April 2, 1957 R. E. SHVETZ 2,787,405

MEASURING AND DISPENSING DEVICES

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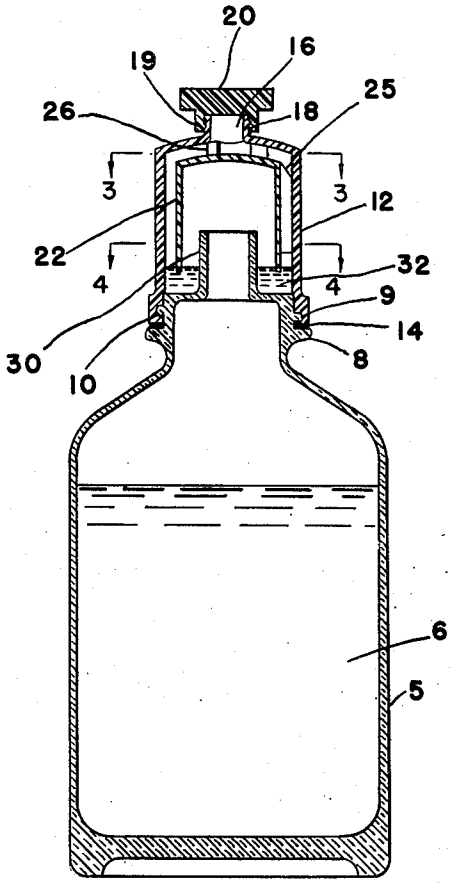


Fig. 1

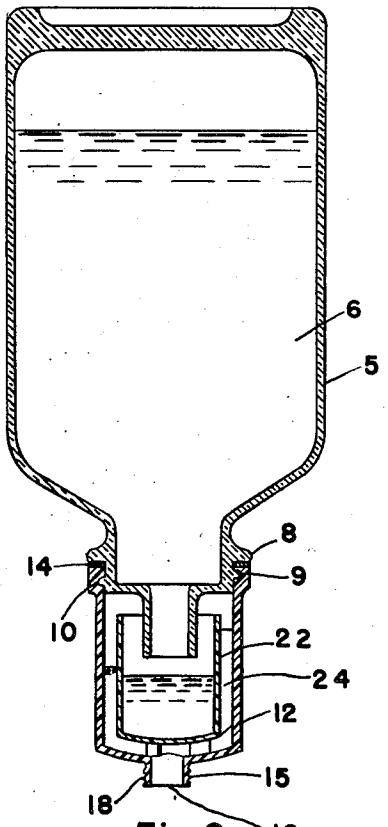


Fig. 2

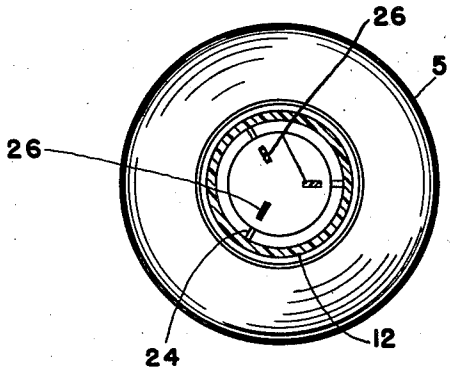


Fig. 3

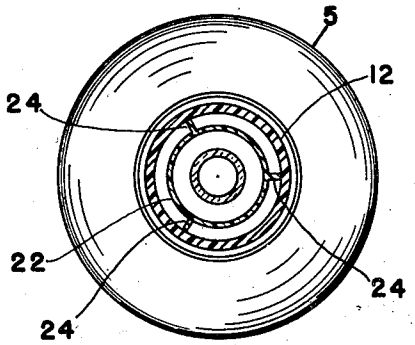


Fig. 4

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MEASURING AND DISPENSING DEVICES

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4 Claims. (Cl. 222—455)

This invention relates to measuring and dispensing devices and particularly to devices whereby a measured amount of liquid from a container may be dispensed by inverting the container.

Various types of devices designed to serve such purposes have been provided in the past, but they have all been difficult and expensive to manufacture and assemble, and/or complicated and ineffective to use. By means of the present invention, on the other hand, there is provided a device which is simple and economical to manufacture and assemble, which may be readily shipped and sold as a compact single filled dispenser, and which may be utilized with ease and efficiency.

Pursuant to the invention, there is provided a receptacle which is disposed within and spaced from an open-ended bottle cap so as to surround a portion of a dispensing channel at the top of a bottle. In various of its aspects the invention contemplates further the mounting of a cap tightly on the bottle, the provision of a tight but removable closure for the cap, the provision of longitudinally extended and/or frictional holding and spacing means on the outside of the receptacle, and/or the provision of spacing lugs on the top of the receptacle.

The invention accordingly comprises an article of manufacture possessing the features, properties, and the relation of elements which will be exemplified in the article hereinafter described and the scope of the application of which will be indicated in the claims.

For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description taken in connection with the accompanying drawings, in which:

Figure 1 is a vertical sectional view of one form of device embodying the invention;

Fig. 2 is a similar view of the device in dispensing position;

Fig. 3 is a transverse sectional view along the line 3—3 of Fig. 1; and

Fig. 4 is a transverse sectional view along the line 4—4 of Fig. 1.

In the exemplified form of the construction there is provided a bottle 5 containing a liquid 6, which may be a shampoo, a detergent, a medicine, a toilet preparation, or any of a variety of other substances which it is desired to use in measured quantities. The bottle is provided with a neck 8 carrying external threads 9 with which internal threads 10 on the lower open end of a cap 12 engage so that the cap may be screwed against a gasket 14 to provide a tight seal. At the opposite end of the cap 12 is the neck 15 which provides a dispensing opening 16. The neck 15 is formed with external threads 18 which engage internal threads 19 on a top 20 which provides a tight seal. Within the cap 12 is an inverted cup-shaped receptacle 22 having external fins 24 which, in the present instance, frictionally engage the interior of the side walls of the cap 12 so as to hold the receptacle firmly in place and to space the side walls thereof from

the side walls of the cap 12. The upper ends of the fins slip downwardly and outwardly as indicated at 25 to facilitate the pressing of the receptacle into the cap prior to the screwing of the cap onto the container 5. The top of the receptacle 22 carries lugs 26 which serve to space it from the top of the cap 12.

The container 5 is formed with a reduced-diameter neck 30. The side walls of the receptacle 22 extend downwardly beyond the upper end of the reduced-diameter neck 30 but stop short of the lower end thereof.

It will thus be seen that when the device is inverted to the position of Fig. 2, material will run from the container 5 into the receptacle 22 until the level of liquid reaches the end of the reduced-diameter neck 30, thus preventing further flow. When the container is reverted back to the position of Fig. 1, a portion of the liquid in the receptacle will run back into the container, but another portion will run into the space between the reduced-diameter neck 30 and the cap 12, as indicated at 32 in Fig. 1. At any time after liquid has once flowed into the receptacle, a measured quantity of liquid may be dispensed by removing the screw top 20 and inverting the device to the position of Fig. 2.

Part of the liquid which was at 32 will run back into the receptacle, but another part will flow out thru the opening 16 into a glass, a cup, a spoon, the hand of a user, or otherwise, as may be desired. At the same time, additional liquid will run from the container 5 into the receptacle 22 to fill up the receptacle to the end of the reduced-diameter neck 30.

It will accordingly be seen that the device is composed of parts which may be manufactured and assembled with extreme ease, and will be effective and efficient in use.

Since certain changes may be made in the above article and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

I claim:

1. A measuring and dispensing device comprising a container having a base, a cap-retaining neck, a reduced-diameter neck therebeyond, an inverted cup-shaped receptacle overlying said reduced-diameter neck, and an overlying cap screwed on said neck and provided with an outlet opening, and frictional holding and spacing means between the side walls of the receptacle and the side walls of the cap and spacing means between the top of the receptacle and the top of the cap for mounting said receptacle in position for the passage of liquid from the interior thereof over the rim thereof to said opening.

2. A measuring and dispensing device comprising a container having a base, a top opening, and a channel leading to said top opening; a receptacle having a top wall and cylindrical side walls extending downwardly outside said channel to a plane below said opening, said side walls being adapted to permit the passage of liquid between them and said channel and then outwardly; an open-ended cap having cylindrical side walls surrounding said receptacle and providing for the passage of liquid therefrom, one end fitting tightly on said container and the other end serving to dispense liquid, longitudinally-extending fins extending outwardly from the cylindrical side walls of the receptacle to the cylindrical side walls of the cap to space it therefrom, and a tight but removable closure for said other end, the tops of said fins sloping outwardly and downwardly.

3. A device as set forth in claim 2, wherein the top of the receptacle carries upwardly-extending lugs which separate it from the top of the cap.

4. A measuring and dispensing device comprising a

container having a base, a top opening, and a channel leading to said top opening; a receptacle having a top wall and vertical cylindrical side walls, extending downwardly outside said channel to a plane below said opening, said side walls being adapted to permit the passage of liquid between them and said channel and then outwardly; an open-ended cap having vertical cylindrical side walls surrounding said receptacle and providing for the passage of liquid therefrom, one end fitting tightly on said container and the other end serving to dispense liquid, longitudinally-extending fins extending outwardly from a longitudinally extended portion of the cylindrical

side walls of the receptacle to the cylindrical side walls of the cap to space it therefrom, and a tight but removable closure for said other end.

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