July 16, 1935. J. R. VEZINA 2,008,427

EXTRACTOR DEVICE FOR SHAVING CREAM AND THE LIKE

Filed June 22, 1934

Fig. 1.

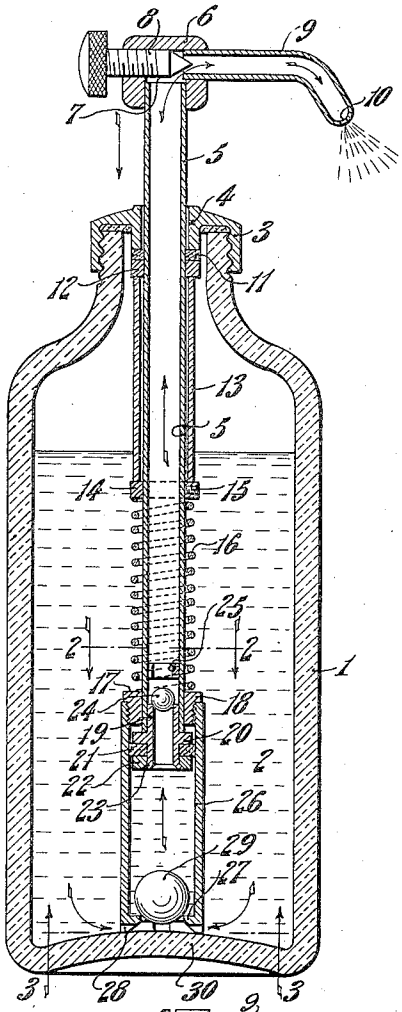


Fig. 2.

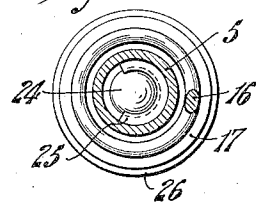


Fig. 3.

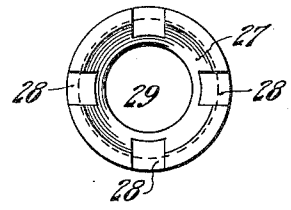


Fig. 4.

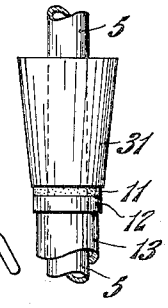


Fig. 5.

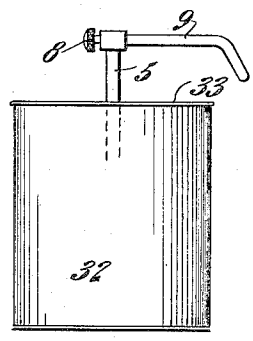
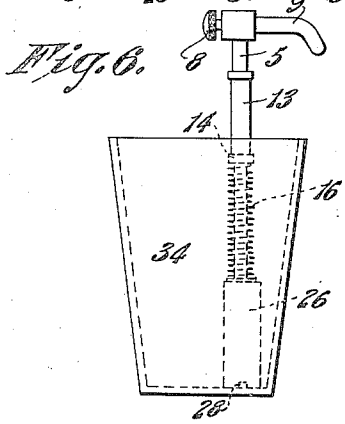


Fig. 6.



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EXTRACTOR DEVICE FOR SHAVING CREAM AND THE LIKE

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Application June 22, 1934, Serial No. 731,925

6 Claims. (Cl. 221—102)

This invention relates to improvements in extractor devices for shaving cream and the like.

An object of the invention is to provide a structure for withdrawing and delivery a measured quantity of shaving cream from a suitable receptacle and delivering it onto a shaving brush.

One of the features of my improvement is to forcibly eject the liquid, or creamlike substance, in a spray effect onto the brush, when it is operated.

It comprises, broadly, a reciprocable member that is adapted for attachment to a bottle, or other receptacle, in which the substance to be ejected is placed, whereby, when the reciprocable member is moved downward, the substance is automatically delivered. When the reciprocable member is moved or drawn upward, a measured quantity is drawn into a barrel member of the device, and, when moved downward again, as stated, the creamlike substance is delivered onto the brush.

Located within the device are two valves which operate in opposite directions, one of which permits the substance to be ejected, when a downward movement is imparted to the device, and the other, or inlet valve, is then closed, and when an upward movement is imparted to the device, the discharge valve is closed and the other is opened, as will be fully described.

Referring to the drawing:—

Fig. 1 is a vertical, sectional view of a receptacle in which the semi-liquid is placed, with the device also shown in section and located therein.

Fig. 2 is a transverse, sectional view on the line 2—2 of Fig. 1, looking in the direction of the arrows.

Fig. 3 is a transverse, sectional view on the line 3—3 of Fig. 1, looking in the direction of the arrows.

Fig. 4 illustrates a stopper construction for installing the device in a bottle having a narrow neck opening.

Fig. 5 illustrates the device installed on any suitable receptacle, and

Fig. 6 shows it located in a tumbler.

Referring to the drawing in detail:—

1 indicates a glass container, in which the creamlike substance 2 is placed. 3 designates a closure cap having a threaded connection with the container. This cap is formed with an opening 4, in which is slidably located the delivery, tubular member 5. Secured to the upper end of this member is a cap 6 having an opening 7, in which is located the shut-off needle valve 8 and the tubular delivery tube 9, having the discharge opening 10. A packing, or gasket, ring, is indicated at 11 and a ring 12 is located on the upper end of the tubular member 13, which is located on the tubular member 5. 14 indicates a ring secured to the tubular member 5 with the set screw 15.

Located below and engaging the ring 14 is an expansive spring 16; the lower end of the spring rests on the shoulder 17 of the threaded member 18, in which the lower end of the tubular member 5 is slidably secured. Located on and secured to the lower end of the tubular member 5 is the tubular-piston member 19, having the flange 20 against which the packing ring 21 is placed, that is retained in place by the ring 22 by means of the turned-over edge, or flange 23, of the tubular member 19. 24 indicates a ball valve resting on the upper end of the tubular member 19. 25 indicates a split ring secured on the inside of the member 5 for limiting the upward movement, or travel, of the ball valve 24, when the device is operated. 26 designates a tubular cream-receiving receptacle member that has a threaded connection with the threaded member 18. Its lower end is formed with the inlet openings 28 for the creamlike substance 2 and the valve seat portion 27 for the ball valve 29.

As shown, the device normally rests on the bottom 30 of the receptacle 1.

In Fig. 4, is illustrated a cork 31, in which the slidable tubular member 5 is located. The extractor device is not, therefore, limited for use with the threaded cap 3, shown in Fig. 1.

Fig. 5 shows the device attached to a can receptacle 32, by merely securing the same in an opening of the cover 33.

Fig. 6 illustrates the use of the extractor device in an ordinary tumbler, or open receptacle 34.

The operation of the device may be described as follows:—Consider the parts in the position shown in Fig. 1. When the user presses downward on the cap 6 against the tension of the spring 16, the cream in the barrel member 26 is forced upward through the tubular piston 19, past the ball valve 24, through the slidable delivery tubular member 5 and out through the delivery tube 9, as shown at 10. The ball valve 29 is now in its closed position on its valve seat 27. When the user removes his hand from the cap 6, the force of the expansive spring 16 returns the tubular member 5 to its original position. This movement causes the small ball valve 24 to close and the large ball valve 29 to open, whereby a fresh charge of cream is drawn into the barrel supply

member 26, ready for delivery, when the user presses downward again on the cap 6.

The needle valve 8 is closed, when the device is not in use, to prevent the cream which may be retained in the tube 5 from leaking out through the tube 9 and orifice 10.

It is, of course, obvious that the operation of the device is the same, when used with the can structure, shown in Fig. 5, or the tumbler, shown in Fig. 6.

It will be observed that the split ring 25 not only limits the upward movement of the ball valve 24, but also permits the creamlike, or liquid substance, to flow freely through the split ring, as its ends are separated, or spaced apart, as shown in Fig. 2. The valve 24, therefore, cannot completely shut off the flow, when it is moved against this split ring.

It is to be understood that the use of the split ring 25 is not a necessary structure, as any stop element for the ball valve 24, as a pin, may be used which will permit the creamlike substance to flow freely up the tubular member 5 and past the valve 24.

It should be stated that when the reciprocable tubular discharge member 5 is moved upwardly by the expansive force of the spring 16, a partial vacuum will be produced in the tubular member 5 and also in the delivery tube 9, or spout, whereby any possibility of the creamlike substance dripping from the discharge opening 10, is effectually prevented. The device, therefore, can be placed on any piece of furniture, without injuring the same.

What I claim is:—

1. In combination, in a device for the purpose described, for intermittently discharging a measured quantity of a creamlike substance, said device comprising a reciprocable tubular member slidably located in the cap member of a suitable receptacle in which the substance to be delivered is contained, a separate measuring quantity barrel member for receiving the substance and slidably connected to the reciprocable tubular member and formed with an inlet opening at its lower end, a hollow piston slidably connected to said measuring quantity barrel member, a valve for normally closing said opening in the said barrel member, a second valve located in the said tubular member and at the upper end of the hollow piston, said valve being also normally closed, means in the reciprocable tubular member for limiting the travel of the said second valve comprising a split ring part located within the said tubular member, said second valve being associated with the hollow piston that is movable within the receiving barrel member, a coiled spring, means for confining the coil spring between the upper end of the measuring barrel member and a fixed part on the tubular member, the construction and arrangement being such that when the tubular member is moved downward, the second valve will open to permit the creamlike material in the receiving receptacle to flow upward around the second valve and through the tubular member, and when pressure is removed from the tubular member, the expansive force of the spring will return the parts to their normal position and cause the creamlike substance in the receptacle to lift the valve at the lower end of the receiving barrel member and refill the same, as described.

2. In combination, an extractor and delivery device for a liquid or semi-liquid substance, a perforated closure cap, a container for the substance, a slidable tubular member in the cap, a delivery part connected to the said member, a separate measuring receiving receptacle at one end of the said tubular member having an inlet opening at its lower end, two valves operatively connected with the said tubular member and separate measuring receiving receptable, an automatic stop and by-pass member in the tubular member, one valve engaging the stop and by-pass member for permitting the delivery of the liquid from the separate measuring receptacle through the slidable tubular member when the same is moved by pressure in one direction, and the other valve in the separate receiving measuring receptacle is closed, and, when the said tubular member is moved in an opposite direction, the first valve member is closed and the second-mentioned valve is opened for drawing in a fresh supply of the said substance into the separate receiving measuring receptacle, and automatic means for moving the delivery tubular member in the opposite direction, when pressure is removed therefrom.

3. In a device for the purpose described, a container, a reciprocable tubular and delivery member connected thereto, a spout member connected to the said delivery member, a separate measuring receiving receptacle connected to the reciprocable tubular member and into which the lower end of the tubular member extends, a hollow piston construction connected to the reciprocable tubular member and located within the measuring receiving receptacle, a ring part secured to the said tubular member, a compressible spring on the tubular member and located between the said ring part and the said separate measuring receptacle, an inlet valve located at the lower end of the said separate receiving receptacle, a discharge valve located at the upper end of the said receptacle and within the tubular member, means in the tubular member for limiting the travel of the discharge valve when the reciprocable tubular member is moved in the discharge direction to permit the contents of the separate measuring receiving receptacle to flow by said valve into and through the said tubular member and to close when the said spring moves the tubular member in the opposite direction to refill the said receptacle.

4. In a device for the purpose described, a container, a reciprocable tubular and delivery member in the container, a spout member connected to the said delivery member, a separate measuring and receiving receptacle in the container and slidably connected to the reciprocable tubular member and into which the lower end of the tubular member extends, a hollow piston construction connected to the reciprocable tubular member and located within the separate measuring and receiving receptacle, a fixed part secured to the said tubular member, substantially midway its length, a compressible spring on the tubular member and located between the said fixed part and the said separate measuring and receiving receptacle, an inlet valve located at the lower end of the said separate receiving receptacle, a discharge valve located at the upper end of the said receptacle and within the tubular member, stop means in the tubular member for limiting the travel of the discharge valve when the reciprocable tubular member is moved in the discharge direction and to permit the contents of the separate receiving receptacle to flow by said valve into and through the said tubular member and to close when the said spring moves the tubular member in the opposite direction to fill

the said receptacle, said separate measuring and receiving receptacle being supported on the bottom of the container.

5. In a device for the purpose described, a container, a reciprocable tubular member, a measuring receptacle slidably connected to the lower end of said reciprocable tubular member, a tubular piston connected to the lower end of the tubular reciprocable member and movable in the measuring receptacle, a ball valve at the upper end of the tubular piston, a liquid by-pass part adjacent the ball valve and secured to the reciprocable tubular member in order to limit the travel of the ball valve when the tubular member is operated, the measuring receptacle normally resting on the bottom of the container and having inlet passageways and formed with a valve seat, and a valve normally seated thereon for permitting the contents of the measuring receptacle to be discharged when the tubular member is moved downward into the measuring receptacle, spring means on the measuring receptacle and engaging an abutment on the reciprocable tubular member for automatically returning the reciprocable tubular member to its original position to permit the valve and the measuring receptacle to be opened for refilling the same, and means at the end of the tubular member for cutting off the discharge operation.

6. In an apparatus for the purpose described, a receptacle member for receiving a creamlike substance, a removable cap on the receptacle member having an opening, a slidable tubular member in the opening of the cap, a part secured to the said member, a measuring member normally supported on the bottom of the receptacle and having inlet openings in its lower end, a valve for closing the openings, a ring part secured to the said measuring member and having a flange, the slidable tubular member being located in the ring part, a tubular piston connected to the slidable tubular member and located in the measuring member, a compressible spring located on the outside of the slidable tubular member between the part on the slidable tubular member and the flange of the ring part which is secured to the measuring member, a valve in the tubular piston, stop and by-pass means in the slidable tubular member for limiting the travel of the valve in the tubular piston, and spout means communicating with the tubular member for discharging the said substance when operated, as described.

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