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DEVICE FOR DISPENSING OF DEFINITE QUANTITIES OF LIQUID FROM A CONTAINER

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FIG. 1.

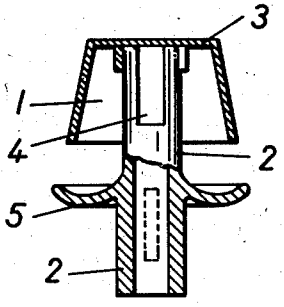


FIG. 2.

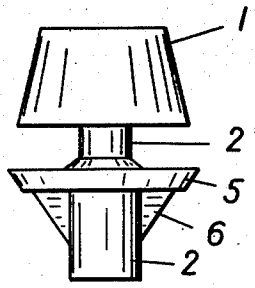


FIG. 4.

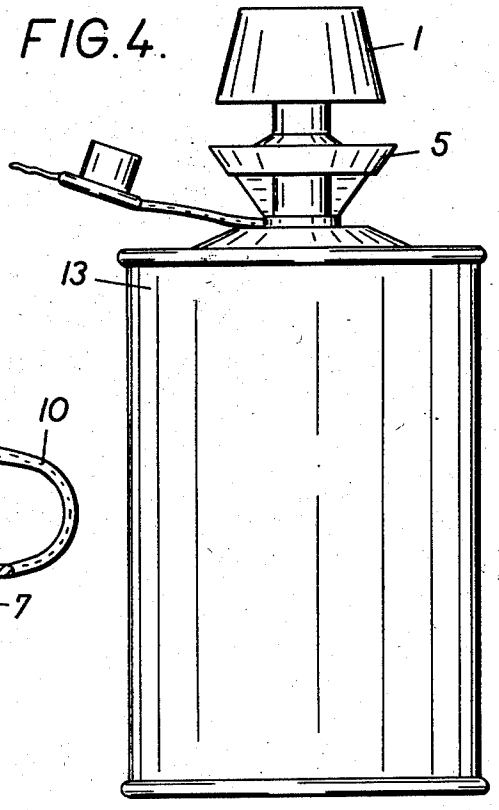
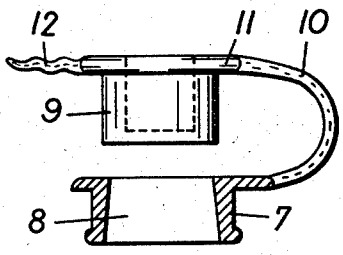


FIG. 3.



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DEVICE FOR DISPENSING OF DEFINITE QUANTITIES OF LIQUID FROM A CONTAINER

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5 Claims. (Cl. 222—108)

This invention relates to improvements in devices for dispensing definite quantities of liquid from a container, and more particularly to devices of this type adapted to be secured to the mouth of a liquid container and to receive a definite amount of liquid from the container when the latter is tilted or inverted to pour liquid.

For the use of different, especially of liquid substances, the container often has stated thereon how large portions of the contents are to be used for a certain purpose. This especially is so when relatively small quantities are to be used, and the problem of obtaining a good and correct dosage especially has arisen in connection with the modern synthetic washing-preparations, since much smaller quantities of such synthetic preparations are necessary than of the previously used agents. Commonly it is the question of using such quantities as a tablespoonfull. For this purpose it is known to use a screw-cap for the packing, that most commonly is a bottle, and this screw-cap is used as a cup, filling the same and using its contents as suitable addition to e. g. dish-water. This is a simple and easy manner of dispensing, but it is accompanied by spill, since washing-preparation is unavoidably deposited on the outside of the screw-cap, and also will run down along the bottle neck when the screw-cap is screwed on, whereby the container becomes smeary and soiled; moreover the operator easily gets washing-preparation on her fingers, because the screw-cap is small, and waste of washing-preparation cannot be avoided.

The object of the present invention is to provide a simple dispensing device which removes the above mentioned drawbacks.

According to the invention this is attained by providing a dispensing device that is fixed to the container, so that it is not necessary at all to touch the dosage device. The device according to the invention consists of a cup, the interior side of the bottom of which is provided with a tube which, when placed within a suitable packing or sleeve, is fitted into the opening of the container in such manner that when the container is turned upside down the opening of the cup is directed upwards, and the tube is provided with hole or holes so that the contents of the container will flow through the hole or holes in the tube and fill the cup. In order that the cup shall not become entirely filled and liquid flow over its edge, the hole or holes of the tube is or are only provided at a height above the bottom of the cup corresponding to the level to which it is desired that the cup shall become filled, the holes in the tube also admitting air to the container simultaneously with serving as exit openings. At the moment when these holes are shut off against the exterior air by the liquid in the cup, the liquid will remain in the container and does not any longer flow out due to lack of supply of air to the container. When the cup has been filled with the desired quantity, it is emptied simply by placing the entire container in an oblique position, whereby the contents of the cup are poured out. When the container is turned again, after such use, remains of washing-preparation or other liquid, which wets edges and bottom, would accumulate to drop and drip down on the container and

soil the latter. To prevent this, a bowl-shaped collar is attached to the tube below the opening of the cup, so that said bowl-shaped collar intercepts such drip, which remains in the bowl and drips back again into the cup the next time when the container is used. However, a container with such a device would always be open, which is unsuitable for transport of the container. The present invention therefore also comprises, as a part of it, that the sleeve or insert placed in the opening of the container is provided with a band to which is attached a stopper adapted to be forced into the insert after the tube with the dosage device has been removed. In order that this stopper may be easily lifted again from the insert, it is provided with a length of band that is suspended freely from the stopper. Catching this free end, the stopper may easily be lifted. In order that the contents within the dosage cup may be easily observed, the cup is made of a transparent material, suitably of a plastic.

Thus the invention consists in a device for dispensing of definite quantities of liquid and is characterized by a cup, the interior side of the bottom of which is provided with a tube, which tube has one or more openings to a height corresponding to the desired level of liquid in the container.

Further the invention consists therein that the tube is provided with a bowl-shaped collar serving as interceptor of drip from the cup.

In order that the invention may be easily understood, it will now be explained with reference to the drawing, where:

Fig. 1 shows a section through a device according to the invention.

Fig. 2 is an elevation of the same.

Fig. 3 is an elevation of the insert with stopper, partly in section, and

Fig. 4 shows a container with a device according to the invention.

1 is a cup of suitable volume, 2 is a tube secured to the bottom 3 of the cup 1. The tube 2 is provided with an opening 4, which extends from the bottom 3 up to desired level for liquid in the cup. At a distance from the opening of the cup the tube 2 has attached thereto a bowl-shaped collar 5, the diameter of which suitably somewhat exceeds the greatest diameter of the cup 1. Drops that eventually fall from the cup 1 thus always will become intercepted by the bowl 5. To stay the bowl 5, stay ribs 6 are provided between the bowl and the tube; the parts of these ribs adjacent to the tube also serve as abutments limiting the penetration of the tube into the opening of the container. Figure 3 shows in section an insert 7 adapted to be inserted into the opening of the container, the internal diameter of the insert being somewhat less than the diameter of the tube 2, so that the tube may be forced into the insert 7, which consists of a somewhat resilient material. The opening 8 of the insert is of somewhat conical shape, in order that the tube and also the stopper 9 shall be held tighter when the tube or the stopper respectively is forced down into the opening. The insert 7 is connected to the stopper 9 by means of a band 10, so that the stopper accompanies the container. The stopper 9 has a flange 11 adapted to abut over the opening of the container, and suitably this flange is provided with a band 12, by means of which the stopper may easily be pulled out of the opening in the insert 7. In Fig. 4 is shown a container 13 on which is placed a dosage device according to the invention. When a desired quantity of liquid is to be dispensed, the container is turned upside down and kept in such position until no more liquid flows into the cup, whereafter the container is held in an inclined position, e. g. over a dish-basin, when the contents of the cup 1 run out. When the container is thereafter stored, drops that might fall from the cup 1 will be intercepted by the bowl 5. To facilitate pouring out of

the contents of the cup 1, the same suitably is conical, its opening being somewhat larger than its bottom. The device suitably is manufactured from transparent material, so that its contents may be easily observed.

What we claim is:

1. A device for dispensing a definite quantity of liquid from a container, comprising a cup, and a tube mounted in the cup with one end thereof attached to the inside bottom of the cup and the other end projecting from the cup for engagement with the mouth of the container, said tube being provided with an opening extending to a height from the bottom of the cup corresponding to the level of the liquid desired in the cup.

2. A device as claimed in claim 1, including a bowl-shaped collar surrounding and attached to the tube in spaced relation to the cup, the collar having an outside diameter exceeding that of the opening of the cup and arranged with its concave side facing the cup, whereby liquid dripped from the rim of the cup when the cup is inverted falls into the bowl-shaped collar.

3. A device as claimed in claim 2, including stay ribs attached to the tube and collar on the side of the collar remote from the cup.

4. A device for dispensing a definite quantity of liquid from a container, comprising a cup for receiving liquid from the container, and a tube mounted in the cup with one end thereof attached to the inside of the bottom of the cup, the tube projecting from the cup with its other end arranged for mounting the cup on the mouth of the container to deliver liquid from the container to the cup when the container is inverted, said tube being provided with an opening in its side wall for the flow of liquid

from the tube into the cup, the opening in the tube extending to a height from the bottom of the cup corresponding to the level of the liquid desired in the cup.

5. A device for dispensing a definite quantity of liquid from a container, comprising a cup for receiving liquid from the container, and a tube for supporting the cup on the container, one end of the tube being attached to the inside of the bottom of the cup, the tube projecting from the bottom of the cup through the cup opening with its other end open and arranged for attachment to the mouth of the container for delivering liquid from the container to the cup when the container is inverted, said tube being provided with an opening in its side wall extending lengthwise of the tube for the flow of liquid from the tube into the cup and the flow of air into the container when the container is inverted, the end of the opening in the tube remote from the bottom of the cup being located at a height from the bottom of the cup corresponding to the level of the liquid desired in the cup.

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