Jan. 10, 1961 P. A. BUMPUS ET AL 2,967,319

DISPENSER-APPLICATOR DEVICE

Filed June 30, 1958

Fig. 1.

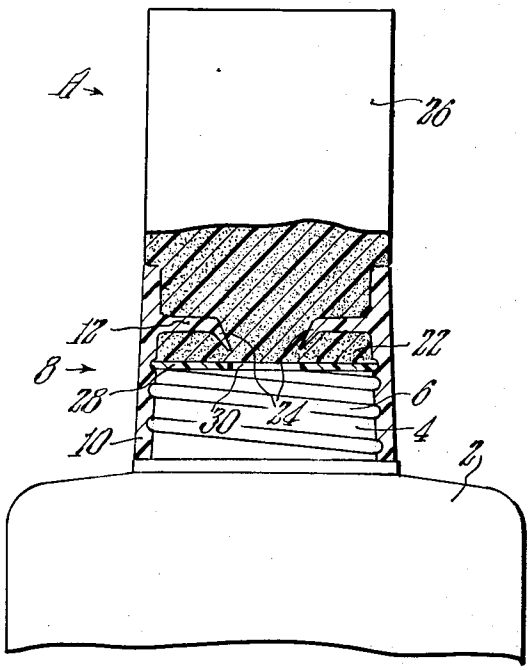
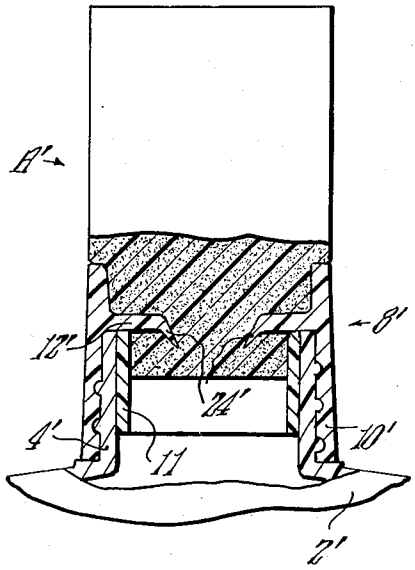


Fig. 3.



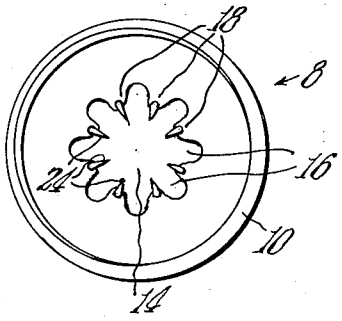


Fig. 2.

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DISPENSER-APPLICATOR DEVICE

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1 Claim. (Cl. 15—133)

This invention relates to new and useful improvements in dispenser-applicator devices.

The principal objects of the invention are directed to the provision of a dispenser-applicator device for dispensing and applying the liquid contents of a container.

According to novel features of the invention, the dispenser-applicator may be associated with the outlet neck of a container, such as a bottle or the like, for dispensing the liquid contents thereof, and applying the same.

The device of the invention is adapted for numerous and various uses but will be described, for purposes of disclosure, in connection with liquid preparations, such as hair waving solutions and other liquid products to be applied to the hair.

In a general way, the device of the invention includes an applicator or dauber member of polyurethane sponge associated with a cap which is adapted for securement to the neck of a container, such as a bottle. The said bottle may be of the well known squeeze type which, as it is squeezed, causes the liquid contents to be displaced into the applicator, by which it may be applied to the hair or the like.

The device of the invention is efficient for the use intended, and provides a convenient means for readily and easily dispensing and applying the desired amount of liquid.

Various changes and modifications may be made in the device, within the spirit and scope of the invention, which is hereinafter disclosed in the form thereof presently preferred.

In the drawings:

Fig. 1 is a partial sectional elevational view through a cap and applicator embodying the novel features of the invention;

Fig. 2 is an inverted plan view of the cap shown in Fig. 1; and

Fig. 3 is a view similar to Fig. 1 showing a modified form of the invention.

Referring now to the drawings more in detail, the novel features of the invention will be fully described.

The upper neck portion of a bottle is shown at **2** in Fig. 1. A neck thereof is represented by **4**, and is provided with a screw thread **6**, of usual form.

The bottle **2**, for purposes of disclosure, will be considered as being of the well known squeeze bottle type. As the bottle is squeezed, the liquid contents therein will be displaced into a dauber or applicator to be hereinafter described.

A cap is represented by **8**, and has a lower portion **10** which is internally threaded for screwing onto the neck **4** of the bottle. The said cap may be formed from any suitable plastic material desired.

Said cap **8** is provided with a transverse wall **12** which is formed with an opening **14** therethrough, the peripheral edge of which is corrugated to provide alternate grooves **16** and inwardly extending projections **18**. Said wall **12** may be located, as desired, between lower and upper ends of said cap.

An applicator A is provided, which is preferably cylindrical in cross section, and made from polyurethane sponge material or the like, in the form of a fine porous sponge, adapted to retain liquid, and when pressed on or squeezed, to release and apply the liquid.

The lower end **22** of the applicator A is inserted through the opening **14** of the wall **12** of the cap, in some convenient manner, so as to be gripped by the projections **18**. To insure adequate retaining of the lower portion **22** of the applicator, the wall **12** of the cap is provided with a plurality of sharp prongs **24** around the opening of the wall **12** of the cap.

Said prongs are circumferentially spaced, and extend downwardly from the wall **12**, in such manner as to relatively converge inwardly. Said prongs impinge and prevent upward movement of the applicator outwardly of the cap.

The upper end **26** of the applicator is disposed outwardly of the cap, and, as liquid is displaced from the bottle into the applicator, said applicator will apply the liquid therein, in a manner desired.

To prevent leakage of liquid, a yieldable sealing washer **28** is provided which has an aperture **30** therethrough for passage of liquid from the neck of the bottle to the applicator A.

With the cap **10** secrewed onto a bottle neck, the sealing washer squeezes the lower end of the applicator against the wall **12**, and, at the same time, prevents undesired leakage of liquid between the cap and bottle neck.

In one way, the interior of the cap may be provided with an internal annular groove **32** in which the yieldable washer is seated, thereby providing a ridge or shoulder at the upper side of the washer.

According to the modification of the invention shown in Fig. 3, the lower portion **10'** of the cap **8'** is screwed onto the neck **4'** of the bottle **2'**, and a tubular cylindrical sealing member **11** beneath the ball **12'** seals the cap and bottle neck against leakage, as shown in Fig. 3.

The wall **12'** is provided with sharp prongs **24'**, similar to the prongs **24** of Fig. 1, to hold the appplicator A' against displacement.

As will be observerd, the lower end of the applicator is secured within the cap in such maner as to obviate displacement of said applicator from the cap, while at the same time, the cap and bottle neck are sealed against leakage. Liquid in the applicator is readily applied by the outer end portion of the applicator which extends outwardly of the cap.

Various changes and modifications may be made within the spirit and scope of the invention, and it is desired to be limited, if at all, by the appended claim rather than by the foregoing disclosure.

We claim:

A unitary liquid dispenser-applicator device for securement to the threaded outlet neck of a liquid container comprising in combination, a cap having an elongated annular vertical side wall and a horizontal transverse wall intermediate upper and lower ends thereof providing an elongated substantially straight upper portion of said side wall disposed above said transverse wall and having an inner elongated straight side, said side wall being provided with an internal annular groove spaced below said transverse wall, the lower portion of said side wall below said groove being internally screw threaded for screwing said cap onto the externally threaded neck of a container, a separate sealing washer having a periphery held in said groove for bearing on the upper end of a container outlet neck to which said cap is to be

secured, said transverse wall and washer being provided with aligned central openings therethrough, an elongated straight sided cylindrical dispenser-applicator member having an intermediate portion surrounded and embraced by the upper portion of said side wall of said cap and an upper outer elongated liquid applying portion extending outwardly therefrom and an inner end portion extending through the central opening of said transverse wall and disposed in and filling the space between said transverse wall and washer, the lower end of said dispenser-applicator member disposed on and supported by the upper side of said washer, said dispenser-applicator member being formed from a relatively resilient sponge material adapted to absorb liquid and to release and apply same when pressed upon, first holding means to hold said dispenser-applicator member against outward displacement from the upper end of said cap including circumferentially spaced inwardly extending projections provided on said transverse wall around the opening therein impinging

said dispenser-applicator member, and second holding means including elongated sharp prongs provided on said transverse wall in spaced relation around the opening therein and depending from the lower face of the said transverse wall in relatively converging relation and impinging the lower portion of said dispenser-applicator member.

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