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(12) # EUROPEAN PATENT APPLICATION

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(54) **Liquid applicator having flocked fabric covering.**

(57) The liquid applicator described is suitable for dispensing a wide range of liquid materials.

An applicator for a liquid characterised in that it comprises:

(a) a container (11) for the liquid having a wall with at least one aperture (12) therethrough to allow for passage of the liquid;

(b) a covering of flocked fibers (14) over at least that portion of the wall containing the aperture, said covering being adapted to wick the liquid from the container and dispense it therefrom; is disclosed.

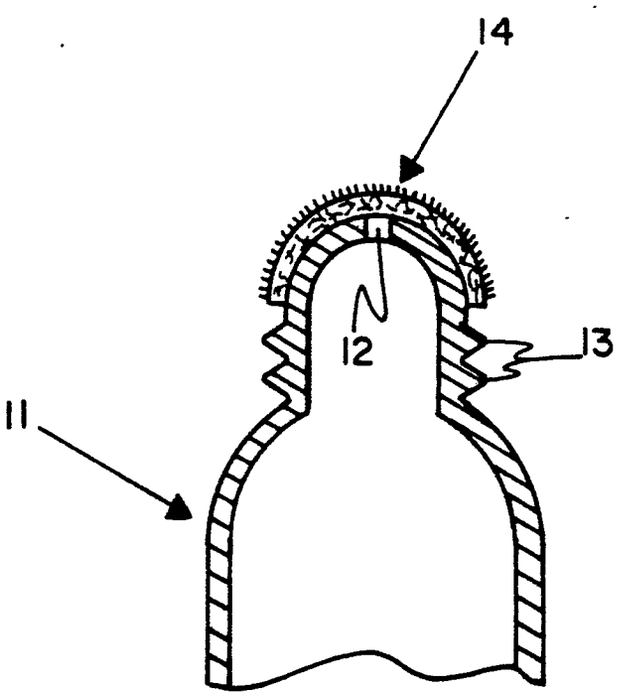

FIG. 1

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LIQUID APPLICATOR HAVING FLOCKED FABRIC COVERING

The present invention relates to a liquid applicator having a flocked covering at its dispensing outlet.

Various types of liquid applicators for substances, such as cosmetics, are known. For example, U.S. Patent Nos. 4,050,826 and 4,384,589 each relate to liquid delivery systems which utilize an applicator which is formed from a porous plastic material. The plastic material through which the liquid is dispensed is non-flexible, non-deformable and is formed of a sintered porous synthetic plastic resin having a controlled porosity and having omnidirectional interconnecting pores. The pores in such materials are microscopic, subvisual size (10-500 microns).

The device shown in U.S. Patent No. 4,384,589 has an absorbent layer of material bonded to the inner top area of its cap, rather than to the porous plastic applicator to absorb any excess liquid from the surface of the applicator head.

The applicator of the present invention comprises a container for the liquid to be dispensed which has a wall with at least one aperture therethrough to allow for passage of the liquid during the dispensing act. The covering of flocked fibers is placed over at least over that portion of the wall of the container containing the aperture. The covering is adapted to wick the liquid from the container during the dispensing act and to dispense it therefrom.

The applicator of the present invention will be further understood by reference to the Drawings which form a portion of the present specification wherein:

Fig. 1 is a cross-sectional view showing the upper portion of a preferred applicator of the present invention; and

Fig. 2 is an overhead view of the applicator shown in Fig. 1.

In a preferred embodiment the applicator of the present invention comprises a squeeze-tube applicator which can be utilized for dispensing for both high and low viscosity fluids. Non-limiting examples of fluids which can be dispensed from the applicator include make-up, lip gloss, moisturizers, foot care products, antiperspirants, and the like. The applicator comprises a container body which, preferably, is of generally tubular shape and is formed of a synthetic polymeric material which allows it to be squeezed. The wall of the container in which the aperture 12 is formed is preferably shaped like a dome is present at the upper end of the container body 11. The aperture must be of sufficiently large size to allow a sufficient volume of liquid to pass therethrough in accordance with the present invention. Placement of the flock component of the present invention over the microscopic, subvisual pores in the previously described applicators would effectively block flow of liquid into and from the flock component. As shown in Fig. 1, appropriate screw threads 13 can be formed in the container body 11 below the dome shaped end wall container aperture 12 to allow for closure of the container by means of an appropriate screw cap (not shown).

As mentioned before, the wall is provided with a suitable dispensing aperture which allows for egress of the materials to be dispensed from the container 11. This wall portion containing the aperture 12 is covered with a flock material 14 which functions by wicking liquid material away from the aperture 12 thereby dispersing the product more evenly over the surface of the flocked material 14. When the saturated flock material 14 is rubbed against a substrate, a uniform, unstreaked coating is left behind. The flocked material is softer, coats more efficiently, and is more cost effective than certain other types of materials that are used in applicators, e.g., urethane foams. The flock material 14 can be a standard type of fabric material which is easily obtainable in the commercial market, if desired. Alternatively, chopped, synthetic fibers can be applied to the adhesively coated outer wall of the container over the aperture or apertures, if desired. The fibers which are to be chosen for use in forming the flock material can be low denier (e.g., 1 to 1-1/2) short (e.g., 0.025 to 0.036 inch), preferably, synthetic fibers. The diameter of the fiber controls the degree of abrasion that will be generated upon use of the product with lower denier fibers being less abrasive. The length will determine the wicking rate and the degree of matting. When the fibers are adhesively bound, the thickness of the adhesive and the length of the fibers can total about 0.007 inch.

Claims

1. An applicator for a liquid characterised in that it comprises:

(a) a container (11) for the liquid having a wall with at least one aperture (12) therethrough to allow for passage of the liquid;

(b) a covering of flocked fibers (14) over at least that portion of the wall containing the aperture, said covering being adapted to wick the liquid from the container and dispense it therefrom.

2. An applicator as claimed in claim 1 wherein the wall is the top wall of the container.

3. An applicator as claimed in claim 1 or claim 2 wherein the flock fibers are adhesively bonded to the wall.

4. An applicator as claimed in claim 2 or claim 3 which has screw threads below the top wall.

5. An applicator as claimed in any of claims 1 to 4 wherein the wall containing the aperture is a dome-shaped top wall to which the flock fibers are adhesively bonded.

6. An applicator as claimed in any of claims 1 to 5 wherein the fibers have a denier of from about 1.0 to about 1.5 and a length of from about 0.025 to about 0.035 inch (from about 0.0635 to about 0.0889 cm).

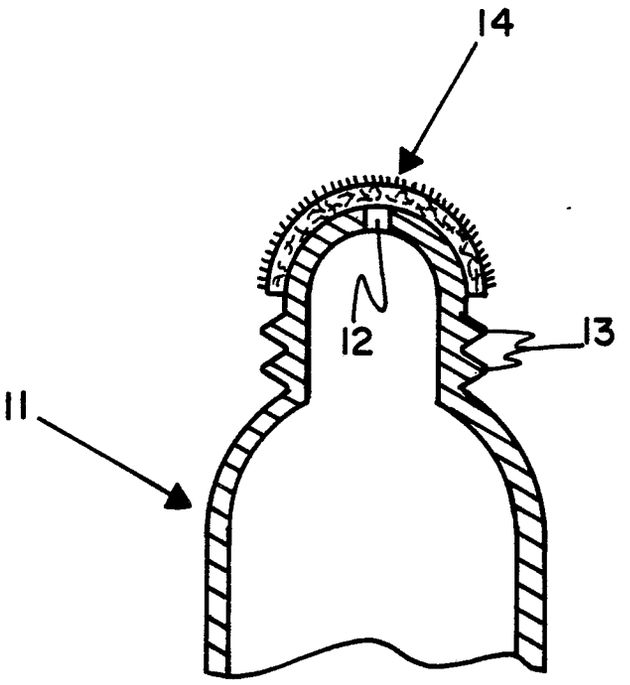

FIG. 1

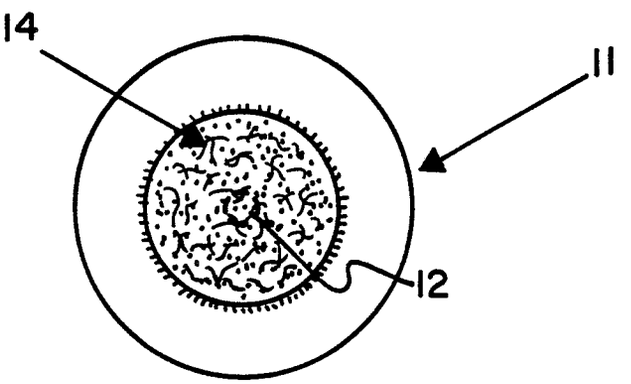

FIG. 2