

[54] **COSMETIC APPLICATOR**
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 [51] Int. Cl. **A45d 40/06**
 [58] Field of Search **401/175, 196, 207, 169**

2,442,503 6/1948 Melnikoff 401/175 X

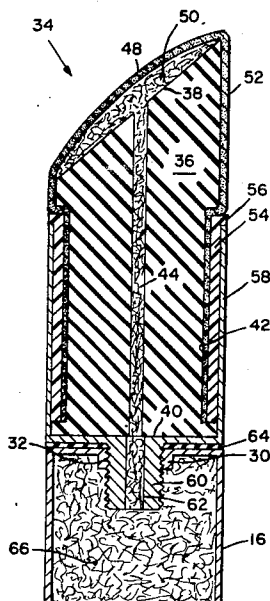
Primary Examiner—Lawrence Charles
Attorney, Agent, or Firm—Smith, Harding, Earley & Follmer

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[57] **ABSTRACT**
 A cosmetic device has a casing with an applicator having a tip secured to one end thereof and having a passage communicating with the interior of the casing and extending to the outer end of the tip. A resilient porous pad overlies the outer end of the tip and cooperates with the tip to form a reservoir between the pad and the tip. Axially movable means in the casing is adapted to urge cosmetic material in the casing through the passage in the applicator tip to provide a supply of cosmetic material between the tip and the porous pad.

7 Claims, 7 Drawing Figures



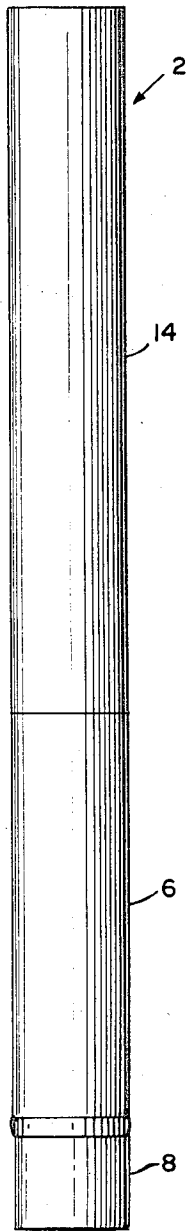


FIG. 1.

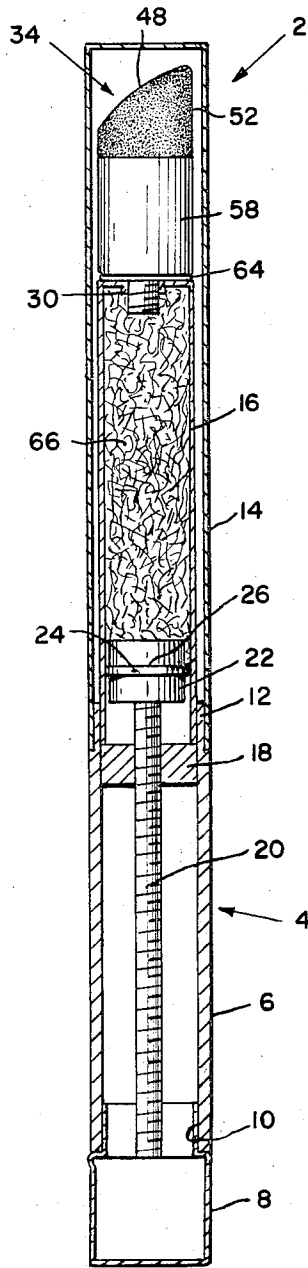


FIG. 2.

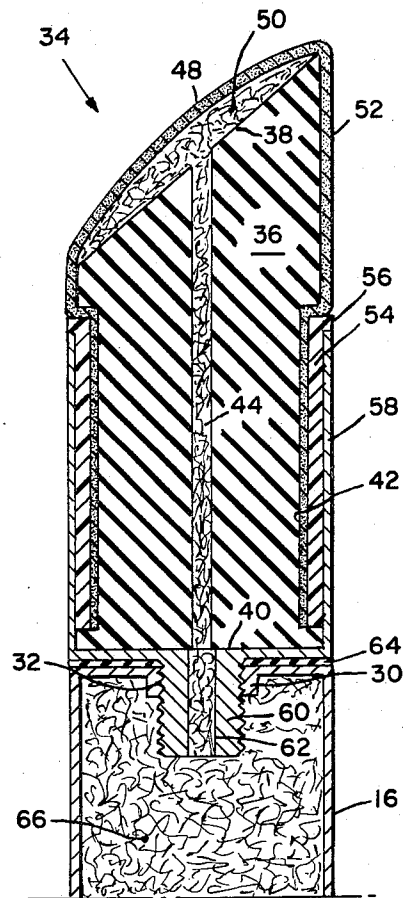


FIG. 3.

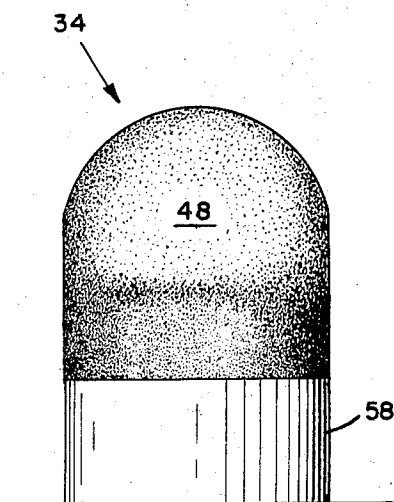


FIG. 4.

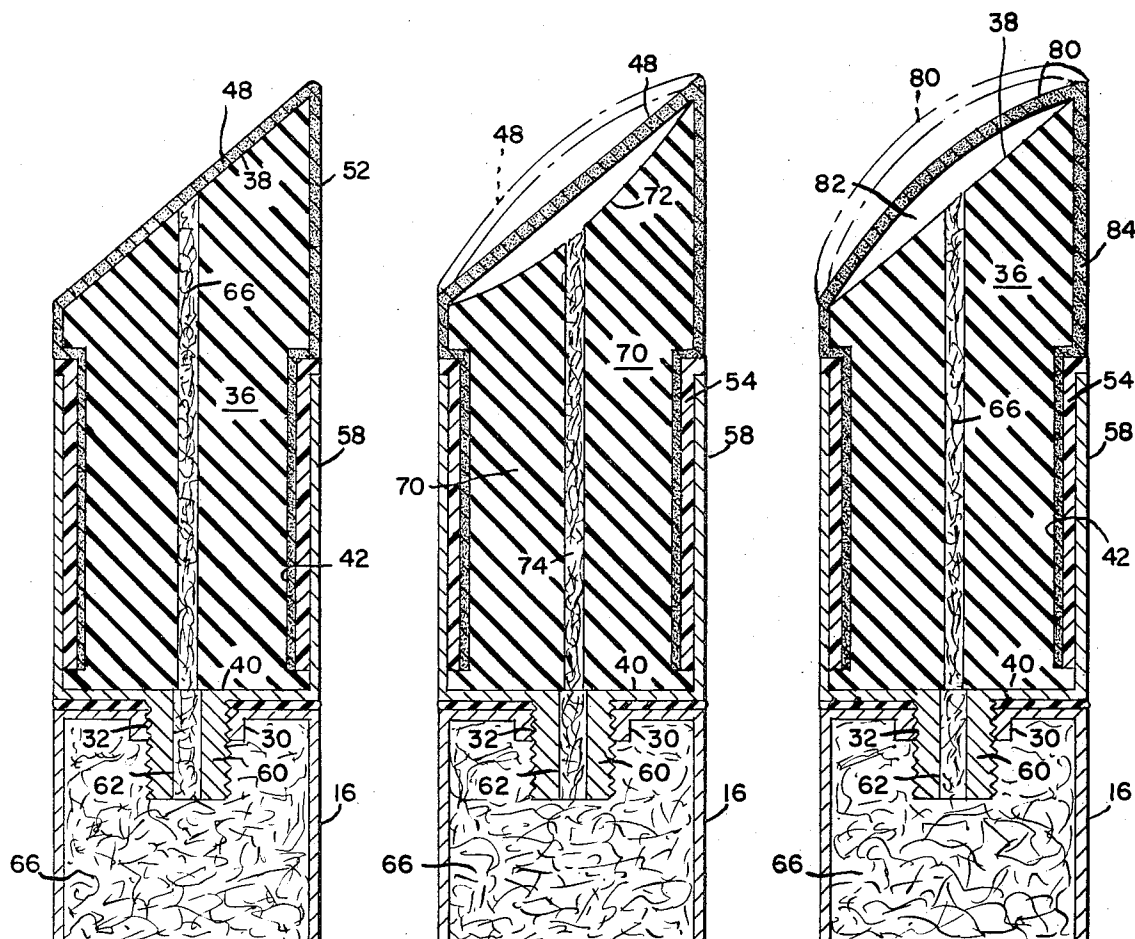


FIG. 5.

FIG. 6.

FIG. 7.

COSMETIC APPLICATOR

BACKGROUND OF THE INVENTION

It has been found to be desirable to supply various cosmetic preparations such as lipstick and eyeshadow in the form of a liquid or a cream. Generally, brush applicators have been employed to apply such cosmetic preparations. In brush applicators a serious problem arises due to the fact that normally after the cosmetic material is urged into the brush it continues to flow providing a substantial excess of material on the brush. Further, such applicators are deficient in that a brush is hard to control and fails to apply the cosmetic preparation at the desired rate or evenly. These defects have been remedied by the cosmetic applicator of this invention.

SUMMARY OF THE INVENTION

A cosmetic applicator has an applicator tip having a passage for communication with the interior of the casing of a cosmetic device having means to urge cosmetic material in the casing through the passage in the applicator tip and extending to the outer end of the tip. A resilient porous pad overlies the outer end of the applicator tip and cooperates with the tip to form a reservoir between the pad and the tip.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevation of a cosmetic device;

FIG. 2 is a side elevation, partially broken away, of the cosmetic device of FIG. 1;

FIG. 3 is an enlarged vertical section through the novel applicator of the device of FIG. 1;

FIG. 4 is a front elevation, partially broken away, of the applicator of FIG. 3;

FIG. 5 is an enlarged vertical section through the applicator of FIG. 1 showing the tip reservoir empty;

FIG. 6 is an enlarged vertical section through an alternative embodiment; and

FIG. 7 is an enlarged vertical section through an alternative embodiment.

DESCRIPTION OF THE PREFERRED EMBODIMENT

A cosmetic device 2 in accordance with the invention has a generally cylindrical casing 4 with a lower section 6. A cap 8 having a reduced cylindrical portion 10 closes the lower end of section 6. The upper end of section 6 has a reduced diameter portion 12 which is removably engaged by a closure member 14. Upper section 16 of casing 4 is secured by a tight pressed fit inside the reduced diameter portion 12 which is removably engaged by a closure member 14. Upper section 16 of casing 4 is secured by a tight pressed fit inside the reduced diameter portion 12 of lower casing section 6. A nut member 18 is secured by a tight pressed fit inside lower casing section 6 and threadably engages a screw member 20 fixedly secured to a piston 22 which carries an "O"-ring 24 in a peripheral groove indicated at 26. "O"-ring 24 frictionally engages the inner wall of upper casing section 16. At its upper end upper casing section 16 has a down turned flange 30 which is threaded at 32 to threadably receive an applicator. The cosmetic device 2 as thus far described is old and well known to the art.

A novel applicator 34 has a tip 36 with a beveled upper end 38 and a lower end 40 and has a reduced diameter portion 42. A passage 44 extends from upper end 38 to lower end 40. Tip 36 while it may be of a rigid material it is advantageously of a soft resilient material such as, for example, polyethylene, polypropylene or natural or synthetic rubber of a durometer from 25 to 75, preferably 40 to 60.

Overlying upper end 38 of tip 36 is a resilient porous pad 48 which overlies the upper end 38 of tip 36 and cooperates with tip 36 to provide a reservoir area 50 for the cosmetic material to be applied. Pad 48 has a peripheral skirt portion 52 which extends downwardly about the periphery of tip 36.

A split ring 54 having an upper peripheral flange 56 tightly engages skirt 52 of pad 48 securing it tightly to the reduced diameter portion 42 of tip 36. The assembly of the tip 36, pad 48 with its depending skirt portion 52 and split ring 54 is retained in a cup member 58 which has a threaded depending portion 60 which threadably engages boss 30 of upper casing section 16. Depending portion 60 has a passage 62 which communicates with the interior of upper casing section 16 and with passage 44 in tip 36. A gasket 64 is interposed between the lower end 40 of tip 36 and the upper casing section 16.

OPERATION

In operation a cosmetic material 66, for example, a cosmetic cream or liquid is forced upwardly by piston 22 and "O"-ring 24 through passages 62 and 44 to expand pad 48 outwardly and form reservoir 50. Piston 22 is advanced upwardly by relative rotation of lower casing section 6 and upper casing section 16 to cause nut member 18 to rotate relative to threaded member 20 which rotates bodily with upper casing section 16 since the friction between "O"-ring 24 and casing 16 while permitting axial movement is sufficiently great to cause "O"-ring 24 and piston 22 to rotate with upper casing section 16. As indicated above, the operation with respect to feeding the cosmetic preparation out of upper casing section 16 is known to the art. However, the tip reservoir is novel and acts to store the flow of cosmetic material after relative casing rotation for example for 180° as shown in FIGS. 2 and 3. The position of the pad 48 abutting the upper end 38 of tip 36 before the reservoir 50 is filled is shown in FIG. 5.

Assuming that the cosmetic preparation is for the lips, by way of example, the user next brings pad 48 into contact with the lips and exerts sufficient pressure to cause the preparation 66 to pass out of the reservoir 50 through pad 48 onto the lips. The reservoir eliminates the necessity for repeatedly feeding the cosmetic preparation out of casing 4, one feeding operation generally being sufficient for the entire application of the preparation to the desired location.

ALTERNATIVE EMBODIMENTS

As shown in FIG. 6, the size of the reservoir can be increased by providing a tip 70 which differs from tip 36 only in having a concave reservoir cavity 72 and a correspondingly shorter passage 74. Pad 48 is shown in full before the reservoir is filled and in phantom after filling.

As shown in FIG. 7, the reservoir can be enlarged by employing a resilient porous pad 80 which is initially spaced above the upper end 38 of tip 36 leaving a reser-

voir 82 before the cosmetic material is urged upwardly. Pad 80 is shown in phantom in its position after the cosmetic material has been introduced into the reservoir. Pad 80 has a skirt 84.

The resilient porous pads employed in the invention are an open cell synthetic resin (plastic) foam such as, for example, an open cell foam of polyvinyl chloride or polyurethane. Reference may be made to the "Modern Plastics Encyclopedia" 1968 for well known open cell synthetic resins and to "Urethane Foams Technology and Applications" 1971 published by Noyes Data Corporation, Park Ridge, New Jersey which are incorporated herein by reference. The pore size will vary depending on the preparation, being small enough to prevent dripping when the reservoir in the tip is full and large enough so that the user can force the preparation through the pad when pressing on it. Generally the pores will be in the range of 30-80 per lineal inch with a preferred range being 40-60 pores per lineal inch. "Hydrofoam" and "Acquel" sold by the Scott Paper, Philadelphia, Pa. has been found to be a satisfactory available polyurethane. Other porous resilient materials may be used such as resilient woven or knitted fabrics.

The above description is illustrative and is not intended to be limiting.

I claim:

1. A cosmetic device comprising a casing for containing a cosmetic preparation, means to maintain a cosmetic preparation in the cas-

ing under pressure, a solid applicator tip having a passage extending from the upper end to the lower end of the tip, means to secure the tip to the upper end of the casing with the lower end of said passage in communication with the interior of the casing, and a resilient porous pad overlying the upper end of the tip and adapted to provide a reservoir for the cosmetic preparation between the pad and the tip when the resilient pad is expanded outwardly responsive to the pressure of the cosmetic preparation.

2. A cosmetic device in accordance with claim 1 in which the porous pad is an open cell synthetic resin foam.

3. A cosmetic device in accordance with claim 1 in which the applicator tip is resilient.

4. A cosmetic device in accordance with claim 1 in which the applicator tip is resilient and the porous pad is an open cell synthetic resin foam.

5. A cosmetic device in accordance with claim 1 in which the upper end of the tip is beveled.

6. A cosmetic device in accordance with claim 1 in which the pad is spaced from the upper end of the tip.

7. A cosmetic device in accordance with claim 1 in which the upper end of the tip has a cavity communicating with the passage for supplying the cosmetic preparation to the pad.

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