

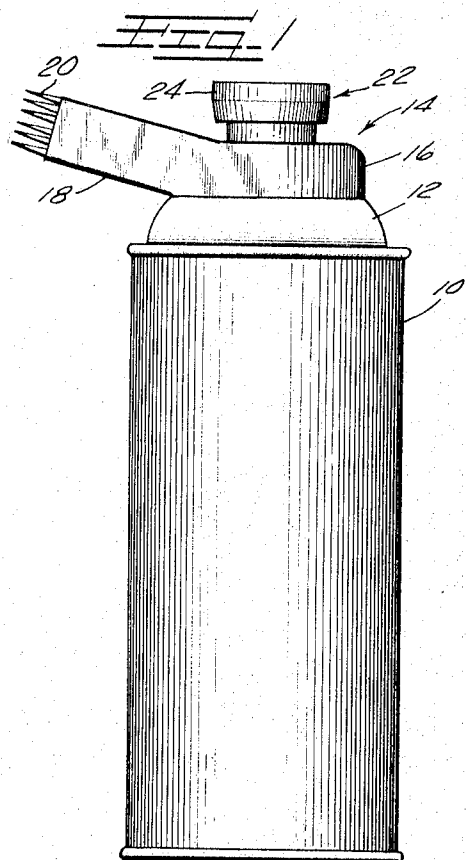
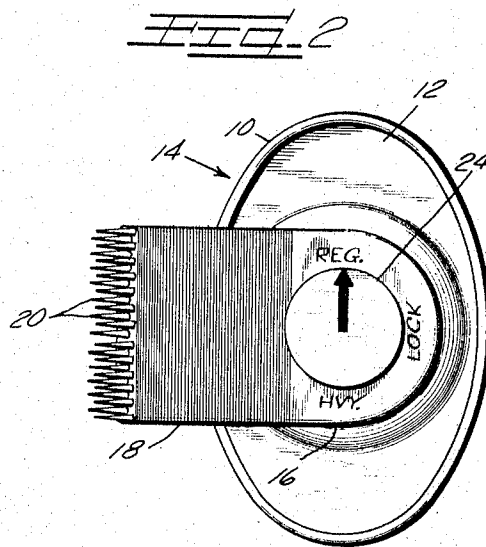
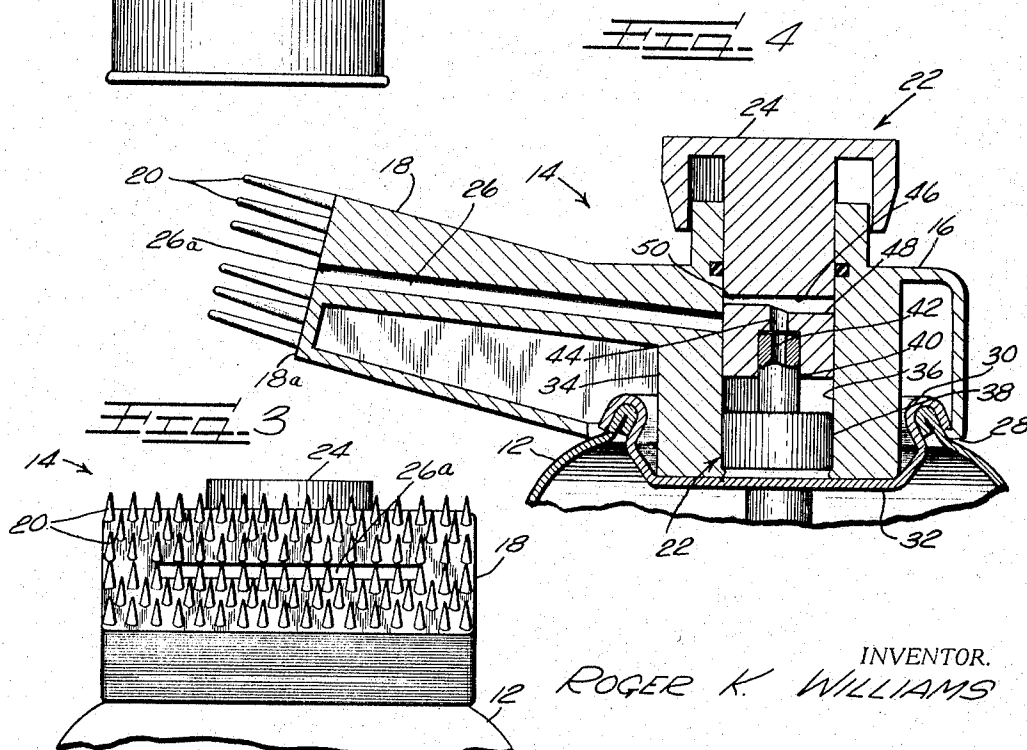
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AEROSOL DISPENSER

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AEROSOL DISPENSER

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ABSTRACT OF THE DISCLOSURE

An aerosol dispenser for dispensing the contents of a container and generally formed of a housing having an aperture therein and a plurality of bristles adjacent one end of the aperture and a valve connected between the container and the aperture. The valve includes a plunger having a passageway with an enlarged end and a restricted end. The plunger is rotatably mounted with a midpoint of the passageway disposed for receiving the contents of the container such that the enlarged end and the restricted end are selectively movable into communication with the aperture.

Disclosure

This invention relates generally to a dispenser and applicator and more particularly to a shaving cream aerosol dispenser and applicator which is adapted for applying shaving cream conveniently and in a novel manner to the face of an operator. The present invention is intended to have a wide range of applicability which includes the dispensing and application of any material from a container.

One of the inherent difficulties with the presently known aerosol containers for dispensing shaving cream is that both hands must be used to apply the shaving cream to the face of the operator. One hand must be employed to operate the dispensing valve and to hold the container while a supply of shaving cream is dispensed onto the other hand. The shaving cream must thereafter be transferred to the operators face and massaged into his beard. Not only is this procedure time consuming, but is wasteful of shaving cream since it requires the user to wash excess cream from his hands prior to shaving.

In addition to the above difficulties, the application of shaving cream by hand to ones face results in an uneven layer of shaving cream across the entire area of the face. That is, because the shaving cream must be massaged into the face and beard, it is difficult to provide a uniform layer of shaving cream across the entire surface of the face. Furthermore, in the massaging of shaving cream into the face by hand, there results a substantially thin layer applied to the face rather than a relatively thick layer as desired for softening the beard properly.

It is, therefore, an object of the present invention to provide an applicator for use with a container to allow application of the contents of the container by the use of one hand.

It is another object of the present invention to provide an applicator for use with a container which will eliminate waste produced by transferring first to one's hand and then to the area to which the contents of the container are to be applied.

A further object of the instant invention resides in the provision of an applicator for use with a container which can regulate the rate of flow of the contents from the container.

Yet another object of the present invention is to provide an applicator for use with a container which will apply a uniform layer of the contents of the container on the surface receiving the contents.

Still another object of the present invention is to pro-

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vide an applicator which allows rapid application of the contents of the container to a surface.

It is still another object of the present invention to provide an applicator for use with a container which includes structures for massaging the contents of the container onto the surface receiving the contents.

These and other objects of the present invention are realized by an applicator which is adapted for use with an aerosol container and which includes an aperture therethrough, a valve for communicating the contents of the container with the aperture, and a plurality of bristles extending therefrom and through which the aperture extends.

One of the novel features of the present invention resides in the provision of a container having a configuration which is elliptical in cross section in a plane transverse to the longitudinal axis therethrough and which is designed to conform somewhat to the user's hand.

Still another important feature of the present invention includes the use of a variable rate flow control device which may be manually adjusted by the operator to any of several different flow rate positions for effecting the desired quantity of contents to be emptied from the container.

Another important feature of the present invention is in the use of a spreading nozzle adapted to permit direct application of the contents from the aerosol container to the face of the operator in a rather broad path.

Another important feature of the present invention includes the use of a plurality of resilient bristles protruding from the face-engaging end of the nozzle to provide a means for massaging the face and keeping the face of the operator in the discharge end of the nozzle in spaced-apart relation from one another to permit a free flow of the contents from the nozzle to the face.

Another features of the present invention includes the construction of the applicator such that it extends beyond an edge of the container and allows application of the contents to the face without interference from the container structure. The nozzle portion of the applicator may also be slightly tilted from the base of the applicator so that the aerosol container will be slanted away from the shaving area when in use.

These and other objects, features and advantages of the present invention will be more fully realized and understood from the following detailed description when taken in conjunction with the accompanying drawings wherein:

FIGURE 1 is a side elevational view of an aerosol can and applicator of the present invention;

FIGURE 2 is a top view of the aerosol can and applicator shown in FIGURE 1;

FIGURE 3 is an enlarged front view of the applicator with the container shown broken away; and

FIGURE 4 is an enlarged side view of the applicator in section showing the internal configuration of the preferred form of the invention.

Like reference numerals throughout the various views of the drawings are intended to designate the same or similar structures.

With reference to FIGURES 1 and 2, there is shown an aerosol container 10 having a top wall 12 to which a dispensing valve may be secured for dispensing contents from the container 10. An applicator generally designated with the reference numeral 14 includes a base portion 16 which is disposed for engaging the top wall 12 of the container 10. Extending outwardly from the base portion 16 is a nozzle portion 18 having a plurality of bristles 20 extending from one end thereof.

The base portion 16 constitutes a housing for a control valve 22 including a depressible plunger 24 disposed

for actuation to allow dispensing of the contents of the container 10 through the nozzle portion 18.

As more clearly illustrated in FIGURE 2, the depressible plunger 24 may be rotated through a plurality of positions for regulating the rate of flow of the contents from the container 10. The depressible plunger 24 is also disposed for rotation to a locked position wherein depressible movement of the plunger 24 is prevented whereby to insure that the contents of the container will not be inadvertently dispensed.

As shown in FIGURES 1 and 2, the nozzle portion 18 of the applicator 14 extends beyond an edge of the container 10 and is slightly tilted from a plane transverse to a longitudinal axis through the container 10 so as to facilitate application of the contents of the container 10 through the nozzle 18 to one's face.

As more particularly shown in FIGURE 2, the aerosol container 10 may be elliptically shaped to more closely conform to the user's hand. Furthermore, this elliptical shape allows the nozzle 18 to extend substantially beyond the edge of the container 10 while maintaining a relatively large volume therein.

As more particularly shown in FIGURE 3, the nozzle has a broad flat end 18a supporting the bristles 20 thereon which, in turn, are designed to engage the user's face during application of the contents of the can. The bristles 20 are round-ended and substantially evenly spaced throughout the entire area of the end 18a so as to massage the face of the user and facilitate the free flow of the can contents during application. Nozzle 18 opens through the end face 18a from which the resilient bristles 20 extend. The passage 26 opens through the end face 18a in a long and narrow opening 26a to provide for an application of the container contents in a rather broad path. The bristles 20 can be formed of foam rubber material or other like resilient material and attached to the end of the nozzle 18 or may comprise resilient fingers extending from the discharge end face 18a and formed integrally therewith. The resilient bristles 20 protruding from the face-engaging end of the nozzle 18 not only provide a means for massaging the face, but provide means for keeping the face of the operator and the discharge end of the nozzle 18 in spaced-apart relationship from one another to permit a free flow of the foam or shaving cream from the nozzle 18 to the face.

As shown in FIGURE 4, the passage 26 extends from the face-engaging end of the nozzle 18 to an interior portion of the base 16. The base 16 is provided with a flange 28 for engaging a lip 30 on the top wall 12 of the container 10. The lip 30 is provided by the overlapping of an edge portion of a valve supporting member 32 with an edge portion of the top wall 12. The member 32 supports a valve housing 34 formed integrally with the nozzle 18 and the base 16. A valve chamber 36 is formed within the housing 34 for receiving the control valve 22 therein. The control valve 22 includes a spring loaded member 38 for receiving therein and biasing a plunger 40 to a closed, outwardly extended position as shown. The plunger 40 includes a discharge opening 42 therein for discharge of the contents of the container 10 therethrough upon depression of the plunger, in the well known manner. The depressible plunger 24 is disposed within the valve chamber 36 and is arranged to abut and embrace the upper end of the plunger 40. A passage 44 in the depressible plunger 24 communicates the discharge opening 42 with a horizontally extending passage 46 extending transversely through the plunger 24.

The passage 46 includes an enlarged end 48 and a

somewhat restricted end 50. The plunger as shown in FIGURE 4 is in the extended position thereof such that the passage 46 is not aligned with the passage 26. Upon depression of the plunger 24, one end (48 or 50) of the passage 46 will align itself with the passage 26 as the lower end face 24a of the plunger bottoms itself on the valve 22 and such depressible movement of the plunger 24 will urge the plunger 40 to move retractably to a valve-opening position and the pressurized contents of the container 10 will then flow through passages 42, 46 and 26 to the elongated opening 26a in the broad end face 18a and then around the bristles 20 and on the face of the user.

Obviously, if more content of low-rate adjustments were desired, they could be provided simply by providing different sized radially extending passages in the plunger 24, and in the same plane as passage 46. At any rate, the rate of flow of the contents of the container can be regulated by rotating the plunger 24 relative to the base 16.

The principles of the invention explained in connection with the specific exemplifications thereof will suggest many other applications and modifications of the same. It is accordingly desired that, in construing the breadth of the appended claims they shall not be limited to the specific details shown and described in connection with the exemplifications thereof.

What is claimed is:

1. An applicator for dispensing the contents of a container comprising
 - (a) a housing having an aperture therein,
 - (b) a valve in said housing communicating the contents of the container with the aperture in said housing, said valve including
 - a plunger member having a passageway there-through having an enlarged end and a restricted end,
 - a midpoint of said passageway being disposed for communication with the contents of the container, said plunger member being rotatably mounted in said housing to permit alignment of the restricted end of the passage with the aperture in said housing and alternately permit alignment of the enlarged end of the passage with the aperture in said housing, and
 - (c) a plurality of bristles extending from one end of said housing, said aperture extending through said housing to the one end thereof.
2. The applicator as defined in claim 1 wherein said plunger member is movable to a position of nonalignment between said passageway and the aperture in said housing.

References Cited

UNITED STATES PATENTS

2,756,908	7/1956	Miller	15-552 X
2,887,273	5/1959	Anderson et al.	222-412.11 X
2,994,897	8/1961	Snable	15-578 X
3,032,803	5/1962	Walshauser	15-583 X
3,176,888	4/1965	Focht	222-402.17
3,196,479	7/1965	Romoser	15-552 X
3,209,960	10/1965	Green	222-402.17 X

FOREIGN PATENTS

205,116	1/1957	Australia.
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