UNITED STATES PATENT OFFICE

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VALVED ATTACHMENT FOR COLLAPSIBLE TUBES, HAVING A RECEIVER FOR EXTRUDED CONTENTS

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1 Claim. (Cl. 222—126)

1. This invention relates to an attachment for a collapsible tube dispenser and more particularly to a cup designed to be attached to the discharge end of a collapsible tube such as a tube of shaving cream.

In using shaving cream, particularly of the type which has to be worked into a lather, it is necessary to have some type of suitable container, such as a cup or mug, for mixing the cream with the water. The standard practice is either to use a separate cup or mug or to add the water and create the lather after application of the cream to the face. Neither of these methods are particularly desirable, the former because it requires an additional article to be used, washed and stored, and the latter method because it fails to produce the desirable quantity of lather as well as being messy and inconvenient. My invention eliminates this undesirable situation by combining the dispensing tube and the mixing cup in a single unit.

All of the collapsible tube type dispensers are subject to several disadvantages, each of which are eliminated by my invention. Among these disadvantages is the fact that the tubes normally have to be stored in a prone position, i.e., upon their sides. This requires an excessive amount of storage space. My cup attachment eliminates this by providing a stable base upon which the tube may be stored in an upright position.

Another of the disadvantages normally characteristic of collapsible tube dispensers is the fact that the ribbon of ejected material sometimes spills, particularly if there happens to be an air pocket in the tube. My invention prevents this spilling by positively catching all of the material ejected from the tube.

A further disadvantage of collapsible tube dispensers eliminated by my invention is the necessity of removing and replacing the tube cap. It also eliminates the nuisance of losing the cap, since the bottom of my cup attachment is designed to act as an automatically operating valve for the tube.

It is, therefore, a primary object of my invention to provide a cup attachment for a collapsible tube type dispenser in which the material dispensed may be treated to finally prepare it for use.

It is a further object of my invention to provide a self-operating valve for opening and closing the discharge opening of a collapsible tube dispenser.

It is an additional object of my invention to provide a combination cup attachment and support stand for a collapsible tube dispenser.

It is a further additional object of my invention to provide a cup attachment for a collapsible tube dispenser which is easy and quick to clean and which will fit any size dispenser without adjustment.

Other objects and purposes of my invention will immediately be seen by persons acquainted with articles of this type upon reading the following specification and the accompanying drawings, in which:

Figure 1 is a sectional elevation view of my invention, but not showing the collapsible tube in section.

Figure 2 is a top view of my invention with the cover removed.

Figure 3 is a top view of my invention.

Figure 4 is a fragmentary sectional view of my invention taken along the plane IV—IV of Figure 3.

In the following description my cup attachment is described as used in conjunction with a shaving cream dispenser. However, such description is for the sake of brevity and clarity only and is not to be considered limiting. My cup attachment is capable of use with any collapsible tube dispenser, irrespective of the type of material contained in the tube.

My invention includes a bowl-shaped member having a removable cover and a resilient insert in the bottom. The resilient insert serves as both an attachment means for the collapsible tube and a valve for opening and closing the discharge opening of the tube.

Referring now to the drawings in greater detail, the numeral 1 refers to a container of the collapsible tube type having a head 2 containing a discharge opening.

The cup attachment includes a bowl member 3 open at one end and having a centrally disposed aperture 4 through the other or bottom end. The edge of the bowl 3 surrounding the open end is equipped with an outwardly projecting rim 5. A cover 6, of substantially the same diameter as the periphery of the rim 5, is pivotally mounted to the periphery of the bowl member 3 by the hinge 7. A pair of clips 8 (Figs. 1, 3 and 4) integral with the cover 6, snap over the rim 5 and hold the cover 6 in closed position.

The resilience of the material of the cover permits the clips 8 to engage and disengage the rim 5 any number of times without loss of ability to secure firmly the cover 6.

The inside surface of the bowl member 3 is
provided with radially extending ridges 9, integral with the bowl member 3. The ridges 9 each terminate outwardly of the aperture 4 to permit proper seating of the hereinafter described valve. The ridges 9 are shown terminating part way up the inside surface of the bowl member 3; however, they may be extended to the top of the bowl member 3 if such is desired.

The bowl member 3 and cover 6 may be made from any suitable material; however, they are preferably formed from a plastic material because of its lightness, cheapness, noncorrosive characteristics, resiliency and the ease with which it may be cleaned. Particularly are plastics desirable for the cover 6 because their resiliency is ideally suited to the construction of the clips 8.

The valve 10, made from any resilient, water-resistant material, such as natural or synthetic rubber, seats within the aperture 4 and has an external groove 11 by means of which the valve 10 is anchored to the bowl member 3. The valve 10 is provided with a central chamber 12 of substantially the same size having a circular inlet passage 13 and a slit type outlet orifice 14. The inlet passage 13 is of smaller diameter than the external diameter of the average tube head 2. The resiliency of the valve 10 permits the inlet passage 13 to be enlarged so that the heads of various sizes are inserted in it, they will be firmly gripped by the walls of said opening. The outlet orifice 14 is normally closed and opens only under pressure from the material in the central chamber 12. The central chamber 12 is of such size and positioning that the walls of the valve body immediately surrounding the top and bottom openings will have the proper balance of stiffness and flexibility that they will hold their respective shapes properly and yet yield under the pressures available to function as hereinafter described.

**Operation**

The valve 10 is partially collapsed until it may be passed partially through, and be seated within the aperture 4. The central chamber 12 facilitates this operation by rendering it easier to collapse the valve 10. The cap is removed from the tube 1 and the head 2 inserted into the inlet passage 13. The elasticity of the material of the valve 10 insures a firm grip on the head 2, preventing the contents of the central chamber 12 from escaping between the head 2 and the valve 10. The tube 1 is then squeezed to force the contents of the tube into the central chamber 12 and through the outlet orifice 14 into the bowl member 3. As soon as the pressure on the tube 1 is released, the elasticity of the walls 13 force the outlet orifice 14 shut.

When the cup attachment is used with a tube of lather type shaving cream, water is added to the cream dispensed into the bowl member 3 and by means of a brush the cream and the water are mixed to produce the lather. The ridges 9 accelerate this process by forcing the cream against the brush. The closure of the outlet orifice 14 prevents the water or lather from becoming intermixed with the cream in the central chamber 12 and the tube 1. At the same time it prevents dehydration and caking of the unused cream by automatically sealing it in the central chamber 12.

When the cup and tube are to be stored the bowl member 3 is washed out and the cover 6 closed to prevent the entrance of dust and to catch any cream which might seep through the outlet orifice 14 when the cup and tube are stored with the cover 6 acting as a base. Such an inverted storage position is desirable since the cup attachment provides a stable supporting base and in this position less storage space is required. If it is laid on its side, however, the clips 8 act as stops to prevent it from rolling. When the tube 1 is exhausted, it is removed and a new tube attached. Thus, the cup attachment may be used over a long period.

Although I have described my invention as used with a tube of shaving cream, it may readily be used with paste type hair shampoos, concentrated lotions, silver polish or other materials which have to be mixed with water or some other diluting agent. These are merely a few examples of many possible uses of my invention.

The particular shape of the bowl member 3 may be changed, the cover 6 and ridges 9 removed without departing from the basic novelty of my invention. These modifications and others are each to be considered as included within the hereinafter appended claims except as the claim by its terms expressly provides otherwise.

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In a device for attaching to a collapsible tube dispenser having a bowl-shaped member and an opening through the bottom thereof, an improved valve member for insertion into said opening in cooperation with said bowl-shaped member comprising; a cylindrical body part and a conical dispensing top integrally made from resilient material; a peripheral groove near the top of said body part for receiving the edges of said bowl-shaped member defining said opening; a central chamber within said valve member; a circular opening from said central chamber through the bottom of said body part and a normally closed slit-like opening from said central chamber through the apex of said conical top, the said central chamber being of extent transverse to a line joining the base of said last named openings sufficiently greater than either thereof and approaching close enough to the outer ends thereof, that the walls of said valve member immediately surrounding said opening will be of sufficient thinness to be flexible under the pressures normally available for use thereof; whereby the middle of said collapsible tube dispenser may be received into said inlet passage for communication with said internal chamber and material forced from said collapsible tube will enter said internal chamber and may be ejected through said slit-type orifice.

**THOMAS R. CARLTON.**

**REFERENCES CITED**

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