March 16, 1965 S. KAUFMAN 3,173,167

SOAP DISPENSER AND APPLICATOR

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Fig. 1.

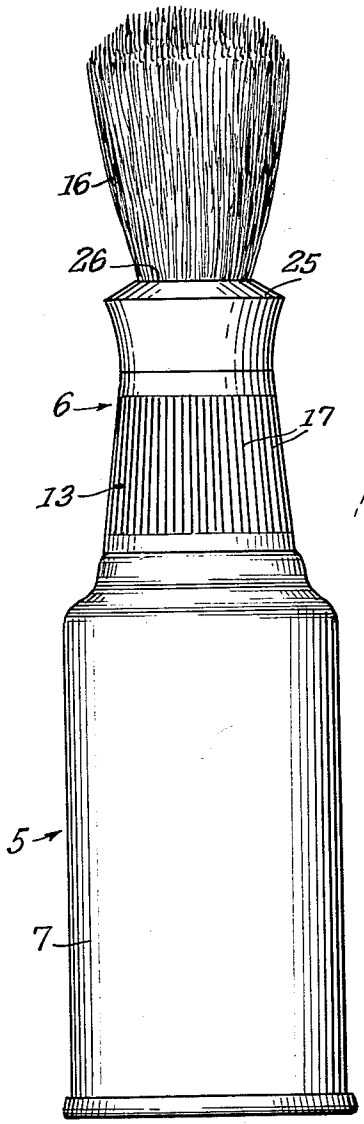
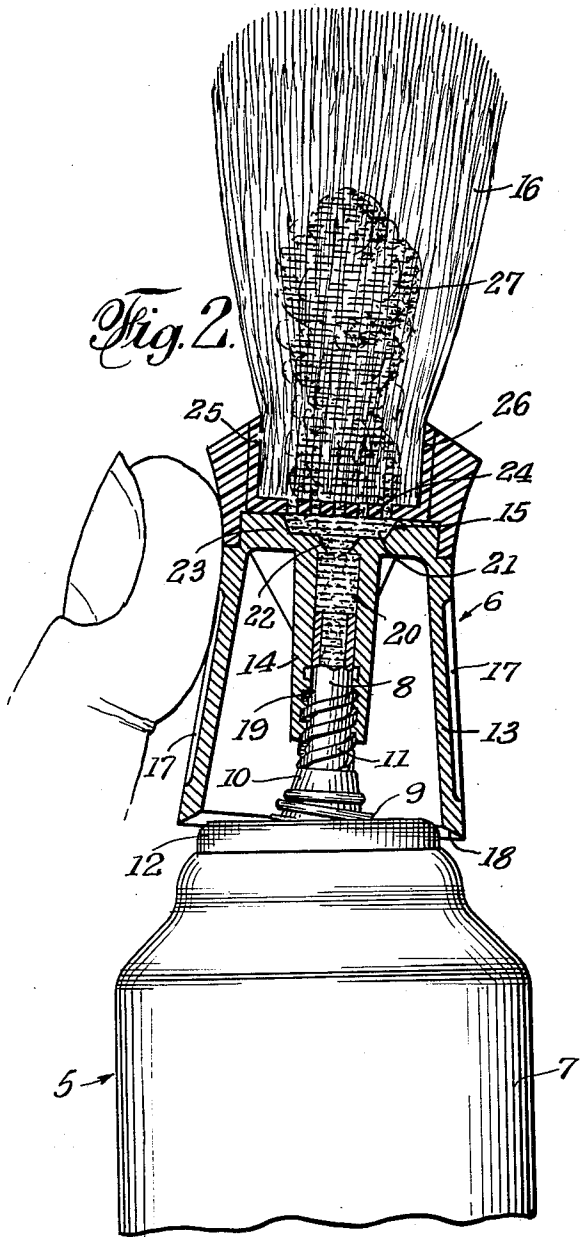


Fig. 2.



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Fig. 3.

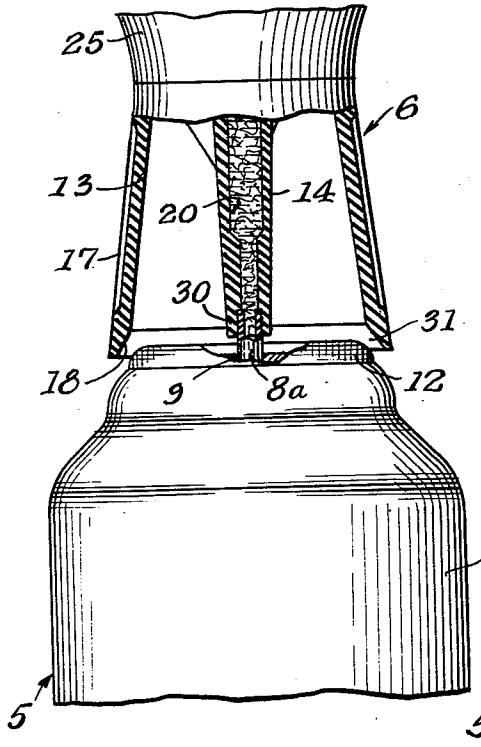
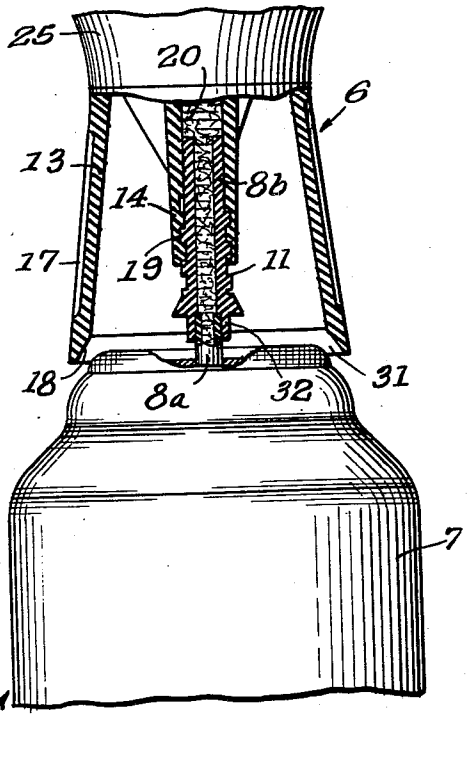


Fig. 4.



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3,173,167
SOAP DISPENSER AND APPLICATOR

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5 Claims. (Cl. 15—552)

This application is a continuation-in-part of my copending application, bearing the same title, Serial No. 245,509, filed December 18, 1962, now abandoned.

This invention relates to an aerosol dispenser and applicator, being particularly directed to a construction embodying an aerosol container and a combined actuating and applicator unit for the contents of said container.

An object of the invention is to provide a novel combination for effecting release of gas-charged soap from an aerosol container and utilizing the soap-releasing means as an applicator. More specifically, the invention contemplates the provision of a shaving cream dispenser that also serves as a brush applicator.

Another object of the invention is to provide a combination, as characterized above, that serves also to cap the container in a safe non-actuating position until dispensing is desired.

A further object of the invention is to provide an applicator that is provided with a brush and which includes novel connection means for mounting the same on the discharge nozzle of an aerosol container.

A further object of the invention is to provide a novel element that combines the functions of capping an aerosol container, effecting dispensing of the contents thereof, and providing for use as a brush-type applicator.

The invention also contemplates novel combinations and arrangements of parts that are positive in operation and are of general superiority and serviceability. The drawings merely show and the following description merely describes, preferred embodiments of the invention, which are given by way of example.

In the drawings, like reference characters designate similar parts in the several views.

FIG. 1 is a side elevational view of a soap dispenser and applicator and combined with an aerosol container, according to one form of the present invention.

FIG. 2 is an enlarged, longitudinal sectional view of said dispenser and applicator element of the construction in soap-releasing position on the container.

FIG. 3 is a broken, partly elevational, and partly sectional, view of a modification.

FIG. 4 is a similar view of another form of the invention.

The present construction comprises, generally, an aerosol container 5, and a combination element 6 operatively associated with the container for actuating the latter to release soap and serve as an applicator of the contents of the container that are released.

The container 5 that is shown in FIG. 2 is a conventional aerosol unit that, essentially, comprises a gas-charged receptacle 7 from which extends a hollow discharge tip or nozzle 8 that is normally in position to close a discharge valve 9 that is exemplified by the end 10 of said tip. The conventional structure, per se, comprises no part of the present invention. The same is adapted to be combined with an element 6 for providing the present dispensing operation of the contents of the container. Said tip 8 is typically provided with a multiple pitch thread 11 that serves to removably connect with a cap ordinarily provided for the container 5. The receptacle 7 is provided with a sealing edge 12 around the base 10 of the tip and where the contents-releasing valve of the container is provided.

The element 6 comprises, generally, a hollow body 13, an axial extension 14 within said body and extending to

the lower open end of said body, passage and flow-baffling means 15 at the upper end of said extension 14 for passage of contents of the container being dispensed, and a shaving brush unit 16 on the upper end of the body 13 in which the dispensed material is received and which serves to apply the same.

The body 13 has a preferably knurled or roughened outer surface 17 so the same may be easily turned with wet, slippery hands. The lower open end of said body is provided with an annular seat 18 that normally has sealing engagement around the upper end of the receptacle 7 and particularly the sealing edge 12. To this end, the axial extension 14 is provided with internal threads 19 that are engaged with the thread 11 of the tip 8. Thus, when the tip 8 and the extension 14 are telescopically engaged and said threads are drawn up snugly, the element 6 is held immovably on the container 5 and the contents-releasing tip 8 is held in its normally extended position in which the valve it controls is closed.

It will be clear, as shown in FIG. 2, that upon backing off of the threads 19 of the extension by manual rotative movement of the element 6, the annular seat 18 moves away from the end of the container with which engaged. As a consequence, pressure of a finger, as shown, on the side of the body 13, in any direction, will cause the tip 8 to tilt, the valve controlled thereby to open, and some of the contents of the receptacle, under pressure of gas therein, to be discharged through said tip into the passage and flow-baffling means 15.

The latter means is shown as an axial passage 20 into which the tip 8 discharges, a chamber 21 that is connected by a port 22 to said passage 20 and which is formed in an end closure wall 23 of the body 13, and an orifice-provided wall 24 over the upper top of said chamber 21 and through which the pressure-discharged contents of the container 5 are expressed in a baffled and laterally disseminated manner.

The upper end 25 of the hollow body 13 is formed to have a seat 26 for the set-in end of the shaving brush 16, the same overstanding the orifice plate 24 and being so formed that the material discharged through said orifice plate is received among the bristles of the brush, as indicated at 27.

As desired, the brush 16 may be made as a permanent part of the element 6 or may comprise a separable part. Thus, the construction is a flexible one since the element 6 may be marketed as a complete unit for replacing a discardable cap which is provided for the container 5, or the body and brush may be separable members which, in various ways, may be connected in operative engagement before the same are made available to the purchaser, or sold separately to provide for interchange.

In any case, after the brush 16 is provided with a charge 27 of soap, the element is tightened back on the container 5 to provide the condition of FIG. 1, whereby the soap charge 27 may be applied with easy facility for the use intended.

The brush 16 may be cleaned and rinsed while connected to the container or, if desired, cleaning and rinsing may be carried out with the element 6 separated from the container.

The above-described combination provides a compact, easily stored, and highly efficient device, as can be realized from the foregoing. In this disclosure, the aerosol container 5 is intended to include other types of discharging containers, such as squeeze tubes and bottles, and which by any suitable applied pressure effect discharge of the contents.

The aerosol container 5 as shown in FIG. 3 may conventionally have a discharge tip 8*a* that opens by being depressed in an inward direction, instead of the tip 8 described in connection with the form of FIG. 2. In such

case, the element 6 may be modified so that the end 30 of the axial extension 14 has a telescopic conection with the tip 8*a* and in a position to form a space 31 between the seat 18 on the body 13 and the edge 12 of the container 5. By pushing downwardly on the element 6, the tip 8*a* is depressed, causing the valve 9 that is held closed thereby to open.

The modification shown in FIG. 4 shows the container 5, as in FIG. 3, and interposes a separate tip extension 8*b*, which is similar to the tip 8 above described, except that the same is provided with an end 32 that may be telescopically fitted onto the tip 8*a* in a manner similar to the fit between said tip 8*a* and the extension end 30, shown in FIG. 3.

The elements 6 in FIGS. 2 and 4 are alike. Thus such an applicator element may be connected to a nozzle of tip 8 for dispensing the contents of a container 5 that has a permanent nozzle, or such an element may be provided with a separate tip or nozzle 8*b* and connected by means of said nozzle 8*b* to a depressible discharge tip 8*a* for dispensing the contents of a container 5 that is provided with such a tip 8*a*.

While I have illustrated and described what I now contemplate to be the best mode of carrying out the invention, the construction is subject to modification. Therefore, I do not wish to restrict myself to the particular construction described, but desire to avail myself of all modifications that may fall within the scope of the appended claims.

I claim:

1. A soap-dispensing applicator for separable connection with an aerosol container having a discharge tip that, when moved, allows pressure discharge of the soap contents of the container through the end of said tip, said applicator comprising:

(*a*) a body having an axial passage to receive the discharge of the container contents and separably connected to said tip, one end of said body being adapted to have engagement with the end of the container from which the tip extends,

(*b*) said passage having a transverse chamber enlargement at its end away from the tip,

(*c*) baffle means including an orifice plate across the slide of said chamber away from the passage to spread soap received from said passage when the body is moved in a direction to move the tip of the aerosol container to soap-discharging position to cause soap under aerosol pressure to be forced from said chamber through the orifice plate, and

(*d*) an applicator brush on the end of said body and into which soap spread by the baffle means is forced by the discharge pressure on said soap.

2. A soap-dispensing applicatior according to claim 1 in which the discharge tip is externally threaded and

(*a*) the body is provided with an internally threaded extension through which said axial passage extends, and with which the tip is separably connected.

3. A soap-dispensing applicator according to claim 1 in which

(*a*) an internally threaded axial extension in said body contains said axial passage, and

(*b*) an externally threaded nozzle extension is threadedly connected to said axial extension and has an end that is separably engageable with the discharge tip of the container.

4. In combination:

(*a*) an aerosol container having a soap-discharging tip,

(*b*) and a body mounting an applicator brush at one end, provided with an internally threaded extension on the other end, and having passage means including soap-spreading baffle means between said extension and the brush, and

(*c*) a separate externally threaded connector member separably connected to the threads of the extension and having an end for separable connection with the tip on the container.

5. A soap-dispensing and applicator device comprising, in combination,

(*a*) an aerosol container having a tiltable and hollow discharge tip that, when tilted, allows pressure discharge from the container, said tip extending from an end of the container,

(*b*) a cap having an axial passage to receive the discharge of the container contents, said passage being longer than the mentioned tip and terminating in a discharge port spaced from the discharge end of the tip,

(*c*) a threaded connection between the outside of the tip and said cap that, when drawn up tight with the cap in endwise engagement with said container end, holds the tip in non-discharge position and, when loosened, spaces the cap from the container end, releasing the same for manual tilting thereof and of the discharge tip for a discharge from the container into the mentioned passage and port,

(*d*) an applicator brush carried by said cap and extending longitudinally therefrom and having an inner end plate that is spaced outwardly from the mentioned port,

(*e*) said plate having a plurality of orifices, and

(*f*) a chamber disposed between said port and orifice-provided plate and larger than said port to receive the discharge of the tip, spread the same, and, through the mentioned apertures, introduce the same into an area of the brush that is larger than that of the axial passage and port of the cap.

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