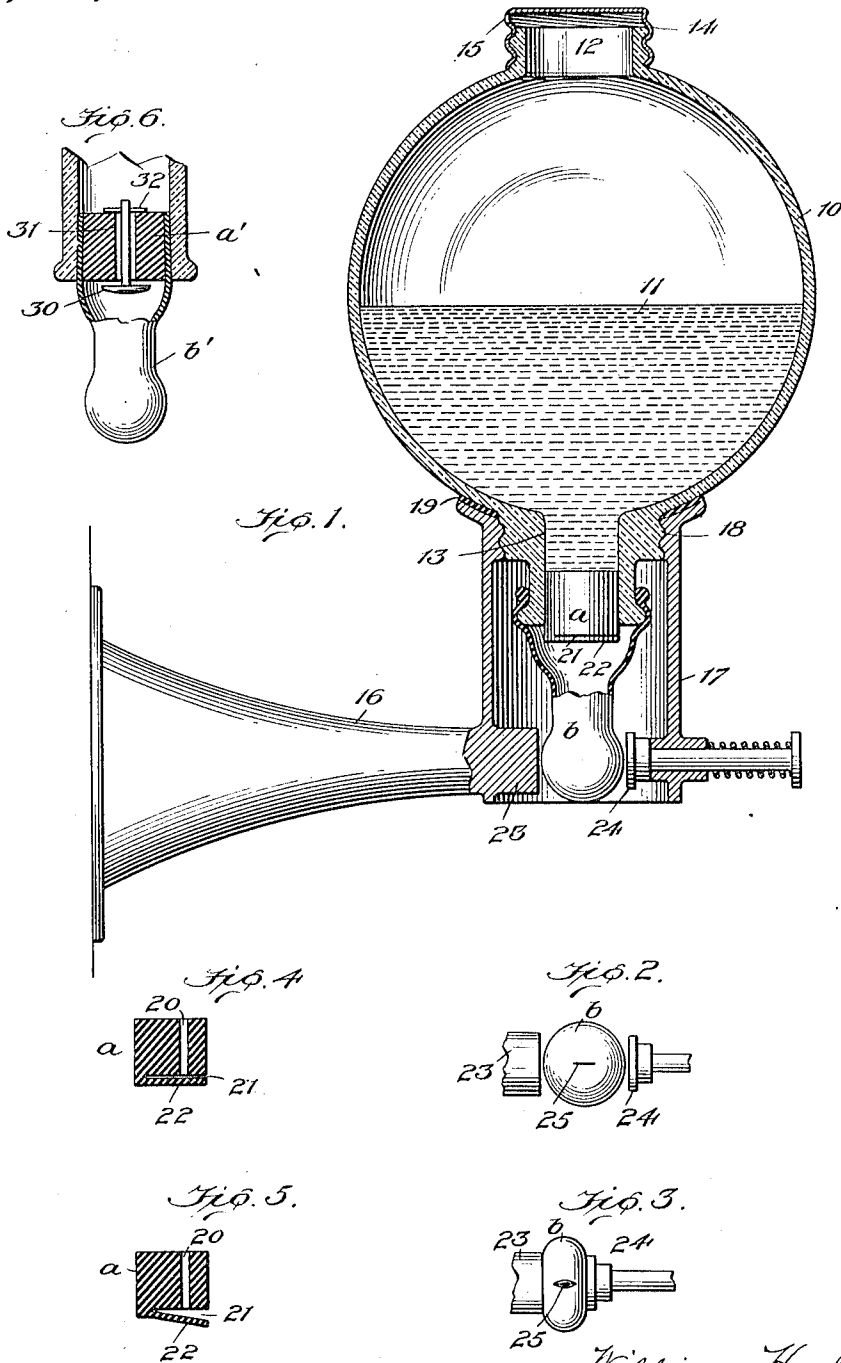


W. H. ROSE.
SOAP DISPENSER.
APPLICATION FILED JAN. 30, 1919.

1,326,880.

Patented Dec. 30, 1919.



Witness

Edwin K. Bradford

Inventor

William H. Rose

By Foster, Freeman, Watson & Coit

Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM H. ROSE, OF JERSEY CITY, NEW JERSEY.

SOAP-DISPENSER.

1,326,880.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM H. ROSE, a citizen of the United States, and residing at Jersey City, Hudson county, State of New Jersey, have invented certain new and useful Improvements in Soap-Dispensers, of which the following is a specification.

This invention relates to means for dispensing fluids in small quantities and particularly to means for dispensing liquid soap. In soap dispensing apparatus heretofore constructed, it has been customary to use metal valves, plungers, &c., in contact with the soap and it has been found that metal parts rapidly corrode in the presence of certain ingredients usually found in soaps of this character. The object of the present invention is to provide a simple and cheap soap dispensing apparatus in the use of which the liquid soap does not come in contact with any metal. The invention will be described in connection with the accompanying drawing in which—

Figure 1 is a side view partly in section of a dispensing apparatus embodying the invention;

Fig. 2 is a bottom plan view of the outlet showing the valve opening closed;

Fig. 3 is a similar view showing the valve opened by the plunger;

Fig. 4 is a sectional view of the check valve; and

Fig. 5 is a similar view showing the check valve open.

Fig. 6 is a sectional view illustrating a modification.

Referring to the drawing 10 indicates a container or reservoir for the liquid soap 11. This reservoir is usually in the form of a glass bottle having a filling opening 12 in its upper end and a discharge opening 13 at its lower end. The upper end is normally closed by a removable cap 14 provided with a small vent 15 to permit the fluid to flow freely from the opening 11.

The reservoir 10 is suitably supported on a bracket 16. As shown the bracket is formed with a vertical cylindrical portion 17 having at its upper end an interior thread 18 into which a corresponding thread on the neck of the bottle fits. A washer or packing 19 of soft material may be interposed between the column 17 and the container to protect the latter.

The discharge from the bottle is controlled by the following elements: In the neck of the

bottle is a check valve, *a* in the form of a cork having a vertical opening 20 extending from its upper surface almost to its under surface. Parallel and near to the under surface of the valve *a* is a slit 21, forming a flap valve 22 adapted to close the channel 20 when there is pressure on its under surface. The valve *a*, thus constructed, is inserted in the neck of the bottle and forms a stopper therefor. This particular form of valve may be made of rubber or similar material and is extremely inexpensive. My invention, however, is not limited to this particular form of check valve.

Below the check valve *a* there is a rubber nipple, *b*, forming a discharge valve. This nipple engages over a flange on the neck of the bottle exactly as a rubber nipple is connected to a nursing bottle. The lower end of the nipple is arranged between an abutment 23 and a spring plunger 24. The nipple which is flexible and usually of rubber, has in its lower end a slit 25 which is normally closed as shown in Fig. 2 and which opens under pressure of the plunger 24 as shown in Fig. 3.

The operation is as follows:

When the plunger 24 is pressed inward the nipple is collapsed and the valve 25 opened. The check valve 22 being closed, fluid in the nipple *b* will be expelled through the opening 25, more or less, depending on the extent to which the plunger 24 is moved. When the plunger 24 is released the nipple expands, the opening 25 closing quickly and creating suction which draws down a portion of fluid from the reservoir through the check valve *a*. The flow of fluid through the check valve, of course, is aided by gravity. By properly proportioning the size of the nipple *b* and the discharge opening 25, more or less soap may be delivered at each operation of the plunger as may be desired. It will be noted that the liquid soap only comes in contact with glass and rubber, or equivalent materials, during its passage through the dispenser and hence there is no corrosion of metal. Furthermore the only parts which are liable to wear out or become inefficient are the valve devices *a* and *b*, which may be replaced at very trifling cost. The apparatus will thus last indefinitely. In order to replace the parts *a* and *b* the container is unscrewed from the supporting bracket and replaced when new parts have been applied.

In Fig. 6 there is shown a different form of the invention, in which the nipple and check valve form a single unit and the nipple fits within the mouth of the reservoir.

- 5 In this figure *a'* indicates the check valve and *b'* the nipple. These parts may be formed integral but are preferably formed separately of soft rubber and assembled as shown. The check valve proper 30, is of the
10 mushroom type and has a stem extending loosely through the outlet opening 31 and retained therein by a pin 32. The valve 30 and pin 32 may be of glass, hard rubber, or other non-corrosive material. The operation of this form of the invention is substantially the same as that shown in Fig. 1.

Having thus described my invention what I claim and desire to secure by Letters Patent is:

- 20 1. In a liquid dispenser the combination with a container having a discharge opening at its lower end and a vent at its upper end, of a check valve in said opening, an integral elastic nipple into which fluid is

discharged from the check valve, said nipple having a discharge opening, and means for compressing the nipple.

2. In a liquid soap dispenser the combination with a container having a vent in its upper end and a discharge opening in its lower end, of a check valve in said opening, a neck on the container surrounding the opening and an integral elastic nipple connected to and depending from said neck, said nipple having an elongated opening therein adapted to close automatically, and a plunger adapted to compress the nipple to discharge soap therefrom.

3. In a liquid soap dispenser the combination with a container having a depending neck, of a check valve in said neck comprising a flexible stopper having a vertical channel and an integral horizontal flap to close said channel, and means below said check valve for receiving and discharging portions of the liquid successively.

In testimony whereof I affix my signature.
WILLIAM H. ROSE.