DISPENSING VALVE FOR SQUEEZE TUBE CONTAINERS

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This invention has for its object to provide an improved dispensing valves for squeeze tube containers.

This invention relates to a squeeze tube container used for dispensing liquids such as shaving cream, tooth paste, and the like, comprising a body of compressible material merging with a cap having an egress opening in its top wall, and means cooperating with the cap to release and cut off the flow of liquid from the tube container after use.

For the purpose of aiding in the explanation of the invention I show in the accompanying drawing and hereinafter describe one practical embodiment of it. It is to be understood, however, that this embodiment is presented merely by way of illustration and that specific showing and description of it are not to be construed in any fashion as limiting the appended claim short of the true and comprehensive scope of the invention in the art. There are, of course, numerous methods of performing the mechanical features of my invention of which I have shown but one.

In the said drawing—

Figure 1 is a fragmentary vertical sectional view of the squeeze tube container cap in its open position.

Figure 2 is a fragmentary vertical sectional view of the squeeze tube container cap in its closed position.

Figure 3 is a plan view of the pedestal foundation member shown in Figures 1 and 2, the other elements of the device being omitted.

Figure 4 is a plan view of the squeeze tube container.

Like numerals of reference indicate corresponding parts in the various figures.

The reference numeral 1 designates a squeeze tube container in the form of a compressible tube, 2 designates the cap thereof which is provided with an egress opening 3 forming the discharge mouth in the top wall of the cap. In the top wall there is also provided a bore 4 for the reception of the dowel or pin integral with the pedestal and a bore 5 through which the integral upward portion of the non-rotatable axially movable valve member extends.

The non-rotatable axially movable valve member 6 is provided at its upper end with a wall 7 of ample thickness having formed therein an opening 8 having three vertical walls and an inclined wall 9 having a perpendicular portion 10. On the top surface of the aforementioned valve member there is provided an integral upward portion 11 that extends through and slidably fits in the bore provided therefor in the top wall of the cap.

Adjacent the lower edge of the non-rotatable axially movable valve member there may be provided a fluid tight packing 12.

The pedestal member 13 is fixedly mounted in the pedestal foundation member as at 14, and comprises a stem terminating in an enlarged head 15 provided with complementary formed vertical planes that frictionally engage the vertical planes provided in the valve, whereby the valve is guided on the head 15 on being forced up to open position, and on being forced down to closed position.

The dowel or pin 16 integral with the enlarged head is provided to prevent the deflection of the pedestal when the tube is squeezed in the dispensing operation, and also in the closing operation.

It is obvious that when the valve is forced down in closed position as shown in Figure 2, the inclined surface of the enlarged head of the pedestal and the inclined plane provided in the valve are in sealing contact.

The pedestal foundation member is provided with an integral upstanding skirt 17, and a transverse member 18 leaving through openings 19 and 20 therein through which the content of the tube such as shaving cream is forced in the squeezing operation to reach the under surface 21 of the wall of the valve to force it upward to open it in the dispensing operation. The lower end of the valve member is circumscribed and guided by the skirt on the foundation member.

On the transverse member in the pedestal foundation member there is provided a leaf spring 22 adapted to lock the valve in closed position as shown in Figure 2. On the inner wall of the valve there is provided a protuberance 23 that cooperates with the leaf spring to hold the valve in locked position.

Operation

When an amount of the content such as shaving cream is desired, the tube is manually squeezed imparting pressure to the shaving cream, which in turn is transmitted to the inner wall 21 of the valve 6 which forces it up in the cap leaving an opening through which the cream is forced up to and through the egress for use. When the required quantity has been obtained, the valve member 6 is manually forced down by applying force on the top of the member 11 which projects through the upper wall of the cap. When the valve is down in closed position the resilient
leaf spring 22 slips over the protuberance 23 and locks the valve against accidental release, where-
by the tube is sealed until further use.

It will accordingly be seen that I have provided a construction which satisfies the objects of the invention, and while I have shown the invention in a certain physical embodiment, it is to be understood that modifications of the structure may be made by those skilled in this art without departing from the invention as expressed in the claim which follows.

I claim:

A squeeze tube container, comprising, in combination a tube body of compressible material, a cap connected to the tube body having an egress in the top wall of the cap, and also having there-in a bore to receive a dowel, and a through bore, a non-rotatable axially slidable valve member having a top wall having therein a through opening circumscribed by vertical sides and an inclined side, and also having an upstanding member adapted to pass through the through opening provided therefor in the top wall of the cap, a pedestal foundation member having a transverse member therein and an upstanding skirt therearound, a leaf spring of L shaped configuration mounted on and connected to the transverse member, the non-rotatable axially slidable valve member being mounted in and having its lower end portion circumscribed by the upstanding skirt of the pedestal foundation member, a fluid tight seal member in the non-rotatable axially movable valve member and circumscribed by the upstanding skirt on the pedestal foundation member, a pedestal member mounted on and connected to the transverse member and terminating in an enlarged head portion and provided with complementary walls which cooperate with the walls in the through opening in the top wall of the non-rotatable axially movable valve member, and also being provided with a dowel to engage in the bore provided therefor in the top wall of the cap, and a protuberance on the inner wall of the valve adapted to cooperate with the leaf spring to lock the valve when manually closed.

MARTIN HERMANN.

REFERENCES CITED

The following references are of record in the file of this patent:

<table>
<thead>
<tr>
<th>Number</th>
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