Dec. 20, 1960 H. W. DARR 2,965,267

LIQUID SOAP DISPENSER

Filed June 26, 1958

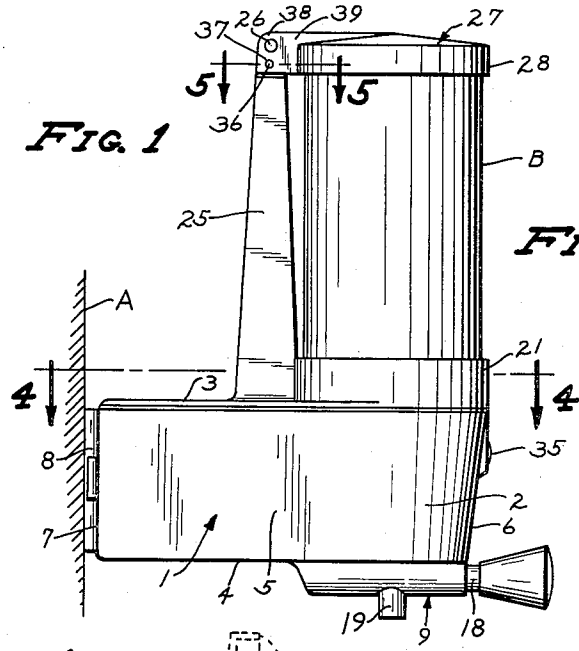


FIG. 1

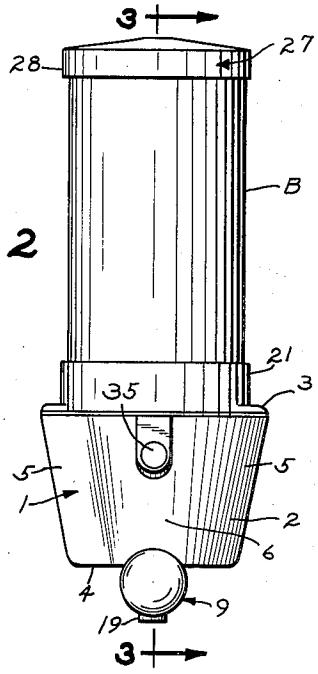


FIG. 2

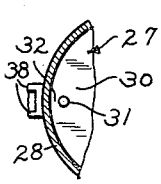


FIG. 6

FIG. 3

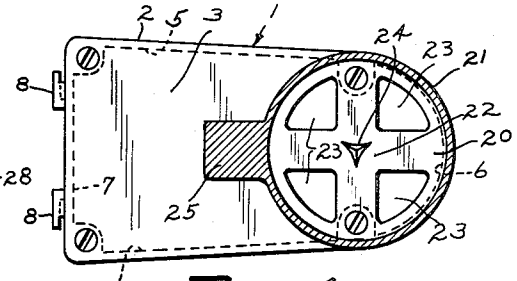


FIG. 4

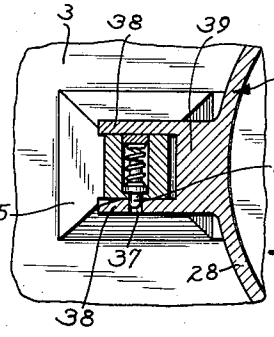


FIG. 5

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LIQUID SOAP DISPENSER

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3 Claims. (Cl. 222—88)

My invention relates generally to dispensing devices and more particularly to devices for dispensing fluids.

Still more specifically my invention relates to devices for dispensing liquid soap which has been sealed in cans preferably of the conventional cylindrical type and having axially extended annular flanges at their upper and lower ends.

The primary object of my invention is the provision of a device of the class immediately above described which is not unduly costly to produce, which is rugged and durable and which is highly efficient in its operation.

A further object of my invention is the provision of a device of the class above described which is relatively foolproof.

A further object of my invention is the provision of a device of the class above described wherein a valve-equipped reservoir is provided with means for mounting and dismounting thereon, for drainage thereinto, of cans of liquid soap.

A further object of my invention is the provision of a device of the class immediately above described wherein the can is clamped between opposed sockets, one on the top wall of the reservoir and one on an overhanging cover, the socket on the top wall of the reservoir having port means communicating with the reservoir and supporting an upstanding can end puncturing tooth, and in which said cover is provided with means for initially engaging the upstanding marginal flange of a can during initial closing movements of the cover and guiding the upper end of the can into the socket of the cover during lowering of the cover and consequent puncturing of the bottom of the can by the puncturing tooth.

A further object of my invention is the provision of a device of the class immediately above described in which the cover is provided with releasable means for automatically locking the cover when same is moved to its horizontal position immediately overlying the upper end of the can.

The above and still further objects of my invention will become apparent from the following detailed specification, appended claims and attached drawings.

Referring to the drawings wherein like characters indicate like parts throughout the several views:

Fig. 1 is a view in side elevation of my novel structure;

Fig. 2 is a view in front elevation;

Fig. 3 is a view in vertical section as seen from the line 3—3 of Fig. 2;

Fig. 4 is a view in horizontal section as seen from the line 4—4 of Fig. 1;

Fig. 5 is a fragmentary sectional view as seen from the line 5—5 of Fig. 1; and

Fig. 6 is a fragmentary view in bottom plan of the cover as seen substantially from the line 6—6 of Fig. 3.

Referring with greater particularity to the drawings, the numeral 1 indicates in its entirety a body, preferably cast from such metal as aluminum, and defining a reservoir 2 having a top wall 3, bottom wall 4, side walls 5, a front wall 6 and a rear wall 7. The rear wall 7 is shown

as being provided with conventional means 8 for detachably securing same to a wall A or other vertical supporting means; whereas the lower wall 4 is provided with a discharge valve means identified in its entirety by the numeral 9 and comprising a horizontally disposed plunger 10 working in a bore 11. The reduced inner end 12 of the plunger 10 has thereabout a coil compression spring 13 which, working against the inner end 14 of the bore 11 and a piston element 15 on the intermediate portion of the plunger 10, biases said plunger toward the extended position of Fig. 3. Note that in such position a port 16 in the bottom wall 4 of the reservoir 2 communicates with a chamber 17 defined by the axially spaced piston elements 15 and 18. Under this arrangement, retraction of the plunger 10 against the bias of spring 13 will cause a discharge of a small amount of fluid soap within the reservoir 2 through tht downspout 19.

As shown, the front portion of the top wall 3 of the reservoir 2 is formed to define an annular seat 20 for the reception of the lower end portion of a suitable can B. Encompassing the annular seat 20 and upstanding with respect to the top wall 3 is an annular flange 21 which, with the seat 20, defines a socket 22. Within the seat 20, the top wall 3 is provided with port means 23 which communicates with the reservoir 2. Also within the annular seat 20, the wall 3 supports an upstanding axial can end puncturing tooth 24.

Also carried by the top wall 3 of the reservoir 2 and as shown, immediately rearwardly of the socket 22, is an upstanding mounting post 25. Pivotallly secured as at 26 to the upper end portion of the mounting post 25 is a cover 27 having a depending marginal flange 28 which defines a recess or socket 29 for the reception of the upper end portion of the can B. As shown particularly in Figs. 3 and 6, the undersurface 30 of the cover 27 is formed, adjacent the pivotal connection 26 thereof to the mounting post 25, to provide a depending lug 31, which with the adjacent portion of the flange 28 forms a downwardly opening notch 32 which receives therein the axially upwardly extended marginal flange 33 of the can B during initial closing movements of the cover 27. Under this arrangement, the can B is positioned so that the puncturing tooth 24 is in engagement with the central portion of the bottom 34 thereof. Downward movement from the dotted line showing of Fig. 3 is then imparted to the cover 27, whereby to cause the flange 33 to be received in the downwardly opening notch 32. Continued downward movement of the cover 27 forces the puncturing tooth 24 through the bottom 34 with a minimum of ease due to the considerable leverage exerted by the cover 27 on the can B. The notch 32 obviously prevents the top of the can B from being cammed out of engagement with the cover 27 during closing movements, and also assures centering of the top of the can B during final closing movements.

Obviously when the puncturing tooth 24 has penetrated the bottom 34 of the can B, the contents of the can B will be fed under gravity through the port means 23 and into the reservoir 2. For the purpose of determining the level of fluid soap within the reservoir 2, I preferably provide a small glass inspection window 35 in the front wall 6 of the reservoir 2.

As shown particularly in Figs. 3 and 5, and for the purpose of eliminating tampering and rendering my device relatively foolproof, I provide a spring pressed detent 36 which is mounted for retracting and extending movements in the upper end portion of the mounting post 25. The free end of the detent 36 is alignable with and automatically received within an aperture 37 in one of the bifurcations 38 of the rearwardly projecting tongue 39 formed integrally with the cover 27, when the cover 27 is caused to assume its horizontal operative position,

In order to lift the cover, for the purpose of removing or replacing of the can B, a small pointed tool is required to retract the detent 36.

My invention has been thoroughly tested and found to be completely satisfactory for the accomplishment of the above objects and while I have shown a preferred embodiment thereof, I wish it to be specifically understood that same is capable of modification without departure from the scope and spirit of the appended claims.

What I claim is:

1. In a device of the class described, a body defining a reservoir having a top wall, discharge valve means associated with the lower end portion of said reservoir, means on said body for securing said body to a support, said top wall defining a circular horizontal seat for the reception of the lower end of a can of the type having axially extended marginal flanges on its upper and lower ends, means centering and retaining said can on said seat, said top wall radially inwardly of said seat defining port means communicating with said reservoir, an upstanding can end puncturing tooth carried by said top wall axially of said seat, an upstanding mounting post on said top wall rearwardly of said seat, and a cover pivotally mounted on the upper end of said post for swinging movements between an upstanding position rearwardly of a can on said seat and a horizontal position immediately overlying said can, said cover having a depending marginal flange which defines a downwardly opening recess for the reception of the upper end of said can, said cover being formed to provide a downwardly opening notch within said recess adjacent the pivotal connection thereof to said post, said notch receiving therein the upstanding marginal flange on the upper end portion of said can during initial downward movements of said cover and guiding said can into said recess during final closing movements thereof against said puncturing tooth.

2. In a device of the class described, a body defining a reservoir having a top wall, discharge valve means associated with the lower end portion of said reservoir, means on the rear end portion of said body for detachably securing said body to a vertical support, said top wall defining a circular upwardly opening socket having a circular horizontal seat at its base for the reception of the lower end of a can of the type having axially extended marginal flanges on its upper and lower ends, said top wall axially inwardly of said seat defining port means communicating with said reservoir, an upstanding can end puncturing tooth carried by said top wall axially of said seat, an upstanding mounting post on said top wall rearwardly of said seat, and a cover pivotally mounted on the upper end of said post for swinging movements between an upstanding position rearwardly of a can on said seat and a horizontal position immediately overlying said can, said cover having a depending marginal flange which defines a downwardly opening recess for the reception of the upper end of said can, said cover being formed to provide a downwardly opening notch within said recess adjacent the pivotal connection thereof to said post, said notch receiving therein the upstanding marginal flange on the upper end portion of said can during initial downward movements of said cover and guiding said can into said recess during final closing movements thereof against said puncturing tooth.

3. The structure defined in claim 2 in further combination with means for releasably locking said cover in said horizontal position.

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