Sept. 30, 1958 W K. TELLER ET AL 2,854,133

PACKAGE FOR COSMETICS AND THE LIKE

Original Filed Dec. 23, 1954

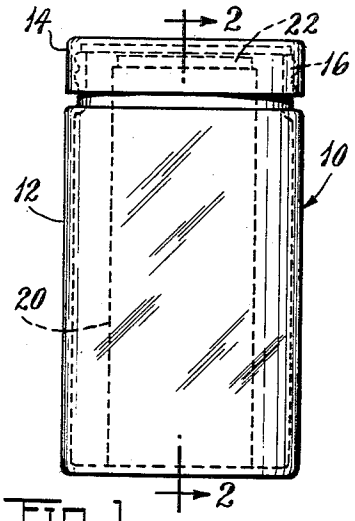


Fig. 1

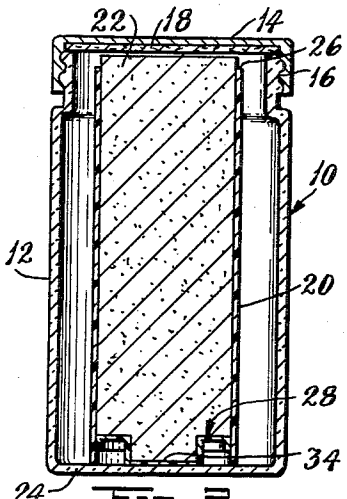


Fig. 2

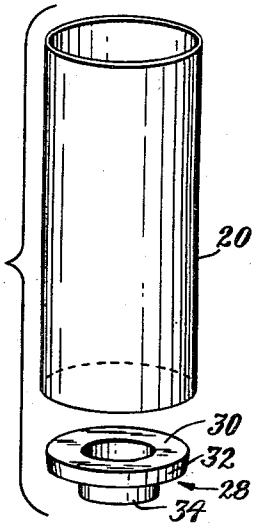


Fig. 3

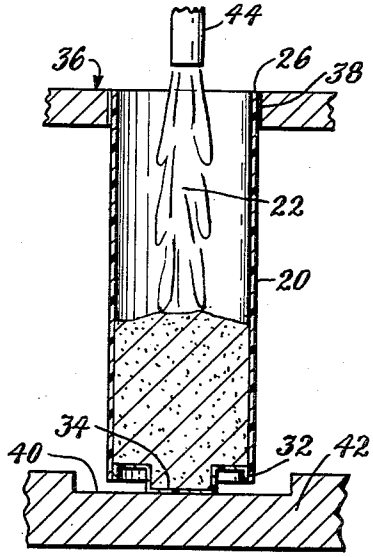


Fig. 4

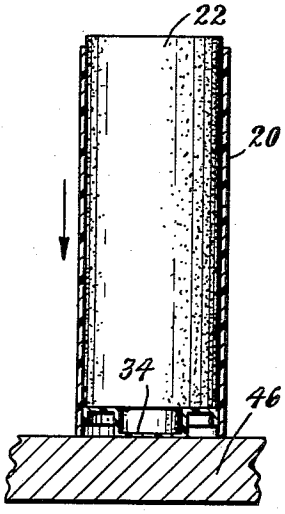


Fig. 5

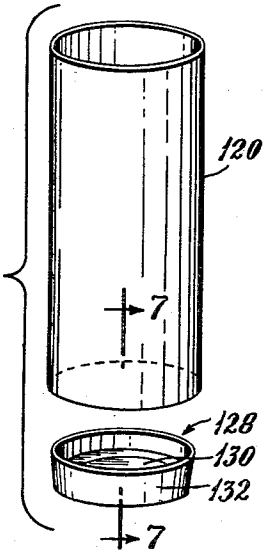


Fig. 6

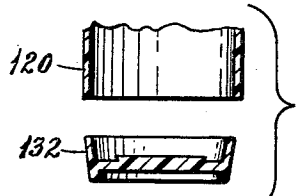


Fig. 7

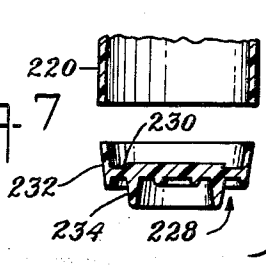


Fig. 8

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PACKAGE FOR COSMETICS AND THE LIKE

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Continuation of application Serial No. 477,312, December 23, 1954. This application January 24, 1958, Serial No. 708,210

6 Claims. (Cl. 206—56)

This invention relates to a package and more particularly to a package for stick type cosmetics, deodorants and the like, having a highly volatile base and which must be kept tightly sealed not only before sale to a customer but also after each use thereof. Cosmetics or deodorants of the type for which this package is unusually well adapted include those stick type materials which have a soap gel base which may consist primarily of a soap and an alcohol or alcohol-like material in such proportions as to form a gel which, although firm, may be readily spread upon the person. The relatively high percentage of alcohol or similar liquid combined with the soap is readily evaporable and if such cosmetic is left exposed to the air it will rapidly shrink in size and become relatively hard and unuseable.

This application is a continuation of our copending application, Serial No. 477,312, filed December 23, 1954, now abandoned.

In packaging such cosmetic, deodorant or similar material for sale at a low price, it is important that no elaborate or expensive package or packaging materials shall be employed. For example, it is highly desirable to make use of a glass bottle with a screw cap which is relatively inexpensive and reliably air-tight even after repeated opening and closing thereof. Obviously metal or plastic containers with screw caps or other similarly tightly sealable closures could be used but in most instances would be considerably more expensive than a glass bottle. In view of the gel-like consistency of the product it is desirable to encase it in some material which will shield it from contact with the fingers when the same is in use. Such products are customarily packaged in a cylindrical tube of some inexpensive material such as cardboard or metal foil. Metal foil may be peeled away as the product is used but such operation is likely to be objectionable and, in any event, creates an unsightly appearance. When cardboard tubes or the like are used, the product must be projected from the tube for a sufficient distance to expose a portion thereof for use. It has been customary to utilize an open-ended cardboard tube with a paper or similar follower disk inserted at one end against which pressure may be exerted from time to time to expose additional length of material for use.

This invention provides a package for materials of the class described in which use may be made of an extremely inexpensive and simple tubular dispensing holder made of a flexible plastic material, such as polyethylene, which may or may not be blended with other materials, having a disk-like insert at one end which may be availed of to project the product from the opposite end for use. The flexible plastic material offers decided advantage over cardboard and because of the particular construction hereinbelow disclosed is made available for such use in an extremely simple and inexpensive manner. If so desired, the insert disk may be of a special configuration whereby a preliminary release of the product from the walls of the tubular dispensing container may be effected.

Furthermore, the tubular dispensing container may be so proportioned with regard to the screw cap bottle or other hermetically sealable outer enclosure within which it is positioned for sale and use as that under all ordinary circumstances the product will be ready for use, that is, a sufficient length thereof will be projected beyond the wall of the tubular dispensing container for application to the body of the user.

It is an object of the present invention to provide a package for materials such as cosmetics, deodorants and the like, having a volatile base which is extremely simple in construction, assembly, use and reuse and is so inexpensive as to be readily available for use in connection with low-priced products. Other and further objects of this invention will become apparent from a consideration of the following detailed description of a preferred but not necessarily the only form of the present invention taken in connection with the drawings covering and forming a part of the specification.

In the drawings:

Fig. 1 is an elevational view of a package embodying the present invention;

Fig. 2 is a section along the line 2—2 in Fig. 1;

Fig. 3 is an exploded view of the tubular dispensing container and follower disk used in the form of the invention illustrated in Figs. 1 and 2;

Fig. 4 is a somewhat diagrammatic view illustrating the position of the parts shown in Fig. 3 during the filling operation;

Fig. 5 is a somewhat diagrammatic view illustrating a step in the preparation of the product for completion of packaging;

Fig. 6 is an exploded view similar to Fig. 3 and showing a modified form of the present invention;

Fig. 7 is a section along the line 7—7 in Fig. 6; and

Fig. 8 is a view similar to Fig. 7 but showing a further modified form of the invention.

Referring now to the drawings:

In Fig. 1 there is shown an outer hermetically sealable container **10** which may comprise a wide-mouthed, screw cap glass bottle consisting of a glass body **12** and a screw cap **14**, the latter being interiorly threaded to engage a screw thread **16** molded on the exterior surface of the lip of the bottle. Preferably, also, the screw cap **14** is provided with a gasket **18** of suitable durable material which may be brought into tight sealing engagement with the lip of the bottle **12** upon application of the cap **14** thereto. It will be apparent that the bottle and screw cap comprising the outer container **10** may be made from materials other than glass and metal, respectively, without departing from the scope of the present invention although such materials are preferred because of their low cost.

Within the outer container **10** is positioned a tubular dispensing container **20** in which is positioned a cylindrical stick **22** of the product for which the package is designed. The product **22**, for example, may be a stick type cosmetic such as perfume or cologne or it may comprise a stick type deodorant, anti-perspirant or other substance intended to be applied to the body. While certain stick type materials may have a non-volatile base such as emulsions of fatty or oily materials, there are many such products which have a volatile base such as a soap gel which customarily contains a relatively high percentage of alcohol or similar volatile substance. It is for the latter type of volatile base materials that the present package is particularly well fitted although it will be understood that the features of convenience and low cost are as well adapted to use with other materials.

In Fig. 2 it will be observed that the cylindrical dispensing container **20** has an overall length somewhat less than the distance between the bottom **24** of the bottle and

the horizontally disposed flat portion of the cap **14**. It also will be observed that the product **22** extends for a short distance beyond the upper edge **26** of the cylindrical inner container **20** and extends substantially into contact with the inner surface of the gasket **18** carried by the screw cap **14**. With the material **22** thus disposed, it will be apparent that upon removal of the screw cap **14** the inner container **20** may be removed from the bottle **12** and the material **22** is immediately available for application to the body. It is a feature of one form of the present invention that the material **22** will project in this manner when the same is packaged by the manufacturer.

Referring now to Figs. 2 and 3, there is shown a follower disk indicated generally at **28** which is adapted for insertion in the bottom of the cylindrical inner container **20** where it will fit snugly but yet movably so that the user may progressively push upwardly upon the disk **28** to expose the material **22** for use as the same is being expended. The follower disk **28**, in the preferred form shown in Figs. 2 and 3, includes a generally flat ring-like portion **30** having a dependent flange **32** for engagement with the inner surface of the cylindrical container **20**. There also is provided a central depressed portion **34**, the bottom of which extends substantially below the lower edge of the flange **32**. When the cylindrical body **20** and follower disk **28** are originally assembled by the manufacturer, they are assembled in the position shown in Fig. 4 wherein the flange **32** is inserted into the tube **20** while the depressed portion **34** extends beyond the length of the tube. With the parts thus positioned the product **22** in liquid or molten form is poured into the cylindrical container **20**. When filled to the top the container is permitted to cool whereupon the contents **22** will solidify.

In commercial operation the filling of the container **20** ordinarily will be performed by suitable automatic molding machines. For example, in Fig. 4 there is shown a portion of a multiple-cavity molding machine **36** in which the filling operation may be performed. Such machine is provided with a plurality of openings **38** into which containers **20** may be individually inserted to rest in a depression **40** formed in the base **42** of the machine. The openings **38** are sized to fit rather snugly around the inserted containers **20** and the depression **40** is preferably somewhat greater in diameter than the containers **20** whereby they may be rapidly inserted without the need for precise vertical alignment. The molding machine **36** includes a nozzle **44** from which the liquid or molten product **22** may be supplied to the containers **20**.

Upon cooling or solidification of the gel-like material **22** within the tube **20**, the same may be removed from the molding machine **36**. Thereafter, as a preliminary to insertion of the tube **20** and contents **22** into the outer container **10**, the assembly is pressed downwardly upon a suitable horizontal surface indicated at **46** in Fig. 5 and the tube **20** is forced downwardly whereby the depressed portion **34** of the disk **28** is brought substantially into the plane of the lower edge of the tube **20**. Thus the upper end of the material **22** is projected beyond the edge **26** of the tube **20** for a distance equal to the difference in vertical dimensions between the flange **32** and the depressed portion **34** of the disk **28**. Such action exposes a portion of the material **22** for immediate use when the package is first opened by the user. Beyond this, however, it has been observed with many materials that quite a strong bond is formed between the contents **22** and the inner surface of the tube **20** in which it has been molded. Therefore it is quite difficult sometimes to bring about the first longitudinal movement between the material **22** and the tube **20** although after the initial bond is broken subsequent movement offers no difficulty. With the form of the invention shown in Figs. 1 through 5 the initial bond can be overcome by the manufacturer and the customer may be spared such annoyance.

In the modified form of the invention shown in Figs. 6 and 7, the cylindrical container **120** may be similar in all respects to the cylindrical container **20** hereinabove described. The follower disk **128**, however, is simpler in construction and comprises merely a generally flat circular body **130** having an up-turned flange **132**. This simpler form of the invention is particularly useful where it is not considered necessary to break the initial bond between the product and the tube **120** or to have the product in condition for immediate use upon first opening of the package.

The construction shown in Fig. 8 constitutes a modification of the form described hereinabove in connection with Figs. 1 through 5. In this modified form of the invention the follower disk **228** is provided with a flange **232** which extends above and below the generally flat circular bottom **230** in substantially the same way as the flange **132** shown in Fig. 6. The projection **234** corresponds in function with the projection **34**, shown in Figs. 1 through 5, and in this form of the invention comprises a ring molded integrally with the follower disk **228**. The lower edge of the ring-like projection **234** extends beyond the lower edge of the flange **232** in the same manner and for the same purpose as described above in connection with the projection **34** shown in Figs. 1 through 5.

In any of the forms of the invention hereinabove described it is a particular feature of the present invention that the cylindrical container **20**, **120** or **220** be made from a flexible plastic material. Flexible plastics made wholly or in part of polyethylene are particularly suitable. In this specification and claims whenever reference is made to "polyethylene" it is intended to include those flexible plastic materials which are made wholly of polyethylene or of blends of polyethylene with other materials which might impart specifically desirable characteristics. For example, it is intended to include within such definition a blend such as polyethylene with polyisobutylene, which particular blend offers less adhesion to the soap gel.

Materials of the flexible plastic type offer the rather apparent advantages of desirable appearance and warmth and softness to the touch. Also, they convey a better impression upon the user than is conveyed by the cardboard, foil and other inexpensive materials heretofore used. Moreover, such material offers decidedly unexpected advantages in desired retention of the gelled stick due to contact of the inherently irregularly cross-sectional area of the extruded tube and in extremely low cost of the assembled and filled container in spite of the relatively high cost per pound of the raw material from which the container is made. Cardboard tubing is made from a base material which is quite inexpensive but the finished product must be spirally wound and secured by adhesive and usually is covered with a decorative material such as foil, coated paper or the like. Such assembly and conversion steps increase the cost considerably. Furthermore, with such cardboard tubes it is customary to use cardboard or paper follower disks which fit loosely and are inclined to become disarranged in use and thus annoying to the customer. In contrast with this, the present invention provides a tubular body **20** or **120** which may be simply cut to desired length from a stock size of extruded polyethylene, for example, in tubular form. Thus the cost per pound of the extruded polyethylene constitutes substantially the total cost of the cylindrical body since the cost of cutting to size is almost negligible. The smooth interior surface of the cylindrical bodies **20**, **120** or **220** permits the use of snugly fitted flanged follower disks such as disclosed herein.

Preferably, also, the follower disks **28**, **128** or **228** are molded from polyethylene or similar flexible plastic

material. Here again the very low cost of the molding step tends to offset the relatively high cost per pound of the base material when the cost of the finished product is compared with that of the finished disks of cardboard and similar materials heretofore used. A particular advantage of the use of molded polyethylene follower disks in the polyethylene tubes is that a snug fit may be achieved in every instance and that such snug fit may be relied upon to persist through the period of use of the cosmetic or deodorant product. Thus, pressure exerted by the user upon the product **22** during application to the body will not cause the product to recede into the cylindrical container with the consequent annoying necessity for repositioning or perhaps holding the product in position by finger pressure upon the follower disk.

From a consideration of the follower disks **28**, **128** or **228**, as shown in the drawings, it will be observed that the flanges **32**, **132** and **232** are slightly tapered. Such taper is provided to assure snug fit irrespective of such minor variations in the dimensions of the disks or the cylindrical tubes as may occur within a reasonable range of manufacturing tolerances. In view of the flexible nature of the polyethylene or other plastic employed in this invention, the tapered flanges will be self-adjusting to assure such snug fit.

From a consideration of the above detailed description of preferred forms of the present invention it will be apparent that modifications and variations in detail may be resorted to by those skilled in the art without departing from the scope of the invention.

We claim:

1. A package comprising an open-ended, extruded, seamless, permanently flexible otherwise shape-retaining polyethylene tube having a slick interior surface and slight variations in cross sectional area; a molded-in-place gelled stick cosmetic having a volatile base completely filling the tube, whereby said gelled stick is lightly held against movement in the tube by the variations in cross sectional area of the tube; and a polyethylene follower cup having a tapered rim positioned within the tube at one end thereof in contact with the stick and adapted to be moved lengthwise back and forth in said tube.

2. A package comprising an open-ended, extruded, seamless, permanently flexible otherwise shape-retaining polyethylene tube having a slick interior surface and slight variations in cross sectional area; a molded-in-place gelled stick cosmetic having a volatile base completely filling the tube, whereby said gelled stick is lightly held against movement in the tube by the variations in cross sectional area of the tube; and a polyethylene follower cup having a tapered rim positioned within the tube at one end thereof in contact with the stick and adapted to be moved lengthwise back and forth in said tube, said tapered rim being a flexible flange having a normally free diameter at its free edge slightly greater than the inside diameter of said tube.

3. A package comprising a seamless, permanently flexible, normally shape-retaining, extruded polyethylene tube of essentially uniform thickness throughout and open at both ends, having a slick interior surface and slight variations in internal cross sectional area; a polyethylene follower cup having a tapered rim positioned within the tube at one end thereof and fitted to slidably move lengthwise in said tube in both directions; and a molded-in-place shrinkable gel stick having a volatile base filling the tube, said stick being in gripping contact with the follower cup.

4. A dispenser container for a volatile base gelled stick cosmetic comprising an open-ended, extruded, seamless, permanently flexible otherwise shape-retaining polyethylene tube having a slick interior surface and slight variations in cross sectional area; and a polyethylene follower cup positioned in one end of said tube having a tapered rim adapted to receive one end of said stick whereby said stick can be moved lenghwise back and forth in said tube.

5. A dispenser container for a volatile base gelled stick cosmetic comprising an open-ended, extruded, seamless, permanently flexible otherwise shape-retaining polyethylene tube having a slick interior surface and slight variations in cross sectional area; and a polyethylene follower cup positioned in one end of said tube having a tapered rim adapted to receive one end of said stick whereby said stick can be moved lengthwise back and forth in said tube, said tapered rim being a flexible flange having a normally free diameter at its free edge slightly greater than the inside diameter of said tube.

6. A dispenser container for volatile base gelled stick cosmetics which comprises a seamless, permanently flexible, normally shape-retaining, extruded polyethylene tube of essentially uniform thickness throughout and open at both ends, having a slick interior surface and slight variations in internal cross sectional area; a polyethylene follower cup having a tapered rim positioned within the tube at one end thereof and adapted to engage one end of said stick in gripping contact therewith whereby said stick can be moved lengthwise back and forth in said tube.

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