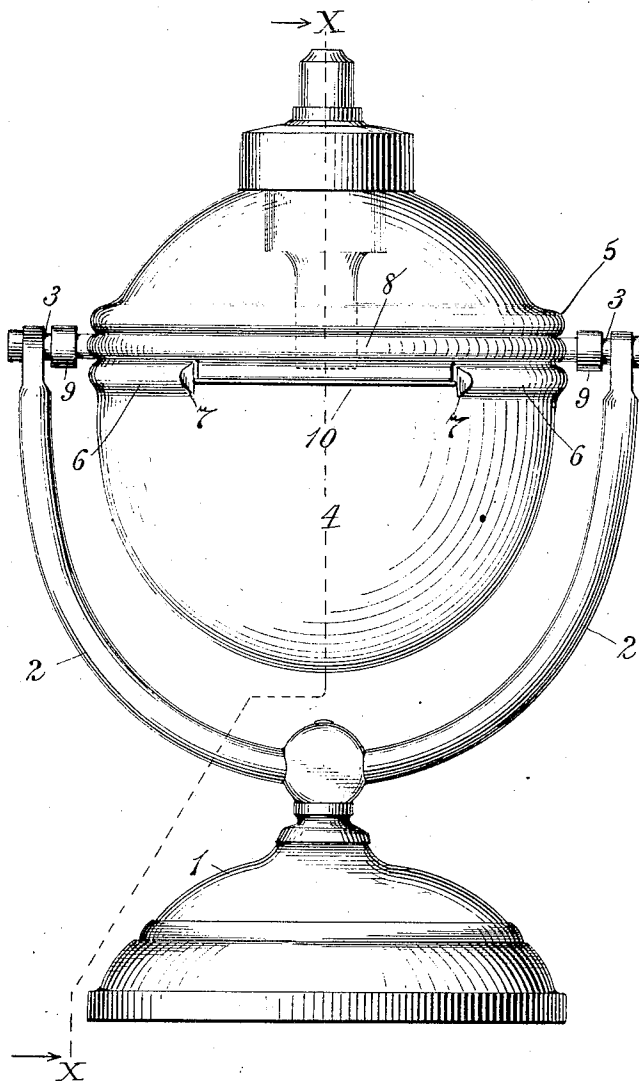


M. M. MARCUSE.
LIQUID DISPENSING DEVICE.
APPLICATION FILED JAN. 9, 1908.

936,334.

Patented Oct. 12, 1909.
2 SHEETS—SHEET 1.

Fig. 1.



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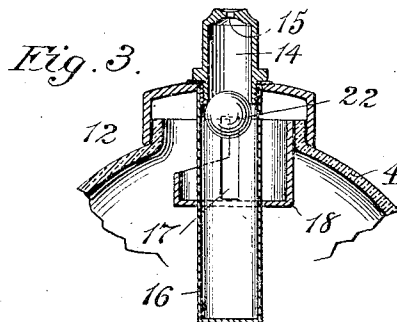
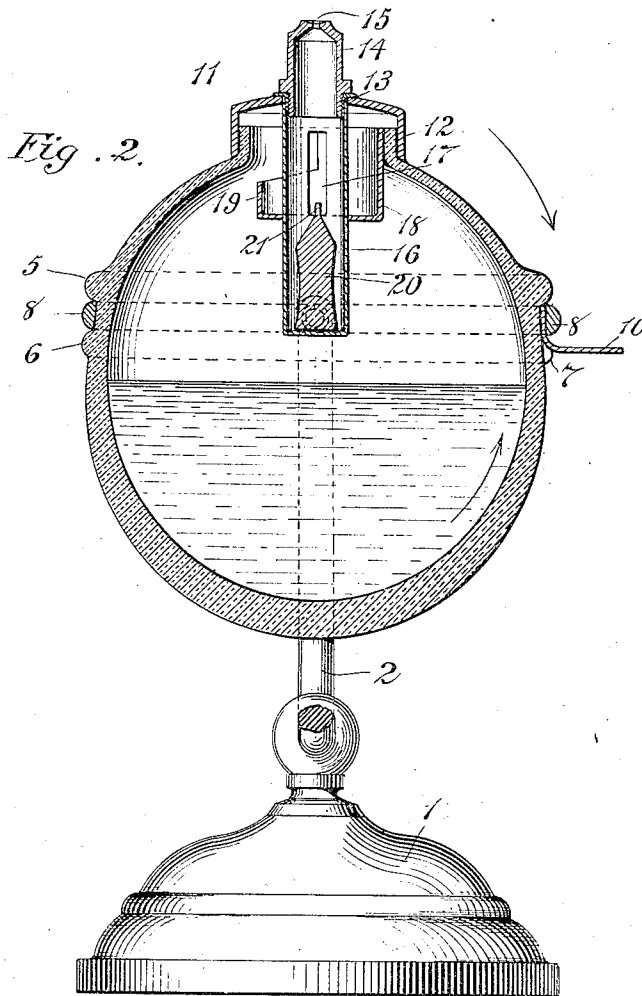
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Inventor
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UNITED STATES PATENT OFFICE.

MOSES M. MARCUSE, OF NEW YORK, N. Y.

LIQUID-DISPENSING DEVICE.

936,334.

Specification of Letters Patent.

Patented Oct. 12, 1909.

Application filed January 9, 1908. Serial No. 410,017.

To all whom it may concern:

Be it known that I, MOSES M. MARCUSE, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented a certain new and useful Improvement in Liquid-Dispensing Devices, of which the following is a specification.

This invention has reference to certain improvements in that class of liquid soap dispensers which comprise a pivoted receptacle for the soap solution arranged to be tilted or turned over so that a certain quantity of liquid soap is discharged into the hands of the user.

As hitherto constructed, a sliding weighted plunger has been employed in devices of this character, and this has been so arranged as to slide down to the discharge orifice with the intention of positively ejecting a predetermined quantity of liquid therefrom and at the same time preventing the liquid from continuing to run out after the proper quantity of soap for one use has been discharged. In order to make it possible to use the device even after the supply of soap has become low, there has been used a slotted tube extending inward from the discharge opening across to the bottom of the receptacle. This tube is intended to act as a scoop, gathering up the liquid at the bottom as the receptacle is inverted and conveying it to the opening. At the same time it acts as a guide for the weighted plunger above mentioned. It has been found that the shaking of the soap solution due to normal operation of the device is very apt to produce foam or suds. This gets into the scooping tube above mentioned and interferes with proper use of the device. Moreover the receptacle must be carefully made to avoid irregularities in thickness at the bottom which create difficulty in proper fitting of scooping tubes of uniform length. This difficulty is particularly felt where the receptacle is made of glass, and, as this material has been found to be the best for various reasons, the disadvantage mentioned has proven embarrassing.

The present invention, while avoiding the difficulties above mentioned, and also comprising an improved construction especially fitted for use with glass receptacles, has further relation to an improved means for discharging a previously measured quantity of liquid.

Further advantages of this invention are set forth in my specification and claims.

A preferred form of this invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a front elevation of my device in portable form, Fig. 2 is a sectional view on the line $x-x$ of Fig. 1, omitting the bracket, and Fig. 3 is a similar sectional view of a modified detail.

Upon the base, 1, are mounted bracket arms, 2, upon the extremities of which are bearings to receive the pivots 3, on which the receptacle 4 is mounted so as to be capable of tilting in a well known manner.

The receptacle may be of any material, but glass is preferred, and the general shape is approximately globular as shown. Two circular beadings, 5, 6, surround the receptacle in the middle save where the lower beading is interrupted for a short space in front as shown in Figs. 1 and 2 at 7. The beading is preferably cast or molded so as to form a part of the receptacle.

A metal supporting band 8 closely surrounds the receptacle, fitting between the beadings 5 and 6 as shown. This band is composed of two semi-circular parts whose ends are brought together at the two sides and joined in any convenient manner. In the form shown this is accomplished by means of sleeves 9 (see Fig. 1). The front of the supporting band is provided with a tilting shelf which projects a short distance downward and then forward a greater distance, as shown at 10 in Figs. 1 and 2. It is against this shelf that the user's finger tips are pressed in using the device, as is already known in the art. It is a novel feature of my invention, however, to combine a shelf made substantially as described with the supporting band and to locate it between the ends of the interrupted beading 6 as shown. By so placing the tilting shelf, rotation of the receptacle within the band 8 is prevented and proper position of the measuring pan hereinafter described is insured.

The top of the receptacle is provided with an open neck, 11, over which there fits a metal receiving pan 12, provided with a threaded socket 13 into which is screwed the nipple 14 having a small opening 15 at the tip, through which the soap solution is ejected. The socket 13 also supports a tube 16, closed at its normally lower end and pro-

vided with slots or openings 17, for admission of liquid. The tube 16 is surrounded by the measuring pan 18, the upper edge of which fits within the front of the neck 11, but is cut away at the rear so as to leave a wide opening, as shown at 19.

The bottom of the receptacle is made thicker than the remainder, so that the extra weight here will automatically restore the receptacle to the normal position indicated in Figs. 1 and 2.

When the receptacle is tilted forward in the usual way the liquid moves relatively to its container in the direction indicated by the interior arrow in Fig. 2, until it finds its way around the edges of the pan 18 and down into the receiving cap 12. The level to which the pan 18 and tube 16 is submerged depends upon the amount of liquid in the vessel.

When the pressure upon the shelf 10 is discontinued and the receptacle is released, it returns to normal position. The liquid flows back in the direction opposite to the interior arrow in Fig. 2, leaving behind a certain small amount which is caught by the pan 18 and the quantity of which is determined by the size of said pan. This measured quantity of liquid flows through the slots 17 into the tube 16. When the receptacle is next tilted the liquid in the tube 16, having a more direct route, runs from the aperture 15 below the main body of liquid can get into the tube, and the plunger 20, sliding down after the ejected liquid, closes the exit aperture so as to prevent any further liquid from escaping. Thus it will be seen that my improved apparatus operates by catching a measured quantity of liquid on each operation and confining this liquid in a separate chamber until the next operation, when a part of the previously measured liquid is discharged.

As the main body of liquid runs down each time, the foam if any, remains on top and, as the liquid collected in each instance comes from the bottom of the liquid body, no foam will find its way into the nipple 14.

The function of the plunger 20 is principally that of an automatic valve, its only other function being carried out by the pointed tip 21 which is preferably provided, and acts to keep the opening 15 free from obstruction. Where this last named function is not deemed essential, other forms of automatic valve may be used.

Fig. 3 shows an instance of a modified form of valve useful in my invention. Here the ball 22 is provided as a substitute for the plunger and serves to close the nipple at the proper time, by dropping into the position shown in the drawing.

For the purpose of my present invention it is not essential that a heavy plunger or ball be used, as this element is not relied

upon to eject the liquid from the measuring chamber of predetermined size. Indeed, it is an advantage to use a rather light stopper, (20, 22) so that the liquid in the tube 16 may be sure to retard it and prevent its stopping the discharge opening too soon.

It will be seen that the construction substantially as herein described is perfectly adapted for use in connection with glass receptacles 4, inasmuch as it is not dependent upon a nice adjustment of proportions and dimensions, which is not procurable in glass articles without great expense. The use of glass in this connection is that it is not only inexpensive, but also makes it possible to see at a glance when the receptacle requires replenishing.

Various changes can be made in this apparatus without departing from my invention, and I am not to be understood as limiting myself to the details herein shown and described.

What I claim is—

1. A device of the class described comprising a receptacle having an exterior groove surrounding it and a pivotally mounted supporting band in said groove having a projection passing out of the groove through a gap in one edge, said projection also extending outward from said vessel so as to serve as a tilting shelf for the receptacle, substantially as described.

2. A device of the class described comprising a receptacle having a beading extending partly around it so as to leave a gap at one point and a pivotally mounted supporting band fitting the receptacle above said beading and having a projection extending downward through said gap and then outward to form a tilting shelf, substantially as described.

3. A device of the class described comprising a tilting receptacle having a discharge opening located at its top when the receptacle is in normal position, a discharge tube open at both ends and fixed directly under said opening, and means near the lower opening of said tube for retaining and delivering to said tube a measured quantity of liquid each time the receptacle is tilted and delivering the same to said tube the next time the receptacle is tilted, substantially as described.

4. A device of the class described comprising a tilting receptacle having a discharge opening located at its top when said receptacle is in normal position, and means within the receptacle just under said opening for catching a limited quantity of liquid each time the receptacle is tilted and delivering the same to said discharge opening the next time the receptacle is tilted, substantially as described.

5. A device of the class described comprising a tilting receptacle having a neck at

its top, a receiving cap fitting said neck and having an opening, a tube within said receptacle and behind said opening and supported by said cap, said tube being closed
5 save near its top and an automatic valve for closing communication between said tube and said discharge opening when the receptacle is inverted, substantially as described.

6. A device of the class described comprising a tilting receptacle having a discharge opening, a slotted tube within the receptacle behind said opening and a measuring pan surrounding said tube and so located as to discharge its contents into said
10 tube through the slots therein when the receptacle assumes its normal position, substantially as described.

7. A device of the class described comprising a tilting receptacle having a neck
20 at its top, a receiving cap having an opening

and fitted on said neck, a measuring pan fitted into said neck within the receptacle and a tube closed save near its top extending inward from said opening and placed so as to receive the contents of said measuring pan
25 when the receptacle assumes its normal position, substantially as described.

8. A device of the class described comprising a tilting receptacle having an opening, a tube extending into said receptacle
30 within said opening and a measuring pan open on one side only, surrounding said tube and placed so as to discharge its contents into said tube when the receptacle assumes its normal position, substantially as
35 described.

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