

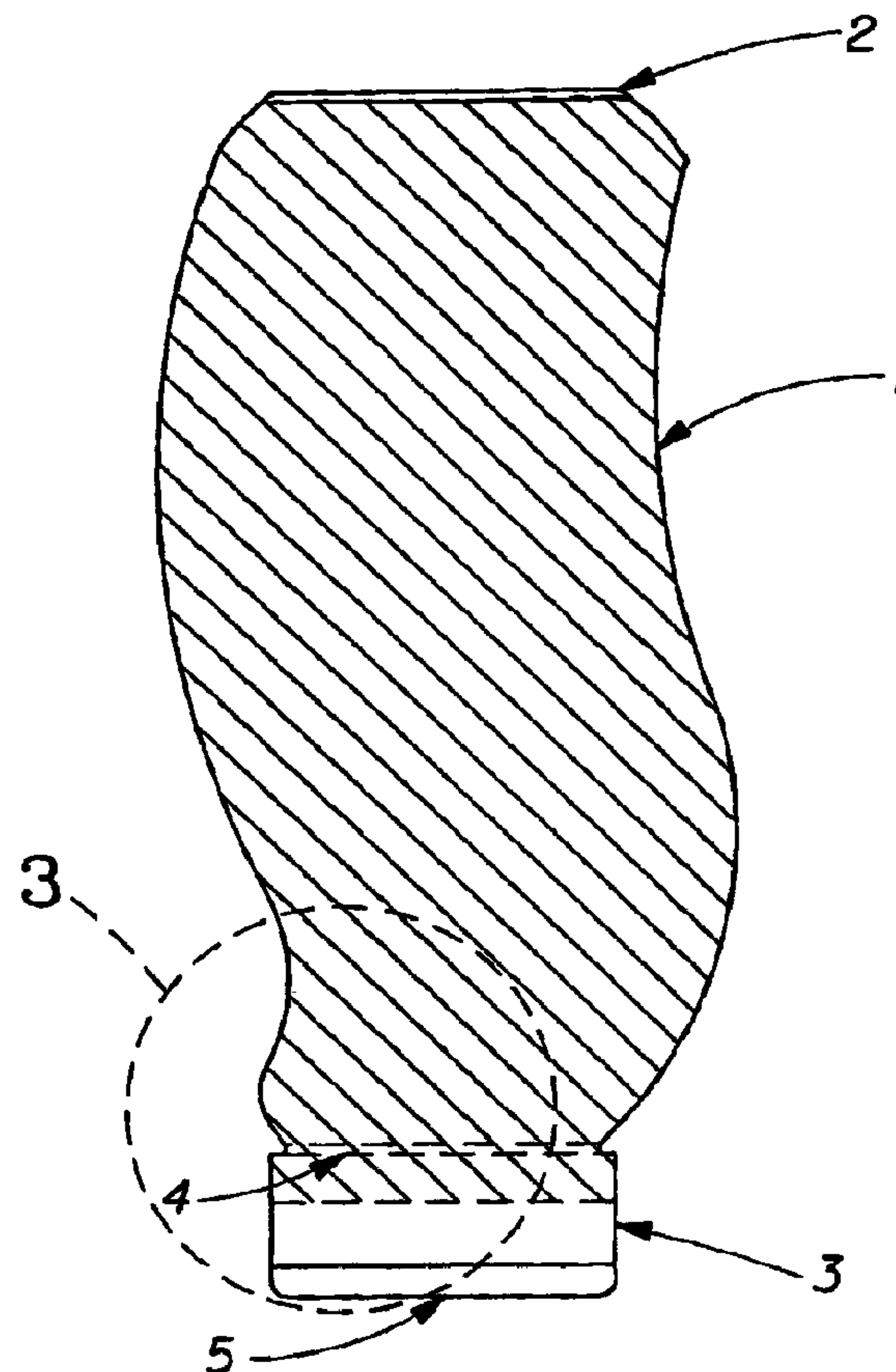


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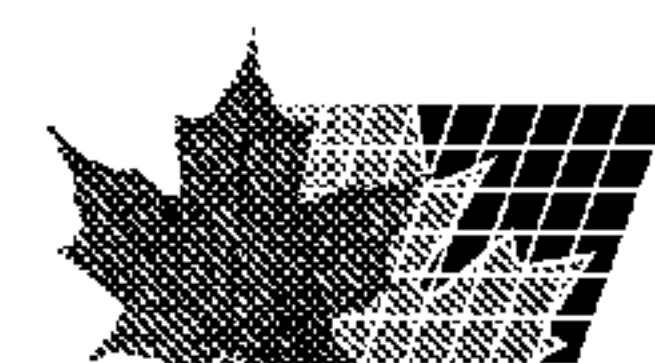
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(54) Title: PACKAGE FOR PERSONAL CARE PRODUCTS COMPRISING A SHRINK LABEL



(57) Abrégé/Abstract:

A package for a personal care composition comprising: a bottle (2); a cap, wherein the cap is attached to the bottle; and a shrink label (1), wherein the shrink label covers at least a portion of the bottle (2) and a portion of the cap (3), and wherein the shrink label



(57) **Abrégé(suite)/Abstract(continued):**

covers a gap (4) between the bottle and the cap. The package can prevent water from accumulating between the cap (3) and bottle (2) when the package is used in a wet environment, such as the shower or bath, which can lead to the formation of mold and/or mildew between the cap (3) and bottle (2). The package also can dissuade consumers in a retail store from unscrewing or otherwise removing the cap (3) from the bottle (2), which can lead to leakage of the personal care composition onto the store shelves.

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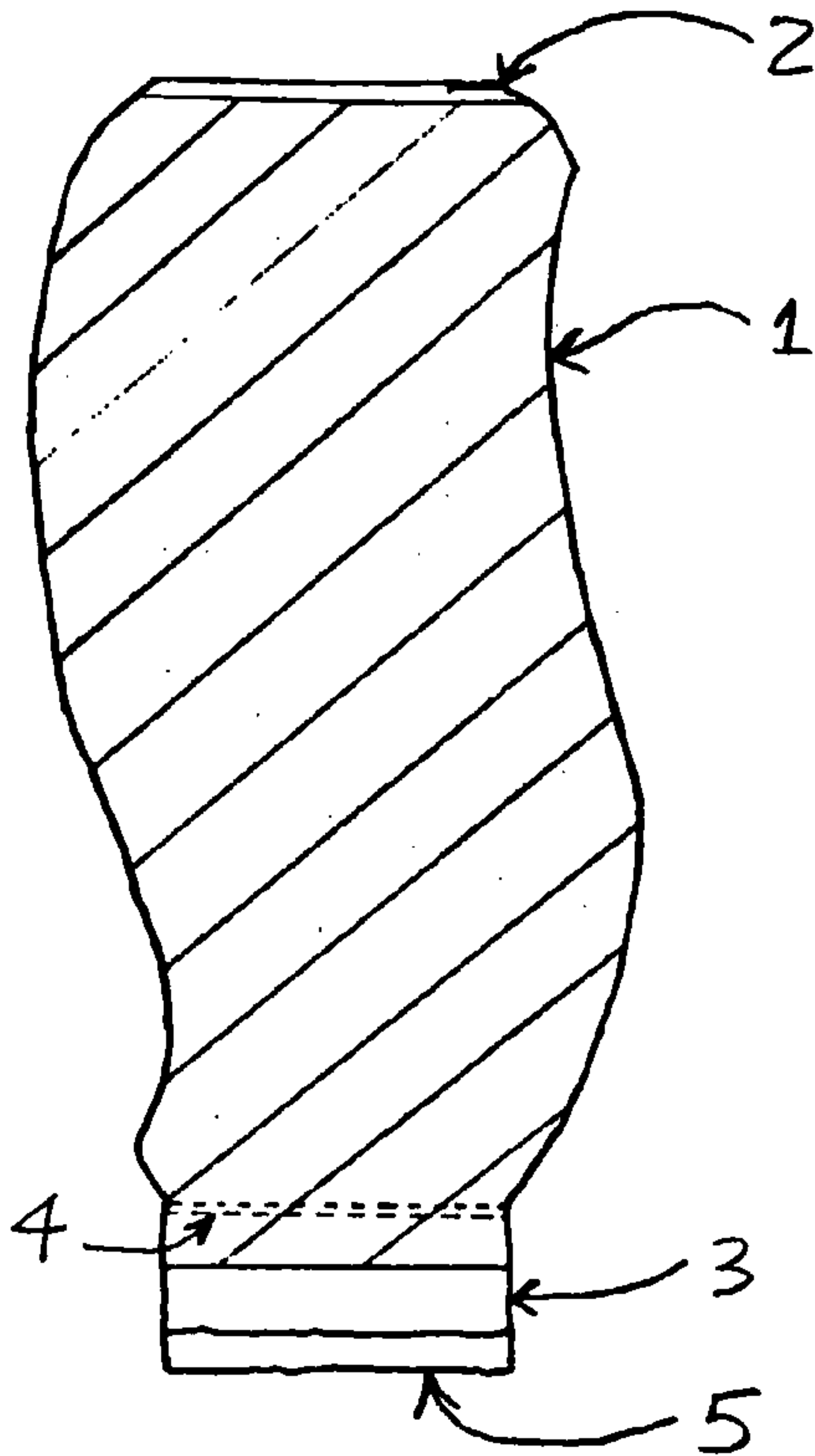
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(54) Title: PACKAGE FOR PERSONAL CARE PRODUCTS COMPRISING A SHRINK LABEL



(57) Abstract: A package for a personal care composition comprising: a bottle (2); a cap, wherein the cap is attached to the bottle; and a shrink label (1), wherein the shrink label covers at least a portion of the bottle (2) and a portion of the cap (3), and wherein the shrink label covers a gap (4) between the bottle and the cap. The package can prevent water from accumulating between the cap (3) and bottle (2) when the package is used in a wet environment, such as the shower or bath, which can lead to the formation of mold and/or mildew between the cap (3) and bottle (2). The package also can dissuade consumers in a retail store from unscrewing or otherwise removing the cap (3) from the bottle (2), which can lead to leakage of the personal care composition onto the store shelves.

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PACKAGE FOR PERSONAL CARE PRODUCTS COMPRISING A SHRINK LABEL

FIELD OF THE INVENTION

The present invention relates to a package for personal care compositions, such as shampoos, hair conditioners, shaving lotions, body washes, and in-shower body moisturizers.

BACKGROUND OF THE INVENTION

Packages that comprise personal care compositions, such as shampoos, hair conditioners, shaving lotions, body washes, and the like, often comprise a plastic bottle and cap. The caps usually screw or snap onto the bottle to form the package. The caps are often flip-top dispensing caps, such that the consumer can readily flip open the cap to expose the dispensing orifice from which the personal care composition is dispensed.

One problem with such packages is that there is usually a gap formed between the side wall(s) of the cap and the wall(s) of the bottle. When the package is stored and/or used in a wet environment, such as in the shower, water can accumulate between the cap and bottle, leading to the growth of mold and/or mildew between the cap and bottle. This problem is especially a concern with packages that are tottles or with packages that have been stored in an inverted position in a wet environment by the consumer.

A second problem with these packages is that consumers in retail stores will often unscrew or otherwise remove the caps from the bottles in order to smell the fragrance of the composition or observe the color of the product. If the consumer does not properly screw or otherwise re-attach the cap to the bottle, the packages can end up leaking the personal care compositions onto the retail store shelves.

There has thus been a desire to produce a package that can prevent mold and/or mildew from forming between the cap and bottle of the package and that can dissuade consumers from removing caps from bottles in the store to prevent package leakage.

SUMMARY OF THE INVENTION

The present invention relates to a package for a personal care composition comprising: (a) a bottle; (b) a cap, wherein the cap is attached to the bottle; and (c) a shrink label, wherein the shrink label covers at least a portion of the bottle and a portion of the cap, and wherein the shrink label covers a gap between the bottle and the cap. The

package is preferably used to contain a personal care composition, such as shampoo, hair conditioner, shaving lotion, body wash, in-shower body moisturizer, or the like, and is typically stored in a wet environment, such as the shower or bathtub. In covering the gap between the bottle and the cap, the shrink label can prevent water from accumulating in between the bottle and cap, which can lead to the formation of mold and/or mildew between the bottle and cap. Also, the package of the present invention can dissuade consumers in a retail store from removing the cap from the bottle, which can lead to leakage of the composition onto retail store shelves if the consumer does not properly re-attach the cap to the bottle.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an exploded view of one embodiment of the package of the present invention showing a shrink-sleeve label and a bottle with a flip-top dispensing cap attached to the bottle, before the shrink-sleeve label is applied to the bottle and cap.

FIG. 2 is a front view of the embodiment of the package as shown in **FIG. 1** after the shrink-sleeve label has been applied to the bottle and cap.

FIG. 3 is a partial cross-sectional view of the package of **FIG. 2**.

DETAILED DESCRIPTION OF THE INVENTION

As used herein, the term “tottle” means a package comprising a bottle and a cap attached to the bottle, wherein the package is designed to rest on its cap. Many shampoos, hair conditioners, shaving lotions, body washes, in-shower body moisturizers, and other products used in the shower or bath are contained in tottles.

PACKAGE

The package of the present invention comprises (a) a bottle; (b) a cap, wherein the cap is attached to the bottle; and (c) a shrink label, wherein the shrink label covers at least a portion of the bottle and a portion of the cap, and wherein the shrink label covers a gap between the bottle and the cap.

The bottle of the present package can be provided in a variety of forms or shapes. The bottle is typically made of a plastic material. Examples of suitable plastic materials include high density polyethylene (“HDPE”), low density polyethylene (“LDPE”), polyethylene terephthalate (“PET”), polypropylene (“PP”), polyvinyl chloride, polycarbonate, nylon, and fluorinated ethylene propylene. The bottle can be made via a

number of various processes known in the art, such as blow molding, injection molding, and the like. Preferred bottles of the present invention are made of HDPE or PP via an extrusion blow molding process, or PET via an injection blow molding process.

The bottle will typically comprise an opening through which the contained composition can be dispensed. The bottle will also typically comprise an attachment structure to which a cap can be attached, such as screw-threads, snap-fit collar, or the like.

The cap of the present package can be provided in a variety of forms or shapes, such as a flip-top, tube-top, or disc-top dispensing cap. The cap is typically made of a plastic material, including those materials discussed above which are suitable for making the bottle of the present invention. Non-limiting examples of suitable dispensing caps are disclosed in US 4,854,473 and US 4,638,916.

The cap will typically comprise an opening through which the contained composition can be dispensed. The cap will also typically comprise an attachment structure adapted to attach the cap to the bottle of the present invention, such as a screw-thread receptacle, snap-fit collar receptacle, or the like.

The cap is attached to the bottle by engaging the attachment structure of the bottle with the attachment structure of the cap. For example, when the bottle has screw-threads and the cap has a screw-thread receptacle, the cap is screwed onto the bottle until tight. A gap will generally be formed between the side wall(s) of the cap and the wall(s) of the bottle. It can be important to have this gap between the bottle and the cap in order to allow enough manufacturing tolerances for both the bottle and the cap to provide a tight fit between the attachment structures on the bottle and cap and to prevent leakage of the composition from the package. The size of the gap between the bottle and the cap (measured as the shortest distance between the side wall(s) of the cap and the wall(s) of the bottle) will typically be from about 0.01 to about 5 millimeters, preferably from about 0.1 to about 1 millimeter, and more preferably about 0.2 to about 0.6 millimeters.

The shrink label of the present package generally comprises a film label printed on an oriented plastic sheet or tube, which, when heat is applied to the label, conforms to the contour of the container that it surrounds. There are generally two types of shrink labels known in the art: (1) shrink-sleeve labels, and (2) roll-fed, wrap-around labels. A

shrink-sleeve label is a preferred shrink label of the present invention. A shrink-sleeve label is generally a tubular structure defining a longitudinal direction and a transverse direction and made of a heat shrinkable film and having an open top and an open bottom.

The shrink-sleeve label is generally sized such that the diameter of its tubular structure is great enough to slip over the bottle and cap to which it is intended to be applied. The length of the tubular structure is long enough to cover at least a portion of the bottle and a portion of the cap after the shrink label is shrunk onto the bottle and cap. Once the shrink-sleeve label is slipped over the bottle and cap, heat is then applied to shrink the shrink label to the bottle and cap.

The shrink label is typically made of an oriented film material. An oriented film material is generally a film material having the greatest shrinkage in a defined direction, usually the transverse direction in a shrink-sleeve label and perpendicular to the longitudinal direction of the shrink-sleeve label. Non-limiting examples of suitable film materials include polyvinyl chloride, polyethylene, polypropylene, other polyolefins and copolymers, polyesters, polystyrene, and combinations thereof (e.g. a laminated film material). A preferred film material for the shrink label of the present invention is polystyrene.

The thickness of the film material for the shrink label is generally from about 30 to about 100 microns, preferably from about 40 to about 50 microns. A preferred film material for the shrink label of the present invention has a thickness of 50 microns.

A preferred film material for the shrink label of the present invention is available from American Fuji Seal, Inc. under the trade name FVK-350.

The film material for the shrink label can be pre-printed with graphics, text, etc. at any desired location on the film material. A variety of printing methods can be utilized to print graphics onto the shrink labels, including gravure (or rotogravure) printing and flexographic printing. A preferred printing method is gravure printing.

The film material can also be coated with protective layers, such as varnishes, for scuff resistance or to control the coefficient of friction of the film material to facilitate the slipping of the shrink label onto the bottle and cap.

The shrink label can be perforated to facilitate applying the shrink label to uniquely shaped bottles. The shrink label can also be perforated to facilitate removal of

the shrink label after the product is used up, to allow for proper recycling of materials. However, the shrink label of the present invention is preferably not perforated to facilitate removal of the shrink label by a consumer before use of the product. For example, the shrink label is preferably not perforated around the entire perimeter of the shrink label and preferably not perforated across an entire surface parallel to the longitudinal axis of the shrink label.

In one embodiment of the present invention, the shrink label is made of a continuous and/or non-perforated film and is non-removable (i.e. the shrink label is not intended to be removed by a consumer before use of the product). This embodiment is in contrast to packages that comprise tamper-evident shrink bands that are perforated and that are removed by consumers before use.

In one embodiment of the present invention, especially wherein the package is a tottle, the shrink label does not extend over the top wall of the dispensing cap because the package will tend to be unstable sitting on the shelf due to gathering of the shrink label along the top wall of the dispensing cap during the process of applying the shrink label to the bottle and cap.

In one embodiment of the present invention, the shrink label is sealed to the side wall(s) of the cap. The shrink label can be sealed to the side wall(s) of the cap by adhesives (e.g. pressure sensitive adhesives) or by heat sealing.

In one embodiment of the present invention, the cap does not comprise a vent or drain hole. Since the shrink label of the present invention can prevent water from accumulating between the bottle and the cap, it can be unnecessary to incorporate a vent or drain hole in the cap.

The following is a description of the process for applying a shrink-sleeve label to a bottle and cap of the present invention. As discussed above, most shrink labels are made of oriented plastic films that shrink around a container when heat is applied. They can be made of flat film material that is stretched (oriented) and seamed, or from tubular film material that is stretched in the blowing process. The degree to which a shrink label shrinks is determined when the film material is stretched. In effect, stretching the film material programs "memory" into the material. That memory is recalled by applying heat after the shrink label is slipped onto the container and the film material shrinks. Shrink-

sleeve labels can be supplied as individual, pre-cut sleeves or in continuous rolls which are then cut automatically before being applied to the container.

In the process of applying a shrink-sleeve label to a bottle and cap, the shrink-sleeve label is placed loosely around the article. The shrink-sleeve label is sized just large enough to allow it to be placed over the length of the article, either manually or by automated high-speed application machinery. The film material of the shrink-sleeve label shrinks as the article passes through a heat tunnel, where heat is applied via, for example, hot air or steam or other similar method (e.g., radiant heat). In the heat tunnel, the film material softens, causing it to seek its original, smaller dimensions, and, in the process, to shrink tightly around the article. Different time and temperature profiles are required for different shrink film materials, thicknesses, and bottle and cap shapes and materials. The heat tunnels may have several "zones" where heat (e.g., hot air or steam) is directed sequentially to different parts of the container at different times and temperatures in order to effectively apply the shrink-sleeve label to the bottle and cap.

FIG. 1 is an exploded view of a shrink-sleeve label **1** and a bottle **2** with a flip-top dispensing cap **3** attached to the bottle **2**. After the cap **3** has been attached to the bottle **2**, a gap **4** is formed between the bottle **2** and the cap **3**. The shrink-sleeve label **1** is made of polystyrene, has a thickness of 50 microns, and has a generally tubular structure. The width of the tubular structure of the shrink-sleeve label **1** corresponds to the greatest width of the bottle **2**. The length of the tubular structure is long enough such that it covers at least a portion of the bottle **2** and a portion of the cap **3** when applied to the bottle **2** and cap **3**. The shrink-sleeve label **1** is applied to the bottle **2** and cap **3** by slipping the shrink-sleeve label **1** over the bottle **2** and cap **3**, then passing the article through a steam heat tunnel.

FIG. 2 is a front view of the package of the present invention as shown in **FIG. 1** after the shrink-sleeve label **1** has been applied to the bottle **2** and cap **3**. The shrink-sleeve label **1** covers the gap **4** between the bottle **2** and the cap **3**. This package is a tottle, wherein the package rests on the top wall **5** of the dispensing cap **3**.

FIG. 3 is a partial cross-sectional view of the package of **FIG. 2** showing a wall **6** of the bottle **2**, a side wall **7** of the cap **3**, and the shrink-sleeve label **1**, wherein the shrink-sleeve label **1** covers the gap **4** between the bottle **2** and the cap **3**.

PERSONAL CARE COMPOSITIONS

The packages of the present invention can be utilized to contain a variety of personal care compositions, such as shampoos, hair conditioners, shaving lotions, body washes, in-shower body moisturizers, and the like. Non-limiting examples of shampoos are described in US RE34,584, US 5,932,203, and US 5,935,561. Non-limiting examples of hair conditioners are described in US 4,387,090 and US 4,705,681. Non-limiting examples of shaving lotions are described in US 5,248,495, US 5,451,396, and US 6,682,726. Non-limiting examples of body washes are described in US 5,885,948, US 6,080,707, and US 6,194,364. Non-limiting examples of in-shower body moisturizers are described in US 6,699,488, US 6,645,511, US 2003/0049282 A1, and US 2003/0054019 A1.

All documents cited in the Detailed Description of the Invention are, in relevant part, incorporated herein by reference; the citation of any document is not to be construed as an admission that it is prior art with respect to the present invention.

While particular embodiments of the present invention have been illustrated and described, it would be obvious to those skilled in the art that various other changes and modifications can be made without departing from the spirit and scope of the invention. It is therefore intended to cover in the appended claims all such changes and modifications that are within the scope of this invention.

WHAT IS CLAIMED IS:

1. A package for a personal care product, said package comprising:
a bottle;
a cap, wherein said cap is attached to said bottle; and
a shrink label,
wherein said shrink label covers at least a portion of said bottle and
only a portion of said cap,
wherein said shrink label covers a gap between said bottle and said
cap, and wherein said shrink label is non-removable.
2. The package of claim 1, wherein said package is a tottle.
3. The package of claim 1 or 2, wherein said shrink label is continuous or non-perforated.
4. The package of any one of claims 1 to 3, wherein said shrink label is a shrink-sleeve label.
5. The package of any one of claims 1 to 4, wherein said shrink label is a continuous shrink-sleeve label.
6. The package of any one of claims 1 to 5, wherein said gap between said bottle and said cap is from about 0.01 millimeters to about 5 millimeters.
7. The package of any one of claims 1 to 6, wherein said shrink label comprises an oriented film material.
8. The package of claim 7, wherein said oriented film material is selected from the group consisting of polyvinyl chloride, polyethylene, polypropylene, other polyolefins and copolymers, polyesters, polystyrene, and combinations thereof.
9. The package of claim 8, wherein said oriented film material is polystyrene.

10. The package of any one of claims 7 to 9, wherein said oriented film material has a thickness of from about 30 microns to about 100 microns.
11. The package of any one of claims 7 to 10, wherein said oriented film material has a thickness of from about 40 microns to about 50 microns.
12. The package of any one of claims 1 to 11, wherein said shrink label is sealed to said cap.
13. The package of any one of claims 1 to 12, wherein said cap is ventless or drain-holeless.
14. The package of any one of claims 1 to 13, wherein said package is stored and/or used in a wet environment.
15. The package of claim 14, wherein said wet environment is a shower or bath.
16. The package of any one of claims 1 to 15, wherein said package contains a personal care composition.
17. The package of claim 16, wherein said personal care composition is a body wash or in-shower body moisturizing composition.
18. The package of claim 16, wherein said personal care composition is a shampoo or hair conditioner composition.
19. A package for a personal care product, said package comprising:
 - a bottle;
 - a flip-top dispensing cap having a top wall, wherein said shrink label covers at least a portion of said bottle and a portion of said dispensing cap, wherein said shrink label covers a gap between said bottle and said dispensing cap and said shrink label does not extend to cover said top wall of said dispensing cap.

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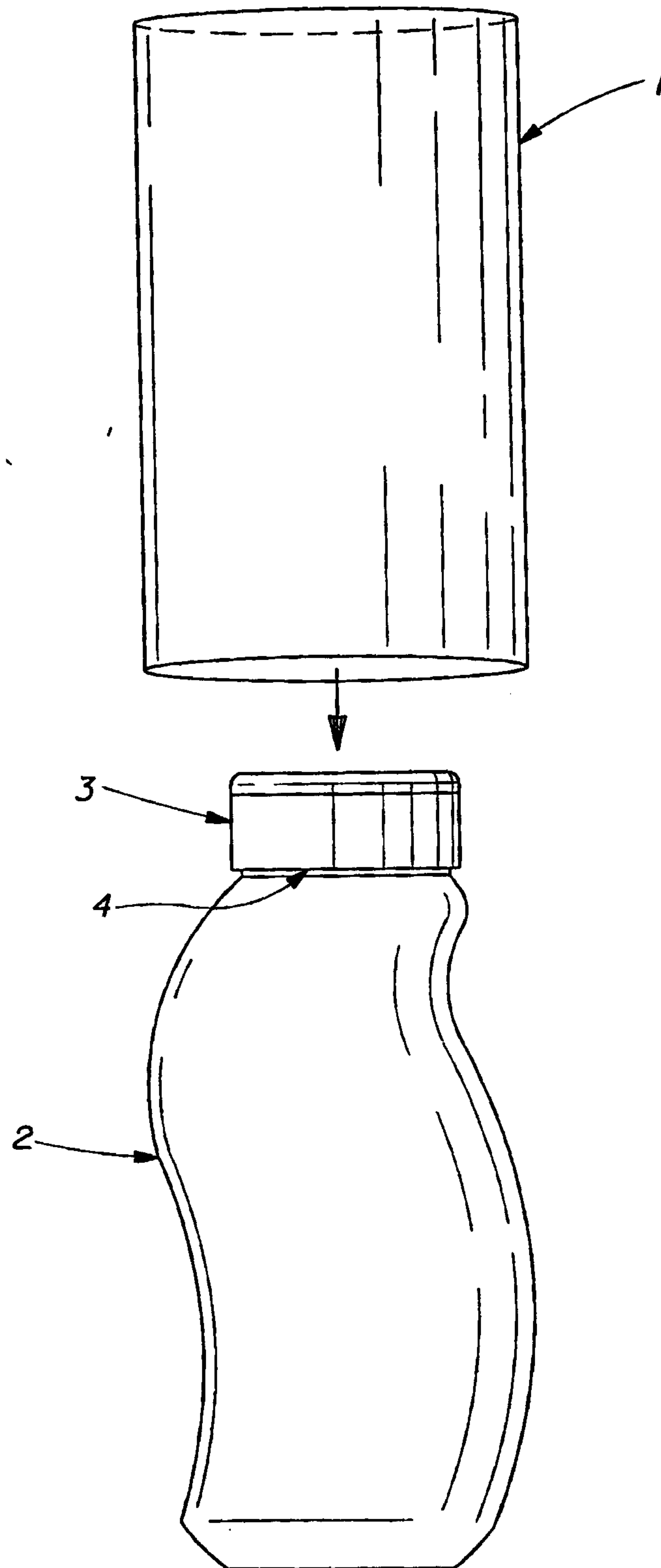


Fig. 1

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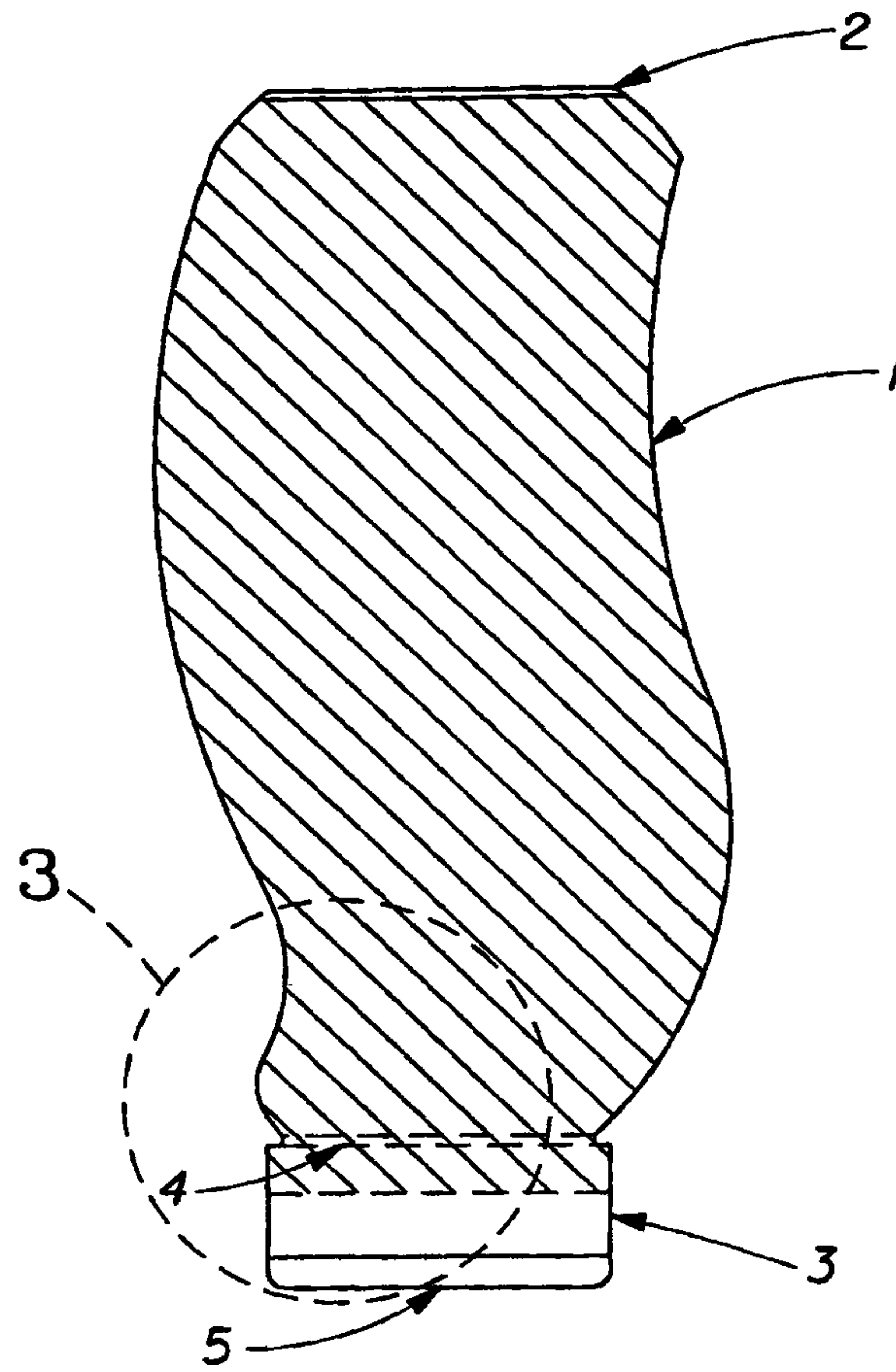


Fig. 2

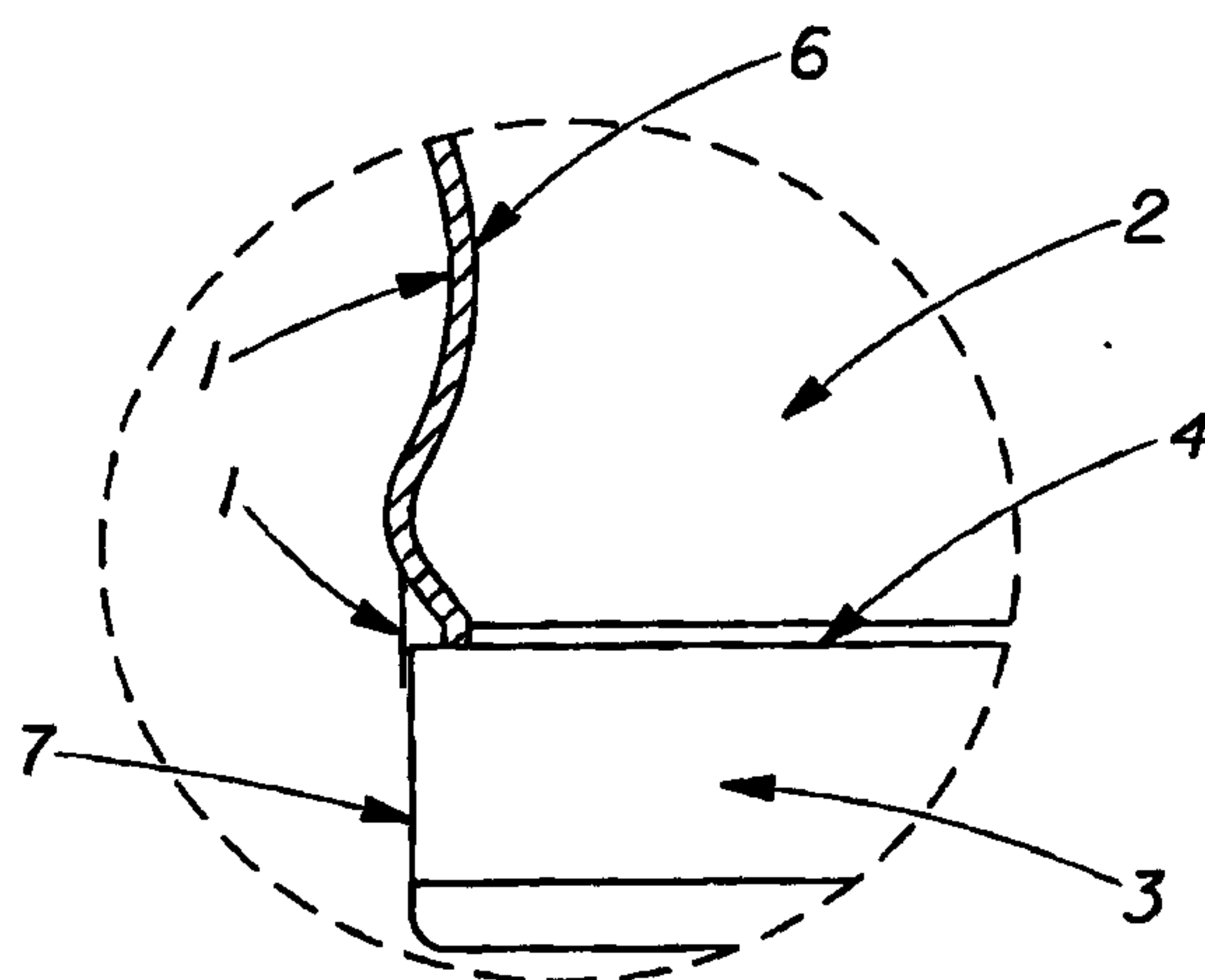


Fig. 3

