

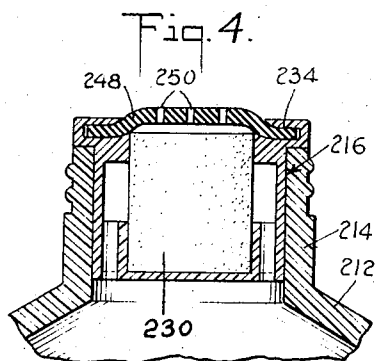
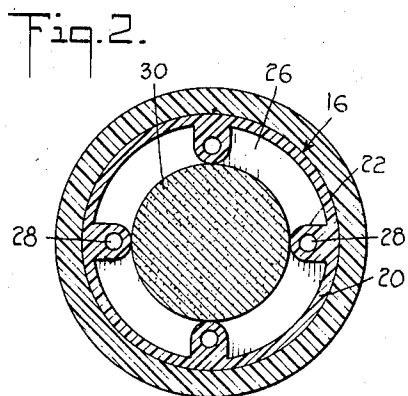
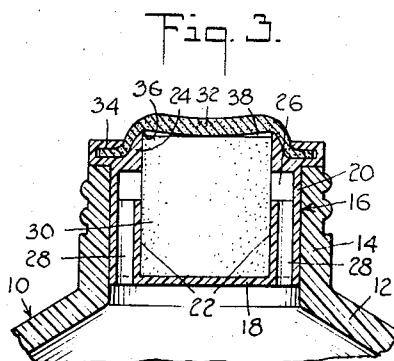
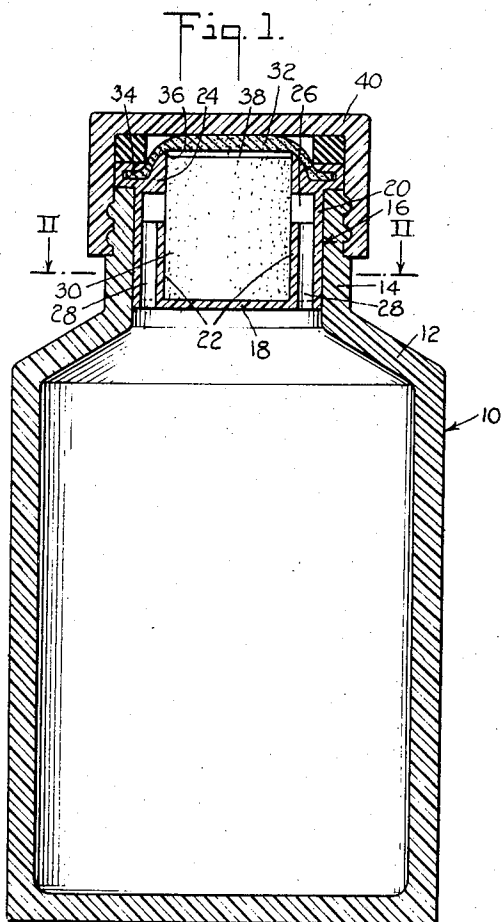
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DISPENSER FOR LIQUIDS

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DISPENSER FOR LIQUIDS

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This invention relates to dispensers, and more particularly to dispensers for liquids, for example deodorants, perfumes, liquid lipsticks, liquid rouge, lotions or the like.

When hitherto customary dispensers are used for applying liquid to a portion of the body of a person it is necessary to hold the outlet of the case of the dispenser downwardly or else to pour the liquid first on the palm of a hand and then apply it to the body. This kind of dispenser is especially inconvenient for applying the liquid to the armpit, even if the dispenser is in the shape of a sprayer.

An object of the invention is to provide a dispenser for a liquid, by means of which the liquid may be readily applied to any portion of the body.

Another object of the invention is to provide a dispenser for liquids which may be readily used in any position.

A further object of the invention is to provide a dispenser by means of which a controlled amount of the liquid may be applied to the body for each application, so as to avoid the disadvantage of hitherto customary dispensers which discharge too great an amount of liquid to relatively small surfaces of the body.

Still another object of the invention is to provide a dispenser which is perfectly sealed so as to prevent the escape of liquid while the dispenser is not used.

A further object of the invention is to provide a dispenser for liquids which overcomes the disadvantages of hitherto known dispensers for liquids and yet may be manufactured at low costs.

Other objects and structural details of the invention will be apparent from the following description when read in conjunction with the accompanying drawings forming part of this specification, wherein:

Fig. 1 is a vertical sectional view of a dispenser for liquids according to the invention,

Fig. 2 is a sectional view taken along line II—II of Fig. 1,

Fig. 3 is a sectional view of the upper portion of the dispenser shown in Fig. 1, wherein however the closing cap is removed and the applying membrane is in the position which it occupies during the applying of the liquid to the body, and

Fig. 4 is a vertical sectional view of another embodiment of the upper portion of the dispenser according to the invention.

Referring now to Figs. 1 and 2, 10 generally indicates a dispenser for liquids comprising a container 12 having a threaded neck portion 14.

A hollow member, generally indicated by 16, tightly inserted into the bore of the neck 14 comprises a bottom 18, a cylindrical wall 20, four inwardly projecting elements 22 and an annular top element 24. The elements 22 are shorter than the cylindrical wall 20, so that a chamber 26 is formed inside the member 16 between the upper end of the elements 22 and the lower surface

of the annular top element 24. Said chamber 26 communicates with the interior of the container or case 12 through bores 28 extending through the elements 22.

A cylindrical body 30 inserted into the cavity of the member 20 is held therein by means of the protruding elements 22. Said body 30 is made of an elastic porous mass, preferably of a foam material and acts as a porous reservoir member. It has been found that excellent results are obtained by means of a foam material made of a material known in the trade under the trade-name "Neoprene."

A membrane 32 engaged with a slot 34 of the top element 24 of the member 20 is likewise made of an elastic porous material, preferably a foam material made of so-called "Neoprene." The inner edge 36 of the top element 24 is somewhat higher than the upper surface of the body or porous reservoir member 30, whereby a space 38 is formed between the body 30 and the membrane 32.

A threaded cap 40 may be screwed on the threaded neck 14 of the case 12 for closing the aperture thereof.

The dispenser may be used as follows:

The container 12 is filled with a liquid, for example deodorant, perfume, liquid lipstick, liquid rouge, lotion. When the dispenser is carried around, for example in a pocketbook, owing to the shaking of the pocketbook liquid flows from the interior of the container 12 through the bores 28 into the chamber 26 of the member 20 and thence into the porous body or porous reservoir member 30. Thus the body 30 absorbs a certain amount of the liquid. If the dispenser should not have been carried around in a pocket book, the same effect may be obtained by manually shaking the dispenser before use.

Now when after removal of the cap 40 the dispenser is used and its porous membrane 32 is pressed against the skin of the body, said membrane 32 obtains the concave shape as shown in Fig. 3. Thereby the porous membrane 32 comes into contact with the upper surface of the porous reservoir body 30, so that a controlled or predetermined amount of liquid contained therein is pressed through the porous membrane 32 onto the outer surface of the latter for application to the skin.

The amount of liquid to be applied to the skin can be readily regulated by pressure exerted during the application of the liquid. The higher the pressure, the more liquid will be applied to the skin. The desired pressure can be predetermined by choosing a certain distance between the body 30 and the membrane 32 and/or by selecting a certain thickness of the membrane 32. Furthermore the density of the foam material of the body 30 and/or the membrane 32 will have a controlling influence on the amount of liquid to be applied to the skin during each application.

It will be readily understood from above, that the dispenser according to the invention eliminates the discharge of uncontrolled amounts of liquids during the application and that such a suppression of the discharge of uncontrolled amounts could not be obtained if the body 30 filled with liquid would be applied directly to the body of a person.

Furthermore the outlet of the dispenser according to the invention is tightly sealed when not in use. The space 38 left between the membrane 32 and body or porous reservoir member 30, normally filled with air, prevents an escape of the liquid absorbed by the body 30 from the latter.

The embodiment shown in Fig. 4 is similar to the embodiment shown in Fig. 3. However the porous membrane 32 of the dispenser of Fig. 3 is replaced by a member 248 made of an elastic but non-porous material. Said member or membrane 248 being provided with a series

of holes 250 is firmly engaged with a slot 234 of the member 216 inserted into the bore of the neck 214 of the case 212.

When the flexible membrane 248 is applied to the skin of a person, it is bent inwardly for engagement with the wet body 230, from which a predetermined amount of liquid is pressed through the bores 250 of the membrane 248 onto the skin of the person. The amount of liquid to be applied to the skin during an application can be predetermined by choosing a certain number of holes of a certain size in the member 248.

I have described preferred embodiments of my invention, but it is understood that this disclosure is for the purpose of illustration and that various omissions or changes in shape, proportion and arrangement of parts, as well as the substitution of equivalent elements for those herein shown and described may be made without departing from the spirit and scope of the invention as set forth in the appended claims.

What I claim is:

1. Dispensing means for use with a container capable of holding a supply of liquid and having an outlet, comprising a porous reservoir member adapted to be mounted on said container, whereby the reservoir member is adapted to be saturated with liquid from said container, and an applicator membrane adapted to be mounted on the container in spaced, confronting relation to said reservoir member, said applicator membrane being flexible, resilient, and liquid permeable, and being depressible into abutment with said reservoir member upon application of said dispensing means to a skin surface, whereby liquid is squeezed from the reservoir member and transferred to the applicator member and through said membrane to the skin surface.

2. Dispensing means for use with a container capable of holding a supply of liquid and having an outlet, comprising a porous reservoir member adapted to be mounted on said container in a position covering said outlet, whereby the reservoir member is adapted to be saturated with liquid from said container, and a porous applicator membrane on said container mounted in spaced, confronting relation to said reservoir member, said applicator membrane being flexible, resilient, and liquid permeable, and being depressible into abutment with said reservoir member upon pressing application of said dispensing means to a skin surface, whereby liquid is squeezed from the reservoir member and transferred to the applicator membrane and through said membrane to the skin surface, the applicator membrane being sufficiently flexible to move back to its position spaced from the reservoir member when the dispensing means is lifted from its pressing engagement with the skin surface.

3. A dispensing device for use with a container capable of holding a supply of liquid and having an outlet, said dispensing device comprising a body adapted to be mounted on said container in communication with said outlet and containing an inner porous reservoir member positioned to cover over said outlet, whereby the reservoir member is adapted to be saturated with liquid from said

container, and an outer applicator membrane mounted on said body in spaced, confronting relation to said reservoir member, said applicator membrane being flexible, resilient, and liquid permeable, and being depressible into abutment with said reservoir member upon application of said dispensing means to a skin surface with the applicator membrane pressing against said skin surface, whereby liquid is squeezed from the saturated reservoir member and transferred to the applicator membrane and through said membrane to the skin surface.

4. In combination with a container capable of holding a supply of liquid and having an outlet, a dispenser mounted on said container in communication with said outlet and comprising a porous reservoir member disposed within said outlet whereby the reservoir member is saturated with liquid upon tilting of said container, and an applicator membrane disposed in front of said reservoir member and extending across said outlet, said applicator membrane being flexible, resilient, and liquid permeable, and being normally spaced from said reservoir member, said applicator membrane being depressible into abutment with said reservoir member upon application of said dispenser to a skin surface, whereby liquid is squeezed from the reservoir member and transferred to the applicator membrane and through said membrane to the skin surface.

5. In combination with a container capable of holding a supply of liquid and having an outlet, a dispenser insert having a body sized to be mounted in said outlet, said body containing an inner porous reservoir member, conduit means connecting the reservoir member with the interior of said container whereby the reservoir member is saturated with liquid upon tilting of said container, and a porous applicator membrane disposed in front of said reservoir member and extending across said outlet, said applicator membrane being flexible, resilient, and liquid permeable, and being normally spaced from said reservoir member, said applicator membrane being depressible into abutment with said reservoir member upon application of said dispenser to a skin surface with the applicator membrane pressing against said skin surface, whereby liquid is squeezed from the reservoir member and transferred to the applicator membrane and through said membrane to the skin surface, the applicator membrane being sufficiently flexible to return to its position spaced from said reservoir member when the dispenser is lifted from the skin surface.

References Cited in the file of this patent

UNITED STATES PATENTS

2,080,778	Moine et al. _____	May 18, 1937
2,095,423	Tilley _____	Oct. 12, 1937
2,265,935	Bischofswerder _____	Dec. 9, 1941
2,281,105	Marti et al. _____	Apr. 28, 1942
2,418,035	La Chapelle _____	Mar. 24, 1947

FOREIGN PATENTS

213,755	Switzerland _____	Mar. 14, 1941
856,302	France _____	Mar. 18, 1940