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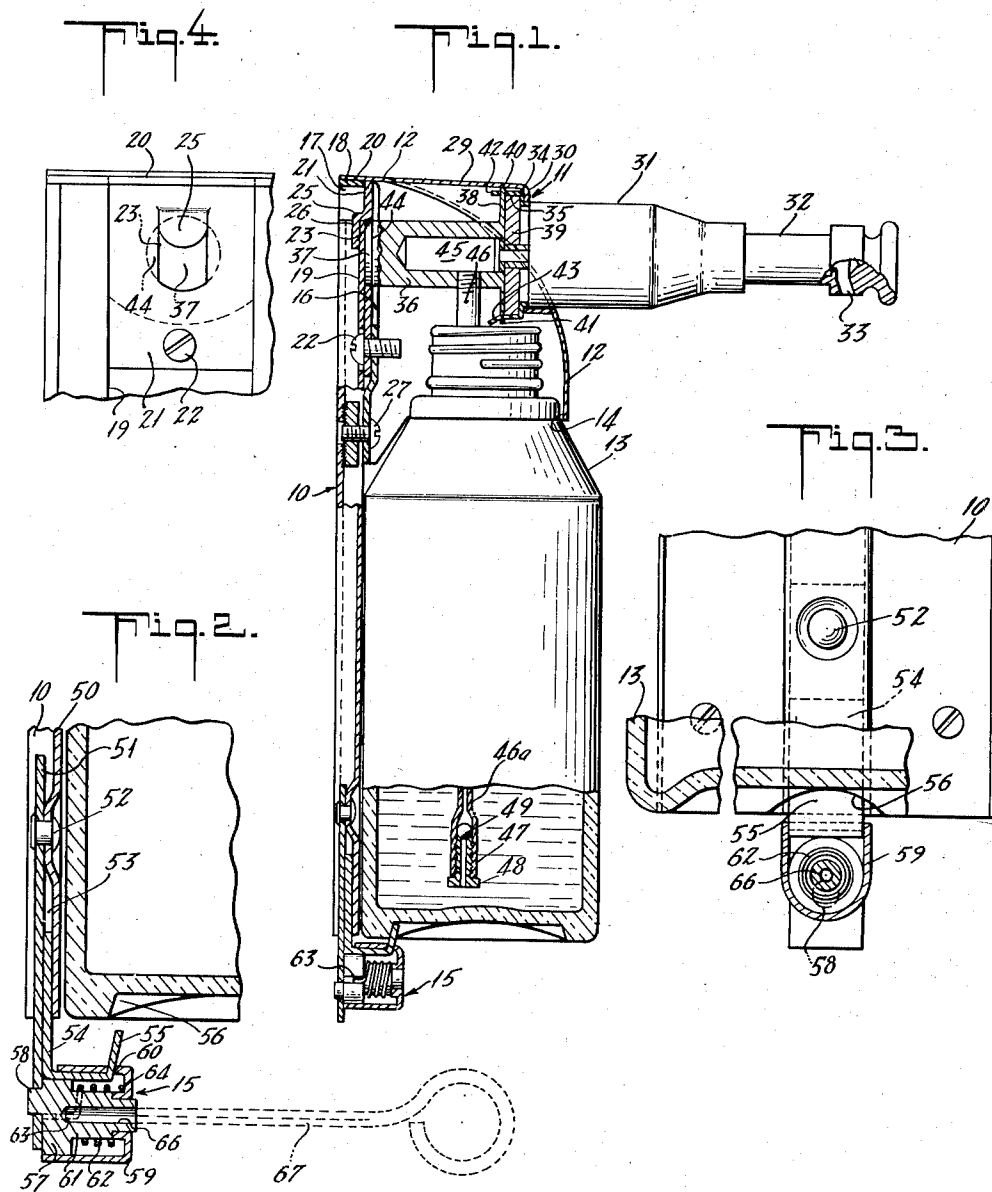
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2,583,688

WALL BRACKET SUPPORTED LIQUID SOAP DISPENSER

Filed July 6, 1946

2 SHEETS—SHEET 1



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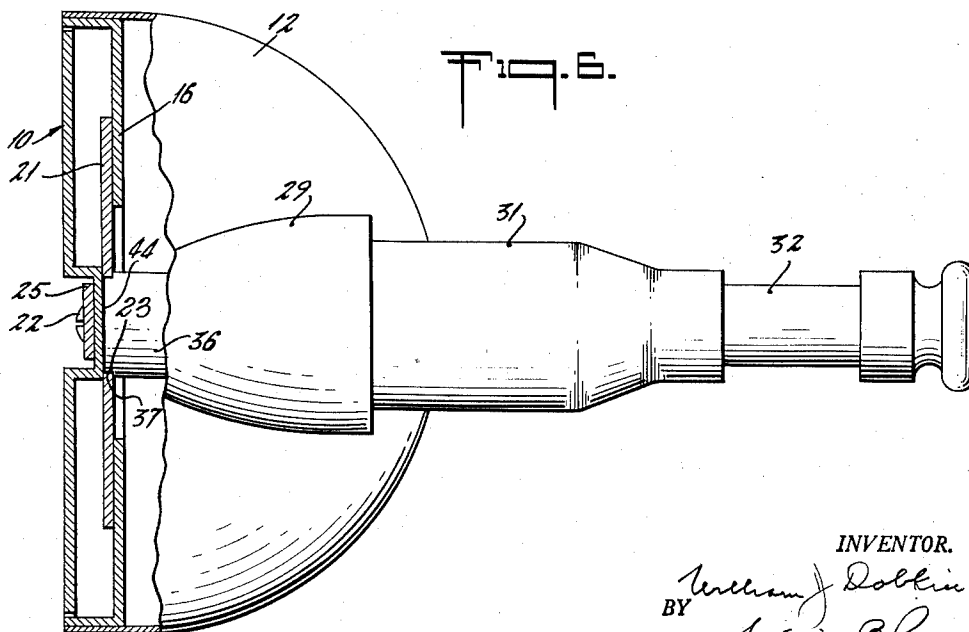
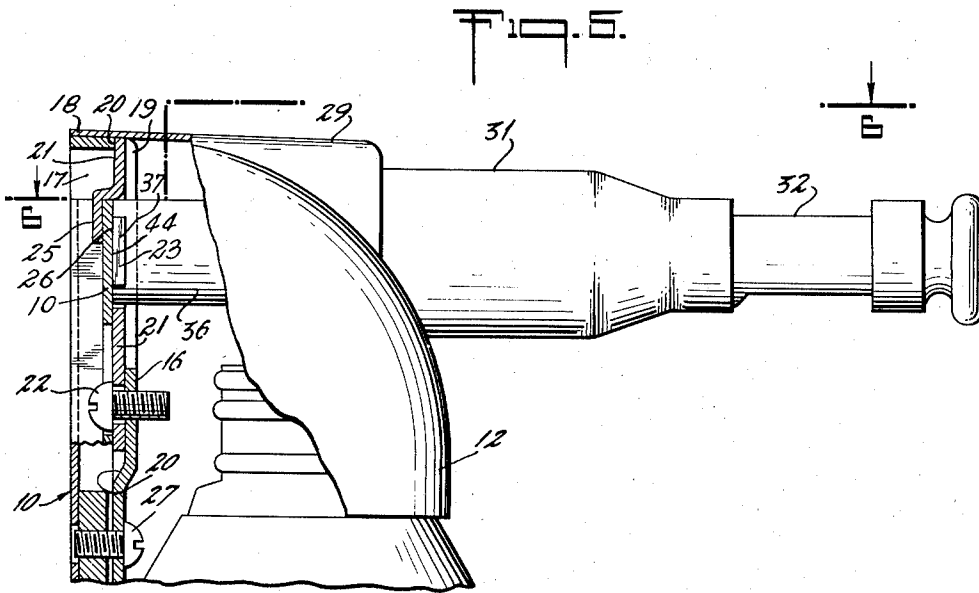
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2 SHEETS—SHEET 2



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WALL BRACKET SUPPORTED LIQUID SOAP DISPENSER

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11 Claims. (Cl. 222—180)

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This invention relates to a machine for dispensing liquid soap. It is an object of this invention to provide a dispenser for use in a lavatory or the like in which the soap supply may be furnished in a container which in refilling the dispenser, may be assembled as a part of the dispenser itself, thus avoiding any necessity of filling an old container, and at the same time, insuring that the container in use is completely clean.

It is a further object to provide a dispenser in which the entire mechanism may be simply installed, or taken down, but which when assembled, will be firmly and rigidly held in place. It is a further object to provide a dispenser capable of being refilled, by being assembled with a new container in which the soap is furnished, which will permit the use of a container made of glass, but in which the container may be securely held in place without danger of breakage.

It is a further object to provide a dispenser in which the soap container is locked into the dispenser to prevent pilferage, but in which it may be readily released and replaced by authorized persons.

It is a further object to provide the dispenser having a separable container for liquid soap in which the container will be rigidly held in place at both top and bottom so that when the container is made of glass it will be free from danger of being broken by being wrenched or twisted.

It is a further object to provide a device of the character described in which a flat rectangular container may be used which can be held flat against a support, and which may be inserted through the bottom of the dispensing mechanism and held in place without being screwed or forced in any manner, and yet which will be firmly held in place against twisting, bending, or rattling.

It is a further object to provide a device having a separable soap container with a locking mechanism to hold the container in place which is operated by a key to release the container, and which will remain in released position during replacement, but which may be again moved to the locking position without the use of the key.

Another object of this invention is to provide a leak-proof liquid soap dispenser having a removable soap reservoir preferably in the form of a glass bottle which may be refilled from bulk supply if desired, but which has the advantage that the soap reservoir may be simply replaced by a ready-packaged bottle of soap when desired.

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The invention accordingly comprises a device possessing the features, properties and the relation of elements which will be exemplified in the article hereinafter described and the scope of the application of which will be indicated in the claims.

For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description, taken in connection with the accompanying drawings, in which:

Figure 1 is a side elevation of a dispenser embodying this invention, parts being shown in section.

Figure 2 is a detailed section of the locking mechanism from the same point of view as Figure 1.

Figure 3 is a detail of the same locking mechanism in front elevation, parts being in section.

Fig. 4 is a detail of the dispensing mechanism and bracket from the rear when detached from the wall plate, showing the attaching means.

Fig. 5 is an enlarged detail in elevation of the connections between the pump mechanism and the supporting bracket.

Fig. 6 is a fragmentary view of the same mechanism on the line marked 6 in Fig. 5.

In the drawings, the numeral 10 represents a wall plate adapted to be attached to a wall in any convenient manner as for example by cement, or by screws not shown. Detachably attached to the upper end of this plate is a bracket or head assembly 11 having a downwardly extending hood 12 having a downwardly facing opening 14 into which may be inserted the upper end of a container 13, which may be in the form of a bottle, preferably having a shoulder surrounding the neck which fits closely into a downwardly facing opening 14 in the lower face of hood 12. The bottle is held in place by a locking assembly 15 attached to the bottom end of the plate 10.

Referring now to the head assembly 11, there is provided a plate 16 having rearwardly extending side flanges 17 and an upper flange 18. The rear face of the hood portion is of substantially the same size and shape as the plate 16, and the edges of it surround and are attached to the flanges 17 and 18. This plate 16 is provided with a vertical channel 19 terminating in an opening or recess 20 extending through the upper flange 18. A latching plate or strap 21 rests within the channel 19 and has its upper end caught in the opening 20 and the plates 21 and 16 are held in assembled relation by this engagement and by a screw 22.

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This plate 21 is provided with a non-circular opening 23 to receive the outer end of the soap pumping cylinder as will be hereinafter described. The plate 21 has a hook 25 bent backwardly from its surface in position to engage the upper end of the plate 10 as shown at 26. The assembly of plates 21 and 16 is held on plate 10 by a screw 27.

The hood 12, as here shown, has the general shape of a quadrant of a sphere which may be slightly flattened on top, which has its central upper portion pressed out as shown at 29 to form a partial horizontal cylinder providing an outer circular outwardly facing opening in a vertical plane, surrounded by a flange 30.

The pump mechanism comprises a casing 31 in which there operates a pump plunger 32, having a soap discharge port 33. The particular soap pump I prefer to employ forms the subject matter of a separate application for patent filed of even date herewith. It will not here be disclosed in detail since these details form no part of the present invention save that the pump casing 31 fits closely within the opening defined by the flange 30, and has its wall expanded outwardly to form a shoulder 34 adapted to fit against said flange, and continues inwardly to form an extension of larger diameter as shown at 35.

A pump cylinder 36 has at its front end a flange 38 adapted to bear against a washer 39 which in turn bears against the rear face of the shoulder 34, thus closing the outer end of casing 31. This flange 38 contains projecting pins 40 and 41 which extend into openings in tabs 42 and 43 projecting outwardly from the extension 35, and at least one of these tabs is sufficiently resilient to enable the pins 40-41 to be snapped into place holding the parts in assembled position.

The inner end of the cylinder 36 terminates in a non-circular projection 37 fitting within the opening 23 in the plate 21, this projection being designed by its non-circular shape to keep the cylinder from rotating out of position. At the base of this projection, the cylinder is provided with a shoulder 44 adapted to bear against the plate 21 at the periphery of the opening 23. The length of the cylinder 36 is such that with the parts in assembled position, as shown, the plate 21, after being latched into the opening 20 and brought into engagement with the end of the cylinder 36 and drawn into place by the screw 22, will exert firm pressure to press the cylinder flange 38, the washer 39 and the shoulder 34 firmly together, and hence affect a good seal between the parts.

The cylinder 36 has a central bore 45 concentric with the casing 31, and communicating with the interior of the container 13 by a tube 46 which extends to the bottom of the container. This tube is provided with a check valve 47 which may be conveniently formed as follows:

A nipple 48 may be threaded into the lower end of the tube 46 having its upper end formed to serve as a valve seat in cooperation with a ball 49. The upward movement of the ball may be limiting by pinching the tube as shown in 46a.

The mechanism for holding the container in place is as follows: The plate 10 (see Figure 2) is bent outwardly to form a vertically extending channel 50, closed at its lower end at the back by a plate 51, riveted to the channel by a rivet 52, the wall of the channel being depressed at that point so as to form within the channel a

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vertical guideway 53 in which there slides a slide or locking member 54. These parts are so proportioned that the plate 51 bears against slide 54, to afford a friction between them. The lower end of this locking member is bent in the form of a letter J to provide an upwardly extending lip 55 in position when the slide is in its upper position, to fit within a recess 56 in the bottom of the container 13.

To operate the slide there is provided an eccentric 57 pivoted at 58 in an opening in plate 51 which opening is slotted horizontally to provide for the lateral movement of the pivot of the eccentric. This eccentric is carried within a housing 59. The lower portion of this housing is circular to fit the periphery of the eccentric 57, and the upper portion is provided with an opening 60 so that the slide 54 may extend into the interior of the housing and outwardly through the opening 60, the dimensions being such that the slide 54 will engage the upper surface of the eccentric 57 while the lower face of the eccentric engages the circular portion of the casing 59. The housing 59 is preferably soldered or brazed to the slide 54. The eccentric 57 has an outer reduced portion 61 surrounded by a spring 62 attached to the eccentric at one end as shown at 63, and attached to the casing 59 at 64.

The tension of the spring 62 is in such a direction as to urge the eccentric toward bottle-locking position, but the friction heretofore referred to upon the slide 54 is sufficient to prevent the spring actually moving the slide. But if the slide be moved by hand to its upper position, the eccentric will be moved by the spring in a manner to lock it there. The eccentric 57 is provided with a squared opening 66 into which may be fitted a key 67 for the purpose of turning the eccentric to release the container.

When it is desired to replenish the soap supply, the operator inserts the key 67 and turns it to depress the finger 55. This finger is held in its depressed position by the friction referred to permitting the key to be removed. The bottle may now be replaced and a new bottle inserted, whereupon the housing 59 may be pushed up with the finger to engage the bottle. During this movement, the spring 62 turns the eccentric in a position to hold the slide in its upper position. Thereafter, by reason of the fact that the eccentric has reached a dead center position, the bottle is held firmly in place and cannot be again removed until released by the key.

A preferred method of attaching the wall plate is as follows: The back surface of the wall plate, which bears against the wall, is provided with a coating of water-soluble cement, the purpose of which is an easy method of securing the plate to the wall. The process being similar to the decalomania, whereby the plate will be submerged in water for specified time to soften the cement and then merely pressing the plate on the wall and allowing the cement to dry.

Since certain changes may be made in the above construction and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the following claims are intended to cover all of the generic and specific features of the invention herein

described, and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

I claim:

1. A soap dispenser comprising a fixture attachable to a vertical wall, a bracket, having devices for attachment to said fixture, said bracket having a hood having a downwardly facing opening to receive the upper portion of a container, a container having an outlet extending into said hood, a piston type pump mechanism extending horizontally outward from said hood above said container having a discharge spout at its outer end, and a tube extending down from its inner end into said container, and a mechanism carried by said fixture for engaging the lower end of said container to hold said container in place.

2. A device according to claim 1 in which the mechanism for engaging the bottom end of the container comprises a vertically slidable finger, said container having a recess in its bottom surface, and said finger being in position to engage said recess in one position thereof, and to be free from said recess in another position thereof, and an eccentric for engaging said finger for moving it from one position to the other, said eccentric being adapted to be beyond dead center position when said finger is in engagement with said container.

3. A device according to claim 1, in which the mechanism for engaging the bottom end of the container comprises a vertically slidable finger, said container having a recess in its bottom surface, and said finger being in position to engage said recess in one position thereof, and to be free from said recess in another position thereof, and an eccentric for engaging said finger for moving it from one position to the other, said eccentric being adapted to be beyond dead center position when said finger is in engagement with said container, and spring means for urging said eccentric into said position.

4. A soap dispenser comprising in combination, a bracket having a downwardly facing opening and an opening in a vertical plane, a soap dispensing mechanism adapted to extend through said second opening, a plate upon said bracket clamping said mechanism against the periphery of said opening, said mechanism having a downwardly extending supply tube, a soap container adapted to have its upper end fit within and extend through said first opening and against the periphery thereof and means attachable to a wall having a portion movable from a position to engage said container to hold it in place to a position to release said container.

5. A soap dispenser comprising in combination, a bracket having a downwardly facing opening and an opening in a vertical plane, a soap dispensing mechanism adapted to extend through said second opening, a plate upon said bracket clamping said mechanism against the periphery of said opening, said mechanism having a downwardly extending supply tube, a soap container adapted to have its upper end fit within and extend through said first opening and against the periphery thereof, said container having a recess in its bottom and means attachable to a wall carrying a finger vertically movable from a lower position to free said container to an upper position extending within said recess to hold said container in place, and means for moving said finger and for locking it in its upper position.

6. A soap dispenser comprising in combination, a bracket having a downwardly facing opening and an opening in a vertical plane, a soap dispensing mechanism adapted to extend through said second opening, a plate upon said bracket clamping said mechanism against the periphery of said opening, said mechanism having a downwardly extending supply tube, a soap container adapted to have its upper end fit within and extend through said first opening and against the periphery thereof, said container having a recess in its bottom and means attachable to a wall carrying a finger vertically slidable from a lower position to free said container to an upper position extending within said recess to hold said container in place, and an eccentric movably mounted in position to engage said finger to move the same in both directions, and to lock the same in its upper position.

7. A soap dispenser comprising a fixture attachable to a vertical wall, a bracket having devices for attachment to said fixture, said bracket having a hood having a downwardly facing opening to receive the upper portion of a container within said hood, a dispenser mechanism carried by said bracket having a tube extending down into said container and a mechanism carried by said fixture for engaging the lower end of said container to hold said container in place.

8. A soap dispensing mechanism comprising a plate adapted to be attached to a wall, a bracket carrying a hood having an outwardly facing opening and a downwardly facing opening, a soap dispensing mechanism extending from the inside outwardly through said outwardly facing opening, means within said hood for clamping said soap dispensing mechanism against the periphery of said outwardly facing opening, a hook within said hood in position to engage said plate, a soap supply bottle adapted to fit within and extend upwardly through said downwardly facing opening, means to support said bottle firmly against the periphery of said downwardly facing opening, the parts being so positioned as to bring said bottle into substantial engagement with said plate, and means concealed by said bottle for holding said hood upon said plate.

9. A lock for a dispenser or the like, comprising a stationary plate having an opening therein, a circular block having an eccentric pivot thereon fitting within said opening, a bar slidably mounted on said plate having an outwardly and upwardly bent end and a housing shaped to fit over said block to hold said outwardly bent end in contact with said block, said housing having an opening through which said upwardly bent end extends, and means upon said block by which it may be turned about said pivot to slide said bar relative to said plate.

10. A lock for a dispenser or the like, comprising a stationary plate having an opening therein, a circular block having an eccentric pivot thereon fitting within said opening, a bar slidably mounted on said plate having an outwardly and upwardly bent end and a housing shaped to fit over said block to hold said outwardly bent end in contact with said block, said housing having an opening through which said upwardly bent end extends, and means upon said block by which it may be turned about said pivot to slide said bar relative to said plate, and a spring connected to said block to rotate said block to move said bar upwardly.

11. A soap dispenser comprising, a wall plate,

dispensing mechanism attachable to said plate, said plate having upon its under side a dried coating of a water-soluble cement, and means for attaching said mechanism to said wall plate being concealed by said dispensing mechanism. 5

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