cap anchored about the neck of said outer casing and detachably engaged with the neck of said container, an inner casing extending vertically in the outer casing, said inner casing being closed at its upper end and open at its lower end, an inlet tube extending longitudinally in the inner casing and having its lower end exposed through the bottom of the outer casing, a deflector extending downwardly from the bottom of the outer casing at a side of the open lower end of said tube and into said sump for directing liquid soap into the tube when the container is tilted, and a vent tube extending longitudinally of said container with its inner end extending into said sump and its outer end mounted through said cap and constituting means for admitting air into the soap container to prevent formation of a partial vacuum therein.

6. A soap holder and dispenser comprising a soap container mounted for tilting movement from a normally upright position to an inverted position, a filling opening at the top of said container, a closure for said opening removably engaged therewith, a dispensing mechanism comprising a tubular outer member extending vertically in said container, closed at the bottom and having a discharge neck mounted through the closure and adapted to discharge a predetermined quantity of liquid soap when the container is tilted to an inverted position, an inner tubular member supported in spaced concentric relation to and within the outer tubular member, closed at the top and having an opening at the bottom, an inlet tube supported in spaced concentric relation to and within the inner member and open at its ends, the upper end of the inlet tube opening into the inner member and the lower end thereof extending through the lower ends of the inner and outer members, a scoop extending down from the lower end of the outer member near

the lower end of the inlet tube, and a vent tube extending vertically in said container with its inner end near the bottom of the container and its outer end portion mounted through the closure, said tube constituting means for admitting air into the container to prevent formation of a partial vacuum therein and being of a length adapting it to project above soap in the container when inverted and prevent leakage of soap through the tube.

7. A soap holder and dispenser comprising a container mounted for tilting movement from a normally upright position to an inverted position and having a filling neck at its top, a cap detachably engaged with said neck and dispensing means in said container including an outer cylindrical casing closed at its lower end and having a discharge neck at its upper end mounted through said cap, a soap inlet tube in said outer casing extending longitudinally therein, said inlet tube having an open lower end mounted through the bottom of the outer casing, a vent tube extending vertically in said container with the end extending to the outside of the container through the neck and its other end extending to a point near the bottom of the container and being of appreciably greater length than the outer casing a deflector carried by the bottom of the outer casing for directing liquid soap into the inlet tube as the container is tilted to an inverted position, and an inner casing in the outer casing disposed about said inlet tube in spaced relation to the inlet tube and the outer casing, said inner casing being open at its lower end and having its upper end closed and spaced from the open upper end of said tube.

8. A liquid soap holder and dispenser comprising a container mounted for tilting movement from a normally upright position to an inverted position, and dispensing means in said container extending vertically therein and including an outer casing having its lower end closed and a discharge neck at its upper end projecting outwardly of said container, means for admitting air to the container above the liquid soap therein through the cap when the container is inverted an inlet tube in said outer casing extending longitudinally of the outer casing, and having its lower end exposed through the bottom of the outer casing, a deflector extending downwardly from the bottom at one side of the tube for directing liquid soap into said tube as the container is tilted to an inverted position, and an inner casing within and spaced from the outer casing, surrounding said tube in spaced relation and having its lower end open and its upper end closed.

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