May 19, 1964 P. FREEMAN 3,133,300

APPLICATOR CAP

Filed Dec. 12, 1962

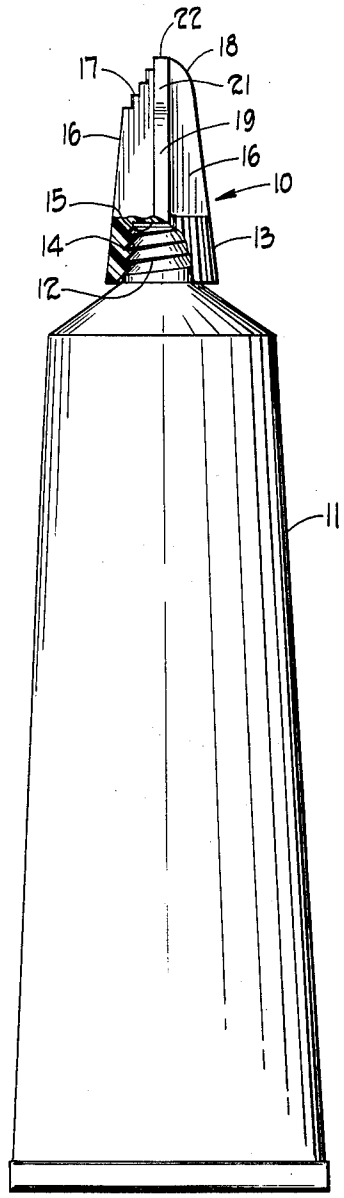


Fig. 1

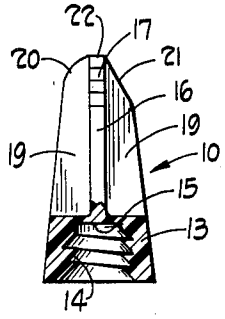


Fig. 2

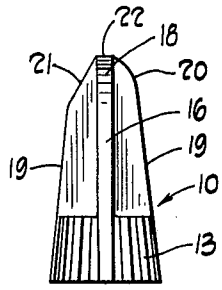


Fig. 3

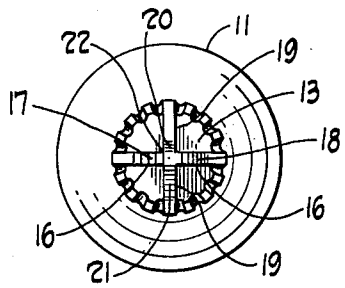


Fig. 4

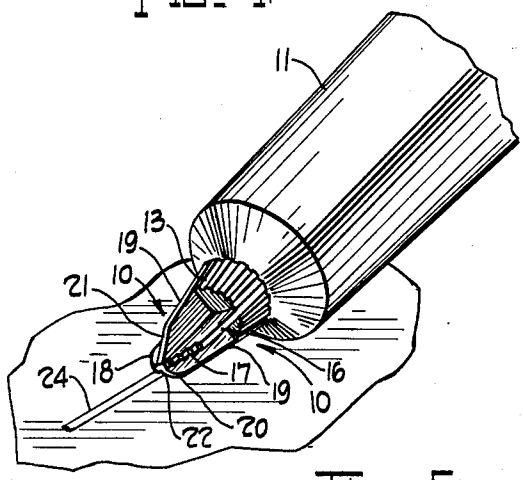


Fig. 5

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APPLICATOR CAP

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1 Claim. (Cl. 15—236)

This invention relates to improvements in applicators, and more particularly to devices of this character adapted for ready attachment to the threaded nipple of a collapsible tube; the collapsible tube functioning as a handle for the applicator.

The primary object of this invention is to provide a cap closure for containers of the type stated, which closure may be additionally employed as an applicator or spreader of the fluent contents of the container.

A further object is to provide an applicator cap having multi-bladed spreader means mounted thereon. The blades being rigid and of varied edge configuration, whereby the fluent contents of the container may be spread in ribbons of varied texture and width.

These, and other objects of the invention will become apparent from a reading of the following specification and claim together with the accompanying drawing, wherein like parts are referred to and indicated by like reference numerals, and wherein:

FIGURE 1 shows the applicator cap that is the subject of invention mounted on a container in the form of a collapsible tube having a threaded neck;

FIGURE 2 is a left end view of the applicator cap illustrated in FIGURE 1, partly in section;

FIGURE 3 is a right end view of the same;

FIGURE 4 is a top plan view; and

FIGURE 5 is a perspective view of the device illustrated in FIGURE 1, showing it being used to form a narrow ribbon of fluent material on a flat surface.

Referring more particularly to the drawing, there is seen in FIGURE 1 the applicator cap that is the subject of this invention, broadly indicated by reference numeral **10**, as it appears mounted on a collapsible tube **11**, of usual construction and design having a threaded nozzle, or nipple **12**, through which the contents of the tube may be discharged.

Such tubes are used to hold adhesives and mending or patching compounds having a paste-like or creamy consistency.

The cap **10** is molded in one piece and has a circular base portion **13** having a threaded cavity **14** terminating in an end wall **15** which acts as a closure for the nipple **12** when threadedly engaged therewith, as seen in FIGURE 1.

While the nipple **12** and cap threads **14** are shown as being of the so-called "buttress" type, to insure positive pressure seating of the closure **10** when used with compounds containing highly volatile substances, any other type of thread may be used if such a sealing problem is not present.

Reference numerals **16** and **19** indicate two rigid and upstanding spreader blades positioned cross-wise of the base **13** with their line of intersection **22** centered on the axis of rotation of the cap base **13**.

As is seen most clearly in FIGURE 4, the blades **16** and **19** extend diametrically of the base **13** at approximately 90° to each other.

Hereinafter, the blade indicated by reference numeral

16 is called the first spreader blade, and that indicated by reference numeral **19** is called the second spreader blade.

As is seen most clearly in FIGURES 1 and 4 the first spreader blade **16** has a stepped edge **17** and a curved edge **18** proximate its outer, or upper end, on opposite sides of its intersection **22** with the second spreader blade **19**.

As is seen most clearly in FIGURES 2 and 4, the second spreader blade **19** has a curved edge **20** and a straight edge **21** proximate its upper end on opposite sides of its intersection **22** with the first spreader blade **16**.

The straight edge is positioned at approximately a 30° angle to the axis of the base **13**.

The inherent rigidity of the blades **16** and **19** is further increased by the fact that they intersect each other at **22**, so that they support each other against lateral deformation, and may be drawn along a flat surface without bending or deforming.

The cap **10** is used to close the discharge nipple **12** of the tube **11**, in the manner of a conventional cap.

When paste is to be applied, the cap **10** is removed and a desired quantity of paste squeezed from the tube.

The cap **10** is then replaced on the nipple **12** of the tube **11**, as seen in FIGURES 1 and 5, in which position the tube **11** acts as a handle for the cap **10** when it is used as a spreader, as explained hereinafter.

By drawing the toothed edge **17**, of the blade **16**, across the deposited paste, the paste can be spread in a thin layer having a ribbed surface.

Again, by moving the straight edge **21** of the blade **19** through the paste, it is spread over the surface as a smooth sheet.

As seen in FIGURE 5, by simultaneously resting the curved edges **18** and **20**, of blades **16** and **19**, respectively, on the surface **23**, around a blob of paste, a bead of paste **24** can be formed by drawing cap along with the blob trapped between the blades' edges **18** and **20**.

As seen in FIGURE 4, the curved edges **18** and **20** of blades **16** and **19** abut each other and form a walled cavity whose opening, at the extreme tip end, is governed by the degree to which the blades are rocked on their curved edges, as they rest on the surface **23**, as seen in FIGURE 5.

When the angle is low, as shown in FIGURE 4, the end opening is larger, and a relatively wide bead **24** is formed.

However, if the cap is rocked upward to a higher angle the tip opening becomes narrower, yielding a narrower bead.

Thus, by the use of this spreader it is possible to spread paste and viscous substances in wide or narrow bands and beads, of varied surface texture, without soiling the fingers.

While the applicator cap **10** has been illustrated as being used with a collapsible tube **11**, it is to be understood that it may be used with any type of container of a shape that can serve as a handle for the manipulation of the spreader blades.

It will now be clear that there has been provided a device which accomplishes the objectives heretofore set forth.

While the invention has been disclosed in its preferred form, it is to be understood that the specific embodiment thereof as described and illustrated herein is not to be

considered in a limited sense, as there may be other forms or modifications of the invention which should also be construed to come within the scope of the appended claim.

I claim:

An applicator cap adapted for attachment to the discharge nozzle of a collapsible tube, or the like, comprising, a substantially circular base adapted to be removably mounted on said discharge nozzle, and two rigid upstanding spreader blades, formed integral with the cap base, and positioned crosswise thereof, with their line of intersection centered on the axis of rotation of the cap; the first of said blades having a stepped edge and a curved edge at its outer end, on opposite sides of its intersection with the second blade; the second of said blades having a curved edge and a straight edge at its outer end, on opposite sides of its intersection with the first blade; the stepped and straight edge portions being at 45° to the axis of the cap; the abutting side walls of adjacent blade sections with curved outer ends being extended from the cap base to the extreme tip of the curved edges, at 90° to each other.

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