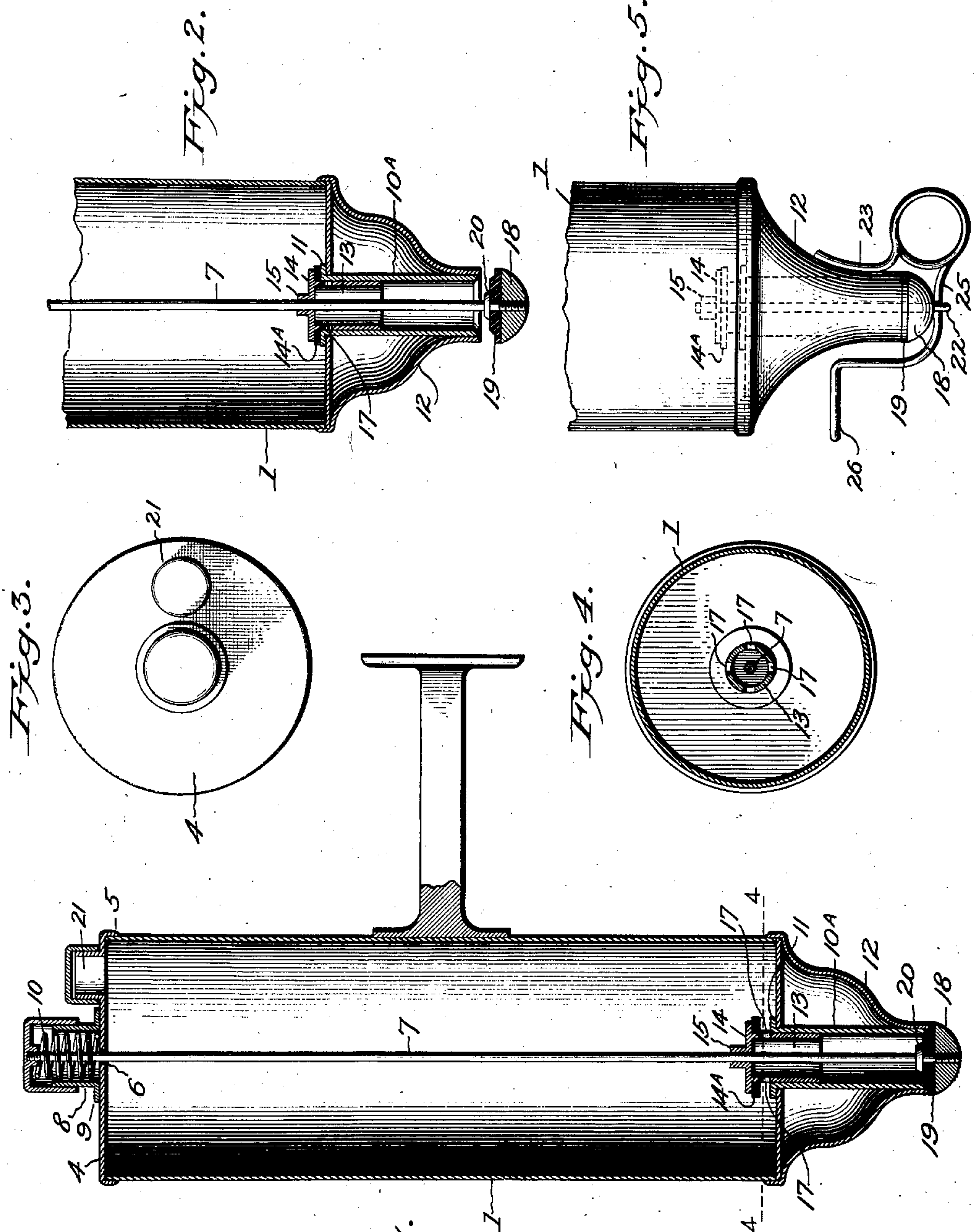


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A. L. FRIBOURG.
LIQUID SOAP RESERVOIR.
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Fig. 1.

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LIQUID-SOAP RESERVOIR.

SPECIFICATION forming part of Letters Patent No. 785,094, dated March 21, 1905.

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To all whom it may concern:

Be it known that I, AMÉDÉE L. FRIBOURG, a citizen of the United States of America, residing in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Liquid-Soap Reservoirs; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in liquid-soap reservoirs; and the objects of my invention are, first, to provide a suitable receptacle for holding liquid soap over lavatories, wash-basins, and sinks; second, to provide a liquid-soap holder provided with a cup-valve mechanism that will receive and discharge automatically a predetermined quantity of liquid soap at each of its complete operative movements. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a sectional elevation through the center of my improved liquid-soap reservoir. Fig. 2 is a sectional view through the lower half of the reservoir, showing the discharge-valve open. Fig. 3 is a plan view of the reservoir. Fig. 4 is a transverse sectional view on the line 4-4 of Fig. 1; and Fig. 5 is a side view of the lower half of a reservoir, illustrating a modification.

Similar figures of reference refer to similar parts throughout the several views.

Referring to the drawings, the numeral 1 designates a cylinder. On the top end I place a cover, which consists, preferably, of a flat disk portion 4 with a depending rim 5, which is preferably adapted to fit closely down over the top edge of the cylinder. In the center of the cover I form a small hole 6, through which extends loosely the upper end of a valve-rod 7, the lower end of which extends centrally through the cylinder and connects to the supply and discharge valves, as will be explained hereinafter. To the top of the cover 4 and surrounding the rod 7 I secure a hollow

hub 8, the bottom of which is provided with a flange 9, which rests on the cover and is preferably secured thereto by solder. The valve-rod 7 extends a short distance above the hub and is connected in any suitable manner to the center of a cup-shaped cap which extends down over the top edge of the hub loosely and is arranged to be pushed down over the hub 8 by a pressure of the hand. Within the valve-rod cap and the hub 8 and around the rod a coiled expansive spring 10 is placed, which bears at its opposite ends on the top of the cylinder in the hub and the inside of the cap over the hub. The lower end of the cylinder is provided with a flat bottom portion, in which a central aperture is formed, from which depends a tube 10^A, which I term a "reservoir discharge-tube." This reservoir and discharge tube is provided with a flange 11 at the top end, which rests on top of the bottom of the cylinder and is secured there preferably by solder. Surrounding the discharge-tube I place a subbase-molding 12 to give this end of the cylinder an ornamental appearance. This subbase-molding extends from the lower edge of the cylinder to the lower edge of the discharge-tube. The valve-rod 7 passes centrally through the cylinder and discharge-tube, and in the top of the discharge-tube I place a cupped valve 13, which comprises an inverted thimble the open end of which is placed downward in the discharge-tube. This cup or thimble shaped valve fits slidably in the discharge-tube, and its closed end is provided with an overlapping flange 14. Against the under side of this flange on the thimble I place a leather or rubber or other suitable flexible washer 14^A, which is fitted tight enough to retain its position against the flange. On top of this flange a hub 15 is placed, which is provided with a hole through which the rod 7 passes, and the hub is soldered or otherwise secured to the rod, so that the thimble is rigidly secured to and moves within the valve-rod. Through the opposite sides of the shell of the thimble, immediately below its washer 14, I form soap-inlet apertures 17, which admit liquid soap from the cylinder to the thimble-valve. This thimble-valve normally stands open—that is, with its flange and upper por-

tion of its body at a short distance above the bottom of the cylinder, and consequently with its soap-inlet aperture above the discharge-tube and the bottom of the cylinder—in which position the liquid soap flows freely into the thimble-inlet valve and through the thimble into the reservoir and discharge tube. At the bottom of the reservoir and discharge tube I place an outlet-valve 18. I preferably place this valve below and outside of the end of the reservoir and discharge tube. This valve consists of a disk to the top of which a suitable pliable washer 19 is placed. The valve-rod 7 is secured to the disk preferably by being threaded to a threaded hole formed in its center, and a collar 20 is formed on or secured to the rod, which is positioned to bear on the top of the washer and clamp it to the disk. This valve is arranged to seat itself against the terminal edge of the reservoir and discharge tube, and it is normally held against this tube by the expansive tension of the spring in the cap of the valve-rod, which holds it constantly under upward resilient tension, and consequently normally closed. 21 designates a capped inlet-aperture in the top of the cylinder cap or cover, which is used to fill the cylinder with liquid soap.

The operation is as follows: The cylinder is filled with liquid soap by removing its inlet-cap 21 from the cover of the cylinder, and as the thimble-valve is normally held open the liquid soap flows into the inlet-holes in the thimble and into the reservoir and discharge tube, which being closed at its discharge end by the discharge or outlet valve is filled with liquid soap, as is also the thimble. A person desiring to use the soap then has only to place his hand on top of the valve-cap and press it down over the hub, which movement moves the valve-rod down and closes the thimble-inlet valve and opens the discharge-valve and allows the supply of soap in the reservoir and discharge tube to run out, which is caught by the other hand of the user, which is placed under the discharge-valve at the time the valve-cap is pressed down.

In Fig. 5 I illustrate a modification of the valve-operating mechanism. In this modification the cylinder and the valves and the reservoir and discharge tube are the same as in the preferred construction. The cover of the cylinder is the same except that the hub and the valve-rod cap are dispensed with. The modification consists of dispensing with the valve-rod from the top of the thimble soap-inlet valve to the top of the cover of the cylinder; but that portion of the valve-rod that is connected to the thimble inlet-valve and the discharge-valve is retained, as shown in Fig. 5, and to the bottom of the discharge-valve I secure an eye 22. I also secure, preferably by solder, one end of a spring-wire 23, which is formed into a coiled spring adjacent to its

fastened end. A straight part 25 of the wire then extends loosely through the eye at the bottom of the valve, so as to slide freely through it. The wire is then bent upward alongside of the subbase and handle portion 26 is formed on its end. The coiled spring is arranged and adapted to hold with an upward resilient pressure the wire against the bottom of the discharge-valve. Consequently this valve-operating coiled spring-wire operates to hold the discharge-valve normally closed and the thimble inlet-valve normally open, the same as the straight valve-rod and its spring in the preferred construction does, and they are operated to obtain a supply of liquid soap from the reservoir and discharge tube by simply pressing on the handle portion of the wire, which moves the discharge-valve downward and over it and at the same time closes the thimble soap-inlet valve. In both constructions the instant the valve-operating rod or wire is released the resilient tension of the springs attached to them immediately closes the discharge-valve and opens the thimble inlet-valve, allowing the reservoir and discharge tube to immediately refill with liquid soap. I preferably make my improved liquid-soap holder out of tin, except such parts as it is necessary to make of other material.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a liquid-soap holder, the combination of a cylinder, a cover fitting said cylinder, a capped inlet in said cover, a hollow hub on the center of said cover, a cap fitting slidably over said hub, an expansion-spring in said hub and cap and a valve-rod secured to said cap and extending loosely through said spring and hub into said cylinder, substantially as described.

2. In a liquid-soap holder, the combination with a suitable cylinder, provided with a cover having a fitting capped inlet, of a reservoir and discharging tube at the bottom of said cylinder, an inverted-thimble-shaped valve slidably mounted in the top of said tube and arranged to normally extend into the body of said cylinder, a flange on the top of said thimble-valve, a washer on said thimble-valve resting against the under side of said flange, and adapted to engage the bottom of said cylinder at the end of said thimble-valve's operative movement, inlet-apertures in the side of said thimble-valve close to its flanged top, a discharge-valve at the lower end of said reservoir and discharge tube, a valve-rod extending through said cylinder and secured to said valves and arranged and adapted to normally hold under resilient tension said thimble-valve open and said discharge-valve closed, substantially as described.

3. In a liquid-soap holder, the combination with the cylinder provided with a cover having a cylinder-filling capped inlet-aperture, of a reservoir and discharge tube in the bottom

of said cylinder, a hollow hub in said cover; an aperture in said hub and cover, a valve-rod extending through the aperture in said hub and cover through said cylinder, and reservoir and discharge tube, an inverted-thimble-shaped valve secured to said valve-rod and slidably fitted in the top of said reservoir and discharge tube, and arranged to normally project into said cylinder, a flange in the top of said thimble arranged to be moved against the bottom of said cylinder soap-inlet apertures in the sides of said thimble below said flange, a discharge-valve secured to the lower end of said rod and arranged to close the discharge end of said reservoir and discharge tube, a cap on the upper end of said valve-rod fitting slidably over said hub, an expansive spring on said rod between said cap and said hub, arranged to normally hold by its expansive tension said thimble-valve normally over to the ingress of soap into said reservoir and discharge tube and said discharge-valve closed against the discharge end of said reservoir and discharge tube, substantially as described.

4. In a liquid-soap holder, the combination of the cylinder, a reservoir and discharge tube secured to the bottom of said cylinder, a sub-base secured to the lower end of said cylinder and surrounding said reservoir and discharge tube, a cover on the top of said cylinder, an inverted-thimble-shaped cup arranged to control the entrance to said reservoir and discharge tube, a discharge-valve arranged to control the discharge-outlet of said reservoir and discharge tube, a rod connecting said discharge-valve and inlet-valves together in relative positions so that where one valve is open, the other valve is closed, a spring secured at one end to said cylinder and arranged to hold with a resilient tension said discharge-valve closed normally and said inverted-thimble inlet-valve normally open, and means including a handle for opening said discharge-valve and at the same time closing said inverted-thimble inlet-valve, substantially as described.

5. In a liquid-soap holder, the combination with the cylinder having a discharge and res-

ervoir tube in its bottom and a removable cover at its top with a valve-rod extending through said discharge and reservoir tube, an inverted-thimble inlet-valve secured to the top end of said rod, provided with a soap-inlet aperture in its sides, and with a flange at its top end adapted to seat against the bottom of said cylinder and close said valve, a discharge-valve secured in the lower end of said valve-rod, said valves being arranged in said valve-rod so that when one is closed, the other is open and a coiled spring secured at one end to said cylinder and arranged to bear with a resilient upward tension on said discharge-valve to normally hold it closed and having its opposite end arranged to be normally operated to open said discharge-valve, substantially as described.

6. In a liquid-soap holder, the combination of a cylinder having a reservoir and discharge tube at its bottom, a cover at its top, a valve-rod extending through said cylinder and its reservoir and discharge tube, a discharge-valve at the end of said valve-rod, an inverted soap-inlet thimble-valve secured to said valve and slidably arranged in the top of said reservoir and discharge tube to stand normally partially in said cylinder and partially in said tube, and positioned in such relation to said discharge-valve on said rod that, when said discharge-valve is closed, said inlet-valve will be open and having said inverted-thimble inlet-valve provided with soap-inlet apertures in its sides, a flange on the top of said inlet-valve adapted to close said soap-inlet holes when said valve is moved downward, and means including a spring and a cap secured to said valve-rod above said cap for normally holding said discharge-valve closed against the end of said discharge-tube, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

AMEDÉE L. FRIBOURG.

Witnesses:

G. SARGENT ELLIOTT,
BESSIE THOMPSON.