Feb. 16, 1954 E. G. BOROWICK 2,669,232

DISPENSER OR APPLICATOR

Filed Jan. 19, 1951

FIG. 1.

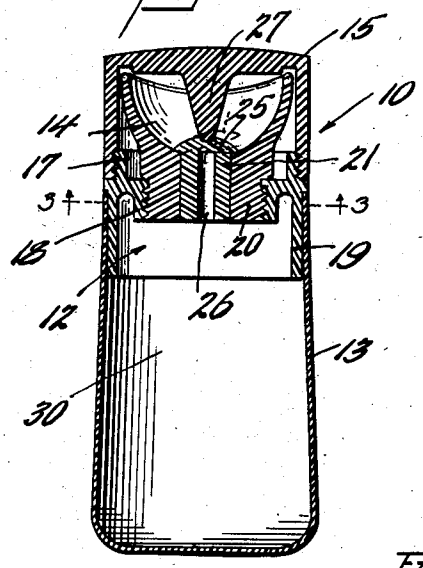


FIG. 2.

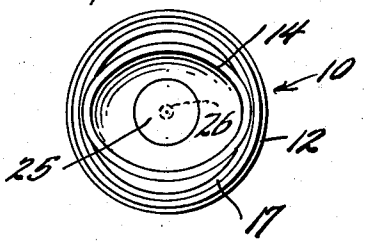


FIG. 3.

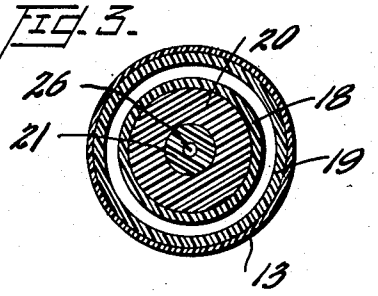


FIG. 5.

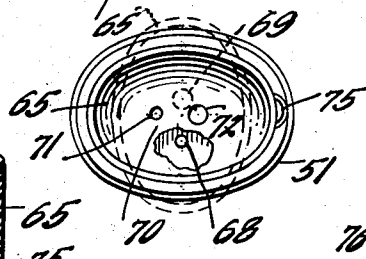


FIG. 4.

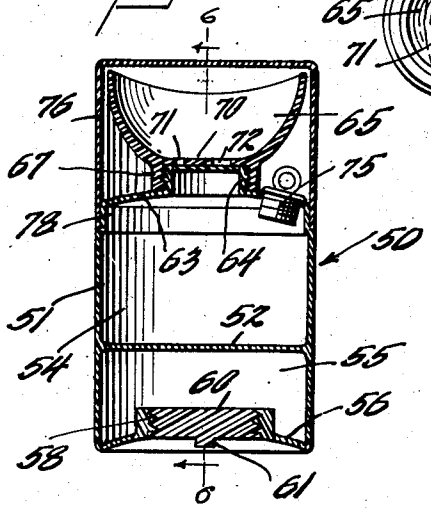
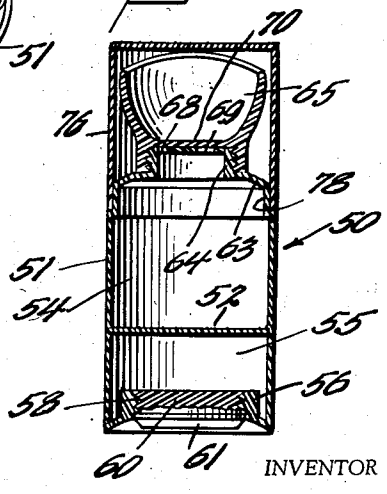


FIG. 6.



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DISPENSER OR APPLICATOR

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2 Claims. (Cl. 128—249)

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This invention relates to dispensers or applicators for administering medicinal or soothing liquids to parts of the human body and more particularly to an applicator or douche for treating or laving the eye.

The general object of the invention is to provide a novel and improved combination eyecup and receptacle, whereby a quantity of the liquid or lotion may be kept in the receptacle and transferred to the eyecup as needed.

In its preferred embodiments, the invention contemplates the provision of a package or container, the lower or base portion of which is arranged to receive the eye lotion or liquid, and this base portion is surmounted by an eyecup of the usual configuration which is connected with the base by means of a neck portion through which a valved passageway extends. By appropriate manipulation of the device, either prior to or during its application to the eye, the lotion or solution is caused to pass through the passageway from the container or receptacle to the eyecup in order to properly lave the affected organ.

Another object of the invention is the provision, in a dispensing receptacle or applicator of this type, novel valving means for controlling the flow of liquid from the receptacle base to the eyecup.

A further object is the provision of a compartmented receptacle or dispenser base, one of the compartments adapted to contain the fluid or solution prepared for treatment of the eye and dispense it to the eyecup, and the other compartment adapted to contain certain of the ingredients necessary in making up the solution, such as medicinal pellets or powder, or the solution itself in concentrated form.

Other objects and features of novelty will be apparent from the following specification when read in connection with the accompanying drawings in which certain embodiments of the invention are illustrated by way of example.

In the drawings:

Figure 1 is a view in vertical section through a dispensing receptacle or applicator embodying the principles of the invention;

Figure 2 is a top plan view of the receptacle shown in Figure 1, with the cover removed;

Figure 3 is a transverse horizontal sectional view taken on line 3—3 of Figure 1;

Figure 4 is a vertical sectional view of a receptacle or applicator which comprises a variant embodiment of the invention;

Figure 5 is a top plan view of the receptacle

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shown in Figure 4 with the cover removed; and

Figure 6 is a view in vertical section taken on line 6—6 of Figure 6.

In the embodiment illustrated in Figures 1, 2 and 3 of the drawings, the novel applicator or dispensing receptacle is designated as a whole by the reference numeral 10, and comprises a basic casting 12, preferably of plastic, to which the container body 13, the eyecup 14, and the cover 15 are adapted to be attached.

The part 12 is in the form of an annular element having three flanges: an externally threaded, upwardly projecting flange 17; an internally threaded, inwardly disposed downwardly extending flange 18; and an outer flange or skirt 19, to the outer surface of which the upward open end of the container body 13 is cemented or otherwise permanently secured.

The eyecup member 14 is provided with a downwardly extending stem or shank portion 20 which is externally threaded to be screwed into the opening provided by the threaded inner flange 18 in the base ring 12.

The eyecup element 14 is also provided with a central axial opening into which is forced or cemented a tubular plug 21, preferably made of plastic and provided with a flexible mushroomed head or cap 25, which serves as a valve to normally close the axial bore 26 in the plug.

The protective closure or cover 15 is adapted to be screwed upon the threaded flange 17 of the ring element 12. The cover 15 is provided with an axially depending projection 27, which, when the closure or cover is applied, bears upon the flexible valve 25 and insures that the bore or passageway 26, leading from the reservoir 30 in the enclosure 13 to the eyecup 14, is sealed.

The entire device may be made of plastic or other suitable durable and easily sterilized material, and it is preferred that the bulbous container or reservoir enclosure 13 be made of somewhat flexible plastic material.

With this description the operation of the device will be readily understood. The lotion or solution is prepared and, after removal of the eyecup member 14, is introduced into the reservoir 30 through the opening provided by the threaded flange 18. The eyecup member is then reinserted, the threaded stem 20 being screwed into the threaded opening. The cover 15 is screwed on and the device is available for ready portability and use.

When it is desired to apply the solution to the eye, the cover 15 is unscrewed, and the flexible container walls 13 are squeezed until a sufficient

quantity of the liquid is forced up through the passageway **26**, past the flap valve **25**, into the eyecup. The cup is then applied to the eye in the usual way.

The embodiment illustrated in Figures 4, 5 and 6 of the drawings bears the general reference numeral **50**. This device comprises the container or receptacle base member **51**, which in this illustrative form is oval in horizontal section. A partition **52** divides the base member into two superposed compartments **54** and **55**. The depressed bottom wall **56** of the member **51** is provided with a threaded flanged opening **58** into which is screwed a closure plug **60**, a rib **61** on the plug facilitating manipulation thereof.

The domed top wall **63** of the receptacle base is provided with a central raised boss **64**, the margins of which are provided with screw threads. An eyecup member **65** is provided with a depending annular internally threaded flange **67** which is adapted to be screwed onto the boss **64**. The top of the boss **64** is pierced with two off-center openings **68** and **69** and the central web **70** of the eyecup member is provided with similar openings **71** and **72**, which respectively register with the openings **68** and **69** when the eyecup member **65** is rotated to a cross-wise position such as shown in dotted lines in Figure 5. Normally, communication between the upper compartment **54** and the eyecup **65** is cut off by the non-registry of the openings as shown in Figures 4 and 6 and in the solid line position of Figure 5. A filling opening in the top wall **63** is closed by a threaded closure plug **75**. A cover or closure **76** is applied to the shouldered portion **78** to protect the eye cup, when the device is not in use.

The compartment **54** may conveniently be used for the prepared solution used in laving the eye and when the eyecup **65** is rotated through an angle of 90° the openings **68** and **69** register respectively with the openings **71** and **72** and upon tilting of the device with the cup **65** applied to the eye, the liquid passes into the cup **65** and effectively washes or treats the eye.

Medicinal pellets or powder for use in making up the solution may be carried in the lower compartment **55**, and it is quite obvious that the extra compartment **55** can be employed in connection with the container having a dispensing flap-valve as shown in Figures 1–3, and conversely the flap-valve of Figures 1–3 may be employed in the partitioned receptacle illustrated in Figures 4–6.

It is understood that various changes and modifications may be made in the embodiments illustrated and described herein without department from the scope of the invention as determined by the following claims.

I claim:

1. A combined dispensing container and applicator for laving the eye comprising, in combination, a receptacle for an eye-treating liquid, an eyecup element comprising a cup portion and a hollow stem portion communicating with said receptacle, a flap valve controlling flow through said hollow stem portion from said receptacle to said cup portion, said flap valve disposed at the junction of the hollow stem and the cup portion, and opening into the latter when subjected to fluid pressure through the stem, means for applying pressure to the liquid in said receptacle to cause it to flow through said hollow stem past the flap valve into the cup portion, a removable cover adapted to be applied to said receptacle to shroud said eyecup portion when the device is not in use, and a projection on said cover adapted to enter said cup portion, contact said flap valve, and press it firmly in closed position when the cover is applied.

2. A dispensing container comprising a ring, a flexible liquid container secured to the ring, an eye cup element also secured to the ring to form a dispensing container assembly and comprising a cup portion and a stem portion, the latter having an opening therein, a plug secured in the opening of the stem and having an axial opening therein, a head on the plug providing a flap valve to normally close the opening in the plug and prevent communication between the container and eye cup, and adapted to open and allow passage of liquid from the container to the eye cup when pressure is applied to the walls of the container.

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