Nov. 15, 1966 G. M. J. COOK 3,284,839

ROLLER APPLICATOR

Filed Dec. 16, 1965

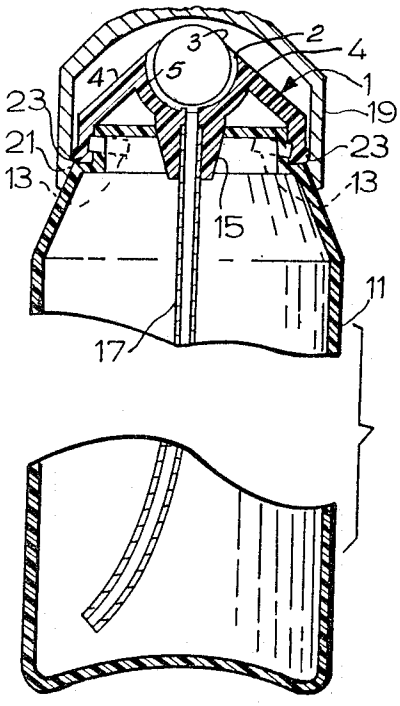


FIG 1

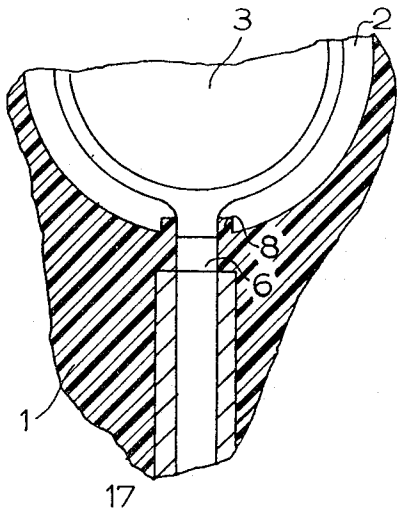


FIG 4

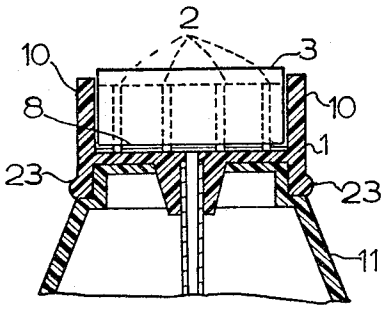


FIG 2

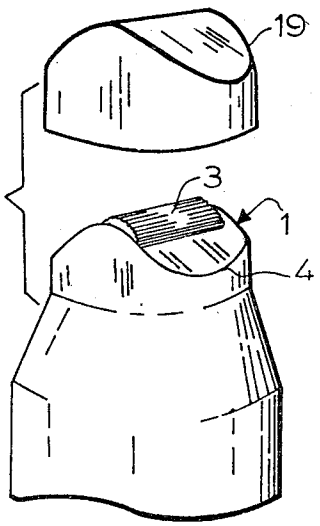


FIG 3

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ROLLER APPLICATOR

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Claims priority, application Great Britain, Aug. 10, 1965, 34,102/65
9 Claims. (Cl. 15—541)

This application is a continuation-in-part of my pending patent application Serial No. 366,277, now abandoned.

The present invention relates to a roller-type applicator for shaving soap or similar cream. An object of the present invention is to provide a roller-type applicator in which the roller can be fitted more readily than in heretofore proposed applicators.

According to the present invention, an applicator for shaving soap or similar cream comprises a head which has a trough formed therein and in which a roller is received with its periphery protruding from the mouth of the trough, ribs being formed in the trough and extending circumferentially of the roller to retain the roller in the trough and journal the roller for rotation, and the head has a tube fitted thereto and is secured to or adapted to be secured to a squeezable container for shaving soap or other cream with the tube extending substantially to the bottom of the container so that by squeezing the container such soap or other cream can be fed through the tube to the roller.

The trough is preferably somewhat more than semi-circular in cross-section and has a central aperture communicating with the tube. Conveniently the ribs extend almost throughout the peripheral extent of the trough but are broken away only at the bottom of the trough to permit the soap or other cream to flow axially of the roller and so become distributed over the roller throughout its length. To assist even distribution of the soap or other cream, longitudinal barriers may be provided at the bottom of the trough at both sides of the aperture, the barriers being not quite as high as the ribs so that a small clearance always remains between the tops of the barriers and the roller.

Because the ribs retain the roller in the trough the necessity for additional bearing means, such as pivot pins, for the roller is obviated. The roller is simply sprung into position, the head being injection moulded from polystyrene or other synthetic plastics material having a suitable resiliency.

The invention is further described, by way of example, with reference to the accompanying drawings in which:

FIGS. 1 and 2 are longitudinal sections taken at right angles to one another of a shaving soap applicator constructed in accordance with the present invention, the cap and most of the container being omitted from FIG. 2;

FIG. 3 is a perspective view of the head of the applicator of FIGS. 1 and 2 and shows the cap removed; and

FIG. 4 is an enlarged detail of FIG. 1.

Referring to the drawings, an applicator for shaving soap or similar cream comprises a one-piece head **1** of injection moulded polystyrene in which is journalled a roller **3** also of polystyrene. A trough **5** of somewhat greater than semi-circular cross section is formed in the head **1** and receives the roller **3** so that the roller protrudes slightly out of the trough as can be seen most readily from FIG. 3.

The head **1** is fitted to a container **11** of blow-moulded polyethylene and is secured thereto by means of a two-start thread **13**. The head **1** has a central depending boss **15** into which is inserted a tube **17** which extends to the bottom of the container **11**.

Ribs **2** are formed at the inside of the trough and extend circumferentially of the roller over a little more than half its circumference and serve to retain the roller **3** in the trough **5** and yet freely permit rotation of the roller. These ribs **2** are broken away at the bottom of the trough, as can be seen more clearly in FIG. 4, to permit the shaving soap to flow axially of the roller **3**. The trough has a central aperture **6** in communication with the tube **17** and barriers **8** extend axially of the trough between the ribs **2** and the end walls **10** of the trough. The barriers **8** are arranged at opposite sides of the apertures **6** and are not as high as the ribs **2** as can be seen most clearly in FIG. 4. FIG. 4 shows a slight running clearance between the roller **3** and the ribs **2** so that the roller can rotate freely. A uniform gap is formed between the barriers **8** and the roller **3** so that the cream can be distributed uniformly over the roller throughout its length.

The roller, which is preferably longitudinally grooved, is fitted by pressing it into the trough **5**, the head having sufficient resiliency to enable the roller to spring into place.

In use, the container **11** contains a shaving cream, preferably a shaving cream consisting essentially of 1 to 6% (preferably 2%) lanolin or soluble lanolin derivatives, 2 to 7% (preferably 5%) almond oil, 2 to 5% (preferably 3%) ceotostearyl, 0.1 to 0.5% (preferably 0.2%) nipagin M, 4 to 10% (preferably 6%) triethanolamine stearate, 1 to 8% (preferably 2%) glycerine, 0 to 0.25% (preferably 0.1%) menthol, 0 to 0.1% (preferably 0.05%) titanium dioxide and water to 100%, perfume being added subsequently to taste. This preferred shaving cream is not my invention and I make no claim to this preferred shaving cream per se. The shaving cream is fed to the roller **3** for application by gently squeezing the container. This forces the cream through the tube **17** to the trough **5**. The cream flows axially of the roller between the barriers **8** and so becomes distributed over the whole length of the roller. To facilitate use of the applicator the head **1** is bevelled at **4** away from the roller **3**.

Whether or not the above described shaving cream is used, the device of the invention employs a cream readily capable of flowing to the roller upon application of finger pressure to the container. The device of the invention is eminently suitable for the application of so-called brushless shaving cream.

A cap **19** is provided for the head. The cap has an internal bead **21** at its lip. This bead snaps over pips **23** formed in the base of the head **1**.

Because the roller **3** is retained in the trough by the ribs **2** which in the illustrated embodiment are four in number, there is no need to provide any pivots between the end walls **10** and the roller **3**.

The two-start thread **13** between the head and the container may be replaced by a bayonet connection.

I claim:

1. In an applicator for cream such as shaving soap, the combination comprising:

a head of resilient material,

a trough formed in said head for holding a roller, said trough having a generally uniform and an approximately semi-circular cross section, and a feed aperture at the bottom of the trough for the introduction of cream into the trough,

a roller mounted in said trough for rotation therein, said roller having a peripheral portion protruding out from said trough,

a plurality of spaced rib means formed in said trough for spacing said roller from said trough and for retaining the roller in its mounted position within the trough, each of said rib means effectively extending

through an angle greater than 180° around the circumference of said roller and at least coextensively with the semi-circular inner circumference of said trough, whereby said roller is held for rotation in a spaced position from said trough and from said feed aperture in the bottom of said trough.

2. An applicator according to claim 1 wherein said trough itself is somewhat more than semi-circular in cross section.

3. An applicator according to claim 1 wherein said aperture is relatively small and located at an approximate center point through the bottom of said trough and wherein said ribs are discontinuous at the bottom of said trough to provide for the uninterrupted flow of cream from said feed aperture to the roller periphery throughout its axial extent.

4. An applicator according to claim 3 which further comprises longitudinal bariers at the bottom of said trough at both sides of said feed aperture, said barriers being lower than said ribs and serving to distribute said cream evenly over said periphery of said roller.

5. An applicator according to claim 1 wherein said roller has longitudinal grooves on its periphery.

6. The combination according to claim 1 which further comprises a squeezable container having a top end and a bottom end, means securing said head to the top end of said container and in sealing engagement therewith, a and tube means communicating with said feed aperture in said head and extending downwardly within the container to a point adjacent the bottom end of said container for feeding the cream to said trough upon the container being squeezed.

7. The combination according to claim 6 wherein said means securing said head to the top end of said container comprises two-start thread means.

8. A shaving cream applicator comprising:

a head,

a trough formed in said head, said trough being provided with a feed aperture at its bottom,

a roller having a generally cylindrical periphery of diameter smaller than that of said trough,

means for mounting said roller for rotation in said trough with a peripheral portion of said roller protruding out from said trough, said roller being mounted in a position which spaces said roller from the inner surface of said trough and from said feed aperture, whereby said roller is substantially free of any contact of its cylindrical surface by said trough,

a squeezable container having a top end and a bottom end and including means for securing said head to said top end of the container and in sealing engagement therewith, and

a tube means fitted to said head with its interior in communication with said trough through said feed aperture and with an upper end of said tube means being spaced below said roller so that said roller does not seal the communication of said tube means through said feed aperture, said tube means extending downwardly within said container to a point adjacent the bottom end of the container, whereby said tube means feeds cream to said roller periphery when said container is squeezed, and whereby a column of cream is maintained within said tube means when the container is not squeezed for providing an effective sealing of the contents of the container from the atmosphere when the applicator is not in use.

9. An applicator according to claim 8 wherein said means securing said head to the top end of said container comprises two-start thread means.

References Cited by the Examiner

UNITED STATES PATENTS

Re. 25,380	5/1963	Ackerman	15—572
2,029,056	1/1936	Carlson	15—571
2,716,250	8/1955	Deakers	15—543
2,892,202	6/1959	Williams	15—571
3,095,598	7/1963	Gonnella et al.	15—571
3,104,413	9/1963	Nelson	15—575 X

FOREIGN PATENTS

2,812	2/1914	Great Britain.

ROBERT W. MICHELL, *Primary Examiner.*

UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 3,284,839 November 15, 1968

Gordon Munro Jordan Cook

It is certified that error appears in the above identified patent and that said Letters Patent are hereby corrected as shown below:

In the heading to the printed specification, lines 6 and 7, "Claims priority, application Great Britain, Aug. 10, 1965, 34,102/65" should read -- Claims priority, applications Great Britain, May 31, 1963, 21,884/63; March 23, 1964, 48,503/62, 2,636/63 and 21,884/63; August 10, 1965, 34,102/65 --.

This Certificate supersedes Certificate of Correction Issued September 26, 1967.

Signed and sealed this 29th day of July 1969.

(SEAL)

Attest:

Edward M. Fletcher, Jr.
Attesting Officer

WILLIAM E. SCHUYLER, JR.
Commissioner of Patents