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H. F. REICHENBACH

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MOISTURE PROOF PROPELLANT APPLICATOR

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Fig. 1

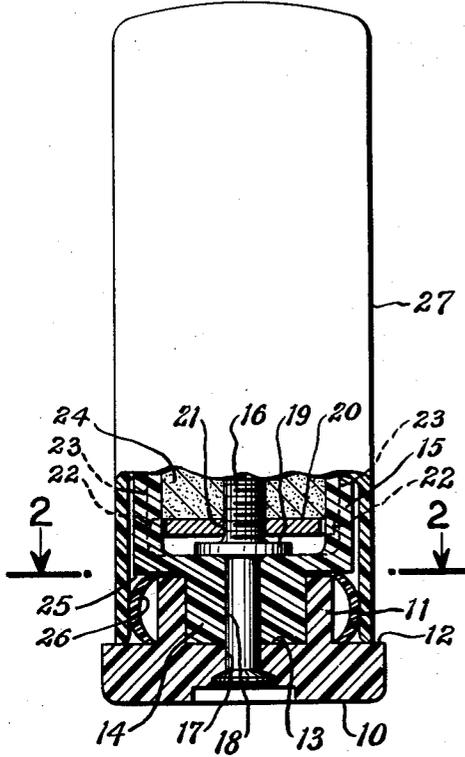


Fig. 2

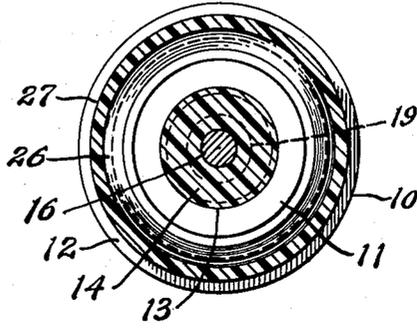


Fig. 3

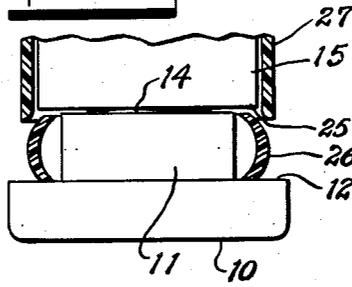
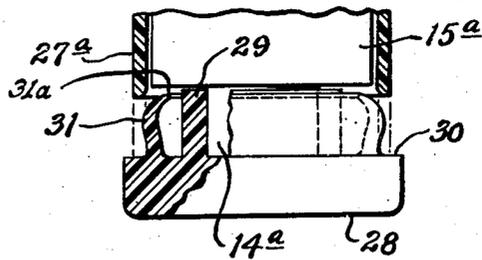


Fig. 4



INVENTOR.
HOWARD F. REICHENBACH
BY
H. G. Manning
ATTORNEY

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MOISTURE PROOF PROPELLENT APPLICATOR

Howard F. Reichenbach, Middlebury, Conn., assignor to Eyelet Specialty Company, Waterbury, Conn., a corporation of Connecticut

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This invention relates to applicators, and more particularly to a container for an applicator stick of the pencil type, which is covered by an elongated cap when not in use. In applicators of this type, the outer cap is usually held in place by frictional engagement with the base of the container.

In present day applicators the pencil sticks consist of deodorants, shaving cream, or lipsticks, which frequently are adversely affected by prolonged contact with air, and it has not been possible in the past to keep these materials in fresh condition over long periods of time. Many of such applicator sticks contain alcohol which must be prevented from evaporating. Other sticks absorb moisture from the air, which is also objectionable.

One object of the present invention, therefore, is to provide a stick applicator container having an air tight seal for the detachable outer cap.

A further object is to provide an applicator container of the above nature, having a base provided with an annular ring of vehicle material which will frictionally engage the outer cap to form an air tight hermetic seal therewith, and to maintain the cap in position when the applicator is not in use.

A still further object of the invention is to provide a stick applicator container having a base provided with an integrally formed air tight sealing means which is effective when the outer cap is in place to keep the air from contact with the stick material contained therein.

A further object is to provide a stick applicator container of the above nature, which will be simple in construction, inexpensive to manufacture, easy to install and manipulate, compact, ornamental in appearance, and very efficient and durable in use.

With these and other objects in view, there have been illustrated on the accompanying drawing, two forms in which the invention may conveniently be embodied in practice.

In the drawing,

Fig. 1 represents a side view, partly in section, of one form of improved stick applicator container.

Fig. 2 is a cross-section taken on the line 2—2 of Fig. 1, looking downwardly.

Fig. 3 is a fragmentary side view, partly in section, of the device shown in Fig. 1, showing the outer cap located just above the sealing member prior to its engagement therewith.

Fig. 4 is a view, similar to Fig. 3, of a modified form of the invention.

Referring now to the drawing, in which like reference numerals denote corresponding parts throughout the several views, the numeral 10 indicates the base of the first form of container embodying the present invention.

The base 10 has an upstanding concentric thick ring

portion 11 of reduced diameter to provide a shoulder 12 and a central cup shaped recess 13, within which is rotatably received a circular boss 14 formed on the lower end of a barrel 15.

Provision is also made of an elevating screw 16 which has an unthreaded lower end extending through concentric passages 17 and 18, provided in the base 10 and the boss 14 respectively. The size of the passage 17 is such as to form a tight fit upon the screw 16, whereas the passage 18 is loose on said screw so that the boss 14 may turn freely about the screw 16 as a pivot, said boss being held in the cup shaped recess 13 by a flange 19.

An elevating disk 20 is also provided, and has a threaded central opening 21 for engagement with the threads of the elevating screw 16. The disk 20 also has a pair of outwardly projecting guide ears 22 which are slidably received in a pair of longitudinally extending guideways 23 provided on the inner surface of the barrel 15; disk 20 is thus keyed against rotation relative to barrel 15. It will thus be seen that when the barrel 15 is rotated, the elevating disk 20 carrying a stick of applicator material 24 will also rotate with respect to the elevating screw 16, and move said stick material 24 longitudinally with respect to the barrel 15.

A lower face 25 of the barrel 15 is preferably of somewhat greater diameter than the outer diameter of the upstanding ring 11 to form an abutment against the upper edge of a thin annular sealing member 26 of resilient plastic material, between which abutment 25 and the shoulder 12 of the base 10, the sealing member 26 is received.

The sealing member 26 may be formed of a yieldable rubber-like material, preferably polyethylene. The exterior surface of the sealing member 26 should preferably have a configuration resembling the frustum of a sphere, the middle diameter of which is somewhat greater than the exterior diameter of the barrel 15, whereas the diameter of the upper edge of the sealing member 26 will be somewhat less than the diameter of said barrel 15. Preferably the sealing member 26 should be convex in vertical cross-section, so that it will be slightly compressed by the inner surface of an elongated cover cap 27 when said cap is slid down over the barrel 15 (as shown in Fig. 3). Thus, when the lower edge of the cap 27 abuts the shoulder 12 of the base 10, the upper and lower edges of the sealing member 26 will be pressed firmly into sealing engagement with the cylindrical surface of the ring 11, forming an air tight seal between the cap 27 and the base 10.

Second form

A modified form of the invention is shown in Fig. 4, wherein a base 28 of flexible plastic material is provided, having an upstanding integral thick concentric ring 29, within which there may be received a cylindrical boss 14a, for rotatably supporting a barrel 15a connected to said boss 14a. An outer cap 27a is shown for enclosing the container when not in use, the lower edge of this cap abutting an upper surface 30 of the base 28 when in place.

In this modification, an annular upstanding tapered thin ring-shaped sealing member 31, spaced outwardly from the ring 29, is preferably molded integral with the base 28. The integral base 28, the ring 29 and the sealing member 31, are preferably molded of some resilient or yieldable plastic material, such as polyethylene.

The upper annular edge 31a of the sealing member 31

3

will have a diameter slightly less than the inside of the cap 27a. Thus, when the cap is moved downwardly, as shown in Fig. 4, the lower edge of said cap will slip over the outside of the upper edge 31a of the sealing member 31.

The diameter of the intermediate portion of the sealing member 31 is somewhat larger than the inside of the cap, so that as the cap is moved farther downwardly, the sealing member will be inwardly compressed to such an extent that the annular edge 31a will be forced against the outer cylindrical surface of the ring 29, so as to form an air tight seal between the base 28 and the cap 27a. In order to insure the effectiveness of this seal, it is desirable that the radial thickness of the ring 29 be such as to give it sufficient rigidity to form a solid seat for the edge 31a of the sealing member 31.

Furthermore, in order to accommodate outer caps of varying diameters, the lower diameter of the annular sealing member 31, where it joins the base 28, may also be of somewhat less diameter than the inside of the cap 27a.

While there have been disclosed in this specification two forms in which the invention may be embodied it is to be understood that these forms are shown for the purpose of illustration only and that the invention is not to be limited to the specific disclosure but may be modified and embodied in various other forms without departing from its spirit. In short, the invention includes all the modifications and embodiments coming within the scope of the following claims.

Having thus fully described the invention, what is claimed as new and for which it is desired to secure Letters Patent is:

1. In a container for a cosmetic applicator having a base, a cylinder barrel mounted for rotation about its axis on said base, said container having an open end and being adapted to hold a cosmetic projecting beyond said open end, a removable closure cap fitting over said open end and extending axially to said base, said base having an upstanding, rigid ring-shaped portion adjacent the lower end of said barrel, and a thin continuous annular resilient, outwardly convex sealing member surrounding said ring-shaped portion in compressed frictional and sealing engagement with the open end of said cap, said sealing member having an upper free edge of less diameter than the inside of said cap, the uncompressed intermediate diameter of said sealing member being greater than the inside diameter of said cap, whereby said sealing member may form a substantially air-tight seal with said cap.

2. The invention as defined in claim 1, wherein the lower end of said barrel is provided with a circular boss rotatably supported within said ring-shaped portion of said base, a portion of said barrel above said ring-shaped portion extending radially outwardly therefrom to retain said sealing member in position.

3. In a cosmetic container of the character indicated, an elongated tubular body, a tubular closure cap therefor, means for supporting a lipstick or the like within said body and for dispensing the same out one end of said body, said container having adjacent the other end of said body a pair of axially spaced radial shoulders, and a circumferentially continuous yieldable plastic member including portions axially retained by said shoulders, said member having a convex outer surface of maximum unstressed diameter in excess of the bore diameter of said cap and of minimum diameter less than the bore diameter of said cap, said closure cap fitting over said one end and frictionally engaging said member.

4. In a container for a cosmetic applicator having a base, a cylinder barrel mounted for rotation about its axis on said base, said base having an upstanding, rigid ring-shaped portion adjacent the lower end of said barrel, said base being of resilient plastic material and including as an integrally formed part thereof a relatively thin continuous annular outwardly convex member surrounding

4

said ring-shaped portion for frictional sealing engagement with the open end of a removable cap adapted to encircle said barrel, said convex member having an upper free edge of less diameter than the inside of said cap, the intermediate diameter of said convex member being greater than the inside diameter of said cap, whereby said sealing member will be radially inwardly deformed when frictionally engaged by said cap to form a substantially air-tight seal therewith.

5. The invention as defined in claim 4, wherein the upper free edge of said convex member is normally spaced slightly outwardly from the exterior surface of said ring-shaped portion, whereby inward deformation of said convex member will be resisted by said ring-shaped portion when said free edge is forced inwardly by said cap against said ring-shaped portion.

6. In a cosmetic container of the character indicated, two relatively rotatable members including a base member and an elongated tubular body member, said tubular body member being open at one end and said base member being exposed for manual actuation at the other end of said tubular body member, an elongated closure cap to fit over the open end of said tubular body member, cosmetic-supporting means within said tubular body member, means coacting between said members to propel and repel said cosmetic-supporting means upon relative rotation of said members, two axially spaced circumferentially extending shoulders on said members, and a circumferentially continuous yieldable plastic seal ring axially retained between said shoulders, said ring having a convex outer surface of maximum unstressed diameter in excess of the bore diameter of said cap and having a minimum diameter less than the bore diameter of said cap, said closure cap fitting over said open end and frictionally engaging said seal ring.

7. A cosmetic container according to claim 6, in which said means coacting between said members includes an elongated threaded part carried centrally by said base member and projecting within the interior of said tubular member, said cosmetic-supporting means comprising a member threadedly engaged with said threaded part and keyed against rotation relatively to said tubular member.

8. In a cosmetic container of the character indicated, an elongated tubular body, a tubular closure cap therefor, means for supporting a lipstick or the like within said body and for dispensing the same out one end of said body, said container having adjacent the other end of said body a pair of axially spaced radial shoulders, a cylindrical surface on said body between said shoulders, and a circumferentially continuous hollow resilient plastic seal ring deriving radial support from said cylindrical surface, said ring including portions axially retained by said shoulders, said ring having a convex outer surface of maximum unstressed diameter in excess of the bore diameter of said cap and of minimum diameter less than the bore diameter of said cap, said closure cap fitting over said one end and frictionally engaging said ring.

9. A cosmetic container according to claim 8, in which said body comprises a tubular member open at said one end and a base member at the other end, said cylindrical surface being on said base member.

10. In a cosmetic container of the character indicated, two relatively rotatable members including a base member and an elongated tubular body member, said tubular body member being open at one end and said base member being exposed for manual actuation at the other end of said tubular body member, an elongated closure cap to fit over the open end of said tubular body member, cosmetic-supporting means within said tubular body member, means coacting between said members to propel and repel said cosmetic-supporting means upon relative rotation of said members, a first circumferentially extending shoulder on said base member, a second circumferentially extending shoulder on said body member adjacent

said base member, cylindrical surface means on said base member between said shoulders, and a circumferentially continuous yieldable plastic seal ring radially retained by said cylindrical surface means and loosely axially retained by said shoulders when said cap is removed, said ring 5 having a convex outer surface of maximum unstressed diameter in excess of the bore diameter of said cap and having a minimum diameter less than the bore diameter of said cap, said cap fitting over said open end and frictionally engaging said seal ring; said maximum unstressed 10 diameter being such in relation to the bore diameter of

said cap, and the unstressed axial looseness between said ring and said shoulders being such, that said axial looseness is taken up when said cap is fitted to said ring.

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