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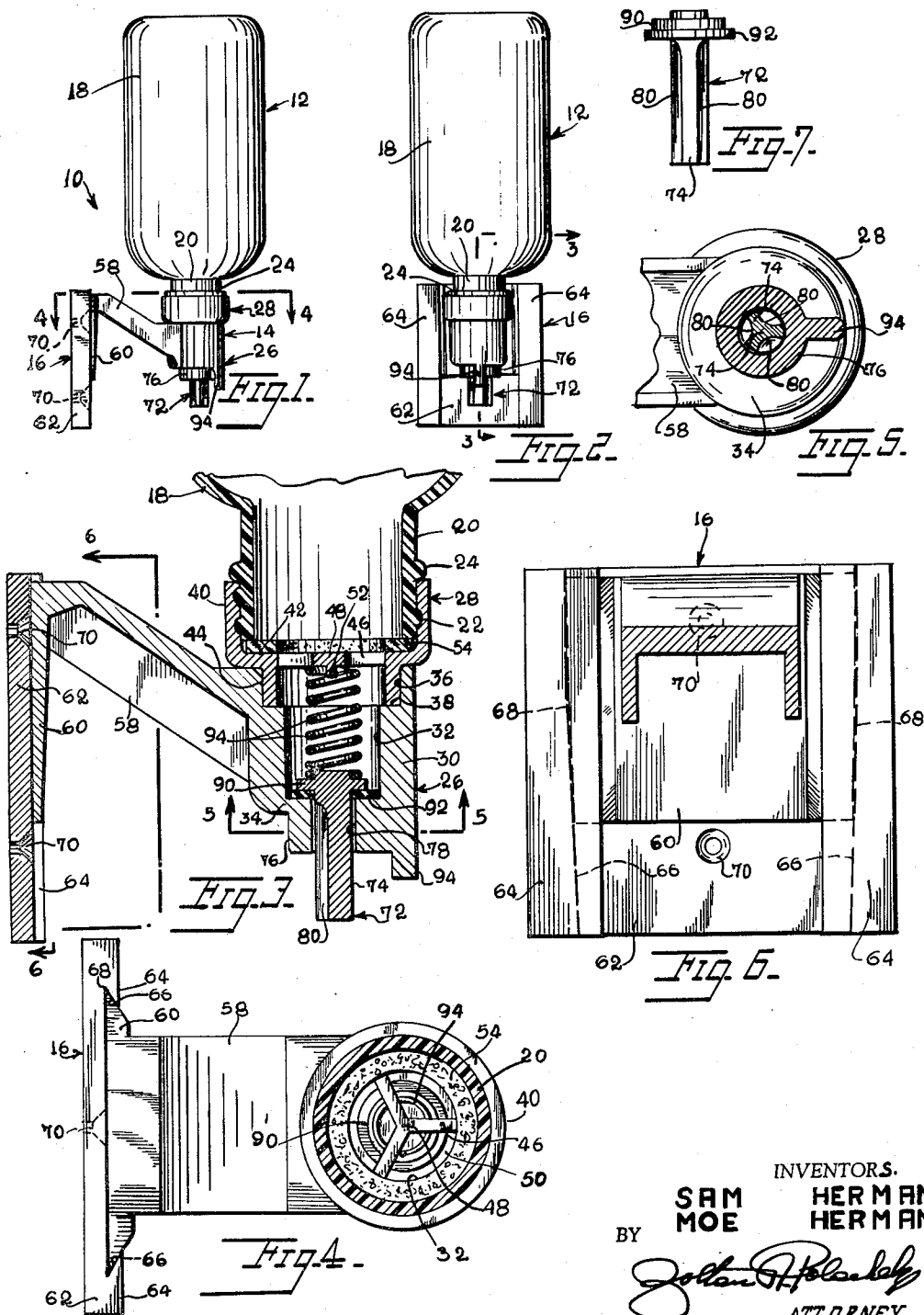
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DISPENSER FOR LIQUID AND POWDERED SOAP

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2 Sheets-Sheet 1



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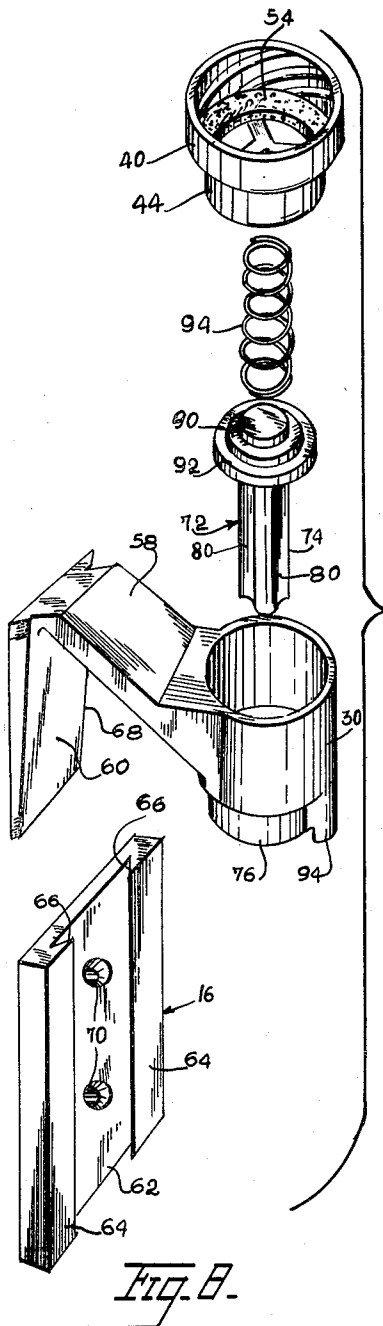
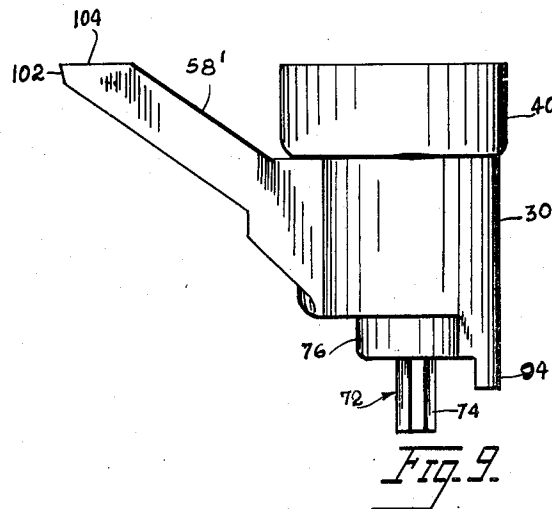
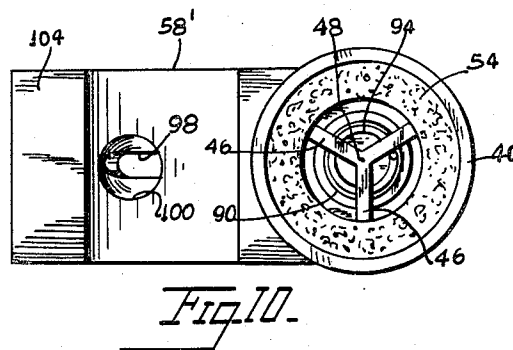
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DISPENSER FOR LIQUID AND POWDERED SOAP

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2 Sheets-Sheet 2



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DISPENSER FOR LIQUID AND POWDERED SOAP

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1 Claim. (Cl. 222—181)

This invention relates to dispensers and more particularly to a dispenser for liquid or powdered soap.

A principal object of the present invention is to provide a dispenser for liquid or powdered soap that is easily operated by a single finger of the hand of the user.

Another object of the invention is to provide a dispenser of this type that can be readily mounted on a vertical supporting surface.

A further object of the invention is to provide a dispenser of this type with a fitting or adapter for supporting a bottle containing soap, which fitting or adapter is readily assembled and disassembled.

It is also proposed to provide a fitting or adapter for supporting a bottle containing soap and a bracket plate for readily mounting the dispenser upon a vertical supporting wall.

It is a further object to provide a soap dispenser of this type that is highly efficient in operation, is sanitary, and is simple in construction and economical to manufacture.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claim in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a side elevational view of a dispenser for liquid or powdered soap embodying the invention.

Fig. 2 is a view looking from the right of Fig. 1.

Fig. 3 is an enlarged vertical sectional view taken on the plane of the line 3—3 of Fig. 2.

Fig. 4 is an enlarged horizontal sectional view taken on the plane of the line 4—4 of Fig. 1.

Fig. 5 is a horizontal sectional view taken on the plane of the line 5—5 of Fig. 3 and looking in the direction of the arrows.

Fig. 6 is a vertical sectional view taken on the plane of the line 6—6 of Fig. 3.

Fig. 7 is a side elevational view of the plunger of the valve mechanism.

Fig. 8 is a spread perspective view of the bracket, fitting and valve mechanism.

Fig. 9 is a side elevational view of a modified form of fitting and bracket.

Fig. 10 is a top plan view thereof.

Referring in detail to the drawings, in Fig. 1 a dispenser for liquid or powdered soap made in accordance with the invention is shown and designated generally by the numeral 10. The dispenser comprises broadly, a container 12, a fitting or adapter 14 and a bracket 16.

The container 12 comprises a bottle 18 formed of translucent plastic material and is formed with a neck 20 having external threads 22 on the outer end thereof and an annular external bead 24 midway its ends.

The fitting or adapter 14 is composed of two plastic body sections, a lower section 26 and an upper section

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28. The lower body section 26 includes a cylindrical body portion 30 formed with a central bore 32 and closed at its bottom by a wall 34. The body is formed with a countersunk bore 36 at the top forming an inner annular shoulder 38 in the body. The top of the body portion 30 is open.

The upper body section 28 is cup-shaped forming a socket and includes a side wall 40 and a bottom wall 42 with a tubular extension 44 extending downwardly from the bottom wall and adapted to engage the side of the countersunk portion of the bore of the lower section 26 and to seat on the shoulder 38. The bottom wall 42 is slotted at its center to form a skeleton frame or spider having radial arms 46, with a central hub portion 48 and with slots 50 between the arms. An integral lug 52 depends from the hub portion 48 into the tubular extension 44. A cork washer 54 is seated on the bottom wall 42 with its opening communicating with the slots 50 in said bottom wall.

A connecting arm 58 is formed integrally with the body portion 30 of the lower section 26 of the fitting and extends outwardly and upwardly therefrom in an inclined direction. The arm extends upwardly to a point level with the top of the upper body section 28 and terminates in a vertically disposed plate member 60 of dovetail cross section, as shown in Figs. 4 and 8. The plate member 60 extends downwardly to a point substantially level with the bottom wall 34 of the lower body section 26 and its long side edges taper slightly downwardly and inwardly so that the top of the plate is slightly wider than the bottom thereof.

The extending arm 58 on the fitting permits ready mounting of the dispenser on a vertical supporting surface such as a wall or the like and for this purpose the invention contemplates the provision of the bracket 16 to be fastened to such a supporting surface. The bracket 16 comprises a plastic plate 62 enlarged along two opposed side edges thereof as indicated at 64. The enlargements are formed with undercut dovetail slots 66 extending therealong, the slots tapering downwardly and inwardly corresponding to the taper of the dovetailed side edges 68 of the plate 60 of the fitting 14. A pair of countersunk aligned holes 70 are formed in the center of plate 62 to receive fastening elements for fastening the bracket to the supporting surface or wall.

The valve mechanism for controlling the passage of the liquid or powdered soap through and outwardly of the fitting 14 onto the hand for use includes a plastic plunger 72 comprising an elongated plastic rod 74 substantially cylindrical, extending through a tubular extension 76 depending from the bottom wall 34 of the lower section 26 of the fitting. The central opening in the tubular extension communicates with a central opening 78 formed in the bottom wall 34. The rod 74 is formed with spaced grooves or flutes 80 extending from and intersecting one end of the rod, the outer end as viewed in Fig. 3, to a point remote from the other end thereof. Three of such grooves 80 are shown, extending along the central opening in the extension 76 and the opening 78 in the bottom wall 34.

Adjacent its other or inner end as viewed in Fig. 3, the rod is formed with an annular flange 90 and carried by the rod below the flange 90 and contacting therewith is a sealing plastic washer 92 adapted to seal the opening 78 in the bottom wall 34 of the lower section 26. A compression spring 94 is interposed between the rod 74 and the hub portion 48 of the bottom wall 42 of the upper section, one end of the spring being seated around the depending lug 52 on said hub portion and the other end of the spring being seated around the inner or top end of the rod 74 whereby the rod is spring-pressed to outward position whereby the washer 92 seals

the opening 78 in the bottom wall 34 of the lower section 26 of the fitting. In this sealing position, the rod 74 protrudes outwardly of the extension 76 so that it can be readily pushed inwardly by the finger of the hand of the user. A downwardly depending lug 94 on the bottom end of the extension 76 is adapted to engage the finger to indicate that the desired limit of upward movement of the finger of the user has been reached in order to prevent displacement of the valve parts.

In use, the bracket 16 is fastened to a vertical supporting surface such as a wall or the like. The plate 60 is slid downwardly along the slots 66 in the bracket until the plate is locked in the position shown in Fig. 3. A bottle 18 filled with liquid or powdered soap is inverted and its neck 20 screwed onto the upper section 28 of the fitting 14 until its annular bead 24 seats on the upper edge of said upper section. In this position, the neck of the bottle will rest on and be sealed by the cork washer 54. When it is desired to dispense soap, the plunger rod 74 is pushed upwardly by the finger of the user against the action of the spring 94 thereby carrying the sealing washer 92 off its seat and away from the opening 78 in the bottom wall 34 of the lower section 26 of the fitting whereby communication is established between the bore 32 in the fitting and the central opening 78 in the extension 76 on the lower section 26 and soap is permitted to flow by gravity through the grooves or flutes 80 formed in the rod 74 through the central opening in the extension 76 and outwardly thereof onto the hands of the user or onto any other surface desired. When the finger of the user presses the rod 74 upwardly to open position, it engages the depending lug 94 on the extension 76 which serves as a stop to warn and prevent further upward travel of the finger.

In the modification of the invention shown in Figs. 9 and 10, the extending arm 58' may be fastened directly to the vertical supporting surface thereby eliminating the necessity for the plate 60 and bracket 16 used in the form of Fig. 1. For this purpose, the arm 58' is formed with an elongated slot 98 adjacent its free end, the slot being formed with a circular countersunk portion 100 to receive the head of the fastening element. The free end of the arm is also formed with a slightly beveled portion 102 slanting in one direction and with an opposed beveled portion 104 slanting in the opposite direction. The beveled portion 102 permits the arm to be positioned against a vertical supporting surface in such a condition that the fitting and supported bottle are disposed vertically. The fastening element will extend through the slot 98 at an angle to the horizontal and the beveled portion 104 permits the tool to drive the fastening element home.

In all other respects, the form of invention shown in Figs. 9 and 10 is similar to the form of Figs. 1-8 and

similar reference numerals are used to indicate similar parts throughout.

While we have illustrated and described the preferred embodiments of our invention, it is to be understood that we do not limit ourselves to the precise constructions herein disclosed and that various changes and modifications may be made within the scope of the invention as defined in the appended claim.

Having thus described our invention, what we claim as new, and desire to secure by United States Letters Patent is:

In a dispenser for liquid or powdered soap, a fitting for supporting an inverted bottle containing liquid or powdered soap including a tubular body of two sections, a lower section and an upper section detachably connected, the lower section having a cylindrical body portion with a central bore and an upper countersunk portion forming a shoulder therein, and a bottom wall with an opening therein, said upper section being cup-shaped forming a socket to support an inverted bottle containing the soap and having a bottom wall in the form of a skeleton frame having slots communicating with the bore in the body portion of the lower section, and a tubular extension depending from the bottom wall of the upper section and seated on the shoulder of the lower section, said lower section having an extension depending from the bottom wall thereof, said latter extension having a central bore communicating with the opening in the bottom wall of the lower section, a finger-actuated valve mechanism for controlling passage of the soap through said openings and bores, said valve mechanism including a movable rod extending axially through said lower section, said rod having spaced grooves extending therealong, a sealing washer carried by the rod and normally closing the opening in the bottom wall of the lower section, a compression spring interposed between the inner end of the rod and the frame, a radial arm extending from the lower section, said arm terminating in a plate member disposed parallel to the axis of said fitting, and a bracket plate having opposed grooves to receive fittingly and removably the edges of the plate on the radial arm, said bracket plate having means to receive elements for fastening the plate to a supporting surface.

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