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EYECUP ATTACHMENT FOR CONTAINERS

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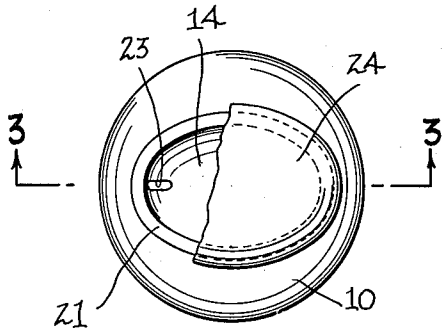


FIG. 1

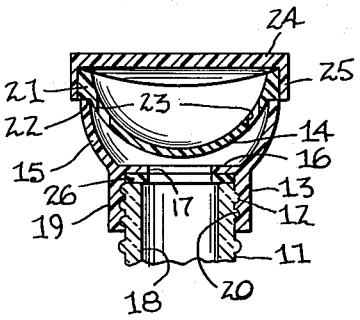


FIG. 3

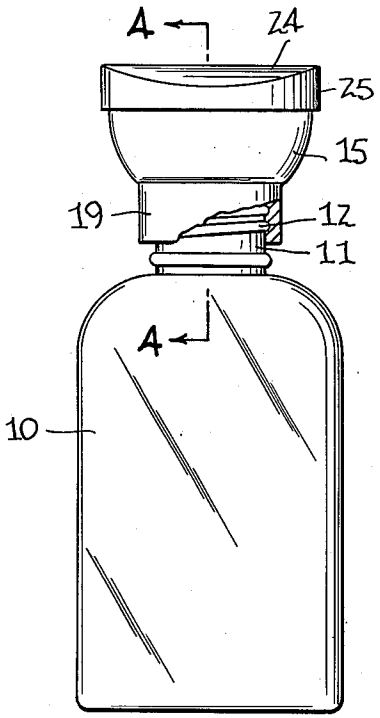


FIG. 2

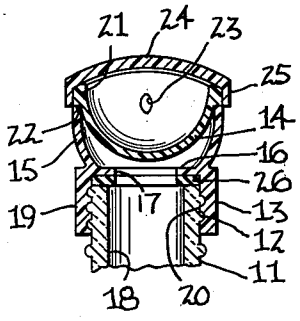


FIG. 4

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## EYECUP ATTACHMENT FOR CONTAINERS

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4 Claims. (Cl. 128—249)

1

This invention relates, as indicated, to an eyecup attachment for containers.

In my U. S. Patent No. 1,944,901, I have described an eyecup formed as a unitary part of a container, the use of which requires filling of the container from the bottom and the use of a stopper for covering the eyecup when the container of the unit is being filled.

I have found the aforesaid unitary arrangement somewhat impractical, for the following reasons:

(*a*) The unitary structure is of somewhat complicated design and is extremely difficult to mold.

(*b*) Its manufacture requires that the container portion of the unit be made of a plastic corresponding to the plastic of which the eyecup portion of the unit is made, and which plastics are difficult to obtain, particularly plastics having desired physical and chemical properties for use with conventional solutions used in the treatment of the eyes.

(*c*) The unitary structure requires a separate stopper or closure for the bottom of the unit, and requires a separate stopper or closure for the upper end of the unit be in position when the container is being filled or refilled.

The present invention has as its primary object the provision of an eyecup attachment, of the character described, the use of which overcomes the aforesaid disadvantages.

More specifically, the eyecup attachment may be manufactured in large quantities from readily-available plastics, and may be made and assembled inexpensively. Moreover, it may be used in association with conventional glass containers, and may be easily and quickly attached to and detached from such containers, and may be washed or sanitized without any difficulty. Finally, its use renders unnecessary the provision of a bottom stopper or closure for the container, and does not require that the upper stopper or closure be in position when the container is being filled or refilled.

A further advantage of the use of the attachment of the present invention lies in the fact that the ability to use it in conjunction with a conventional glass container enables solutions to be used for bathing or treating the eyes, which might be deleteriously affected by certain types of plastics, but which are not in any way affected by glass.

Other objects and advantages of the invention will become apparent during the course of the following description.

In the accompanying drawing forming a part

2

of the description, and wherein like numerals are employed to designate like parts throughout the several views:

Fig. 1 is a top plan view of the eyecup attachment, with a portion thereof broken away, to better show the construction;

Fig. 2 is a side elevational view, showing the eyecup attachment in operative position on a conventional glass container.

Fig. 3 is a fragmentary cross-sectional view, taken on the line 3—3 of Fig. 1, and

Fig. 4 is a fragmentary cross-sectional view, taken on the line 4—4 of Fig. 2.

Referring more particularly to the drawings, reference numeral 10 designates a conventional glass bottle or container, the neck 11 of which is provided with screw threads 12. This bottle or container is adapted to contain a solution or fluid which may be used for the treatment of the eyes of an individual.

The eyecup attachment, which constitutes the novel feature of the invention is preferably made from two separate parts or moldings of plastic, respectively designated by reference numerals 13 and 14. The part 13 consists of a cup-like portion 15 of elliptical cross-section and having an inwardly extending base flange 16, defining a circular opening 17 adapted for axial alignment with the opening 18 in the neck 11 of the bottle 10. The part 13 has also formed integrally therewith a depending circular collar 19 having threads 20 in its inner surface, which threads are adapted for threaded connection with the threads 12 on the bottle neck.

The part 14 of the eyecup attachment is also of cup-like form and of elliptical cross-section, and fits within the part 13, in spaced relation to the latter, being provided with a thickened upper edge 21 forming a shoulder 22 which rests upon the upper edge of the portion 15 of the part 13.

The parts 13 and 14 may be secured together to form a unit, by means of acetone or similar adhesive applied to the upper edge of the portion 15 and the shoulder 22, when the parts are assembled.

The part 14 is further provided with spaced openings 23, through which solution from the bottle 10 may flow into the eyecup attachment, when the bottle is inverted.

The eyecup attachment may also be provided with a removable cover or closure 24, provided with a flange 25, whereby the closure may be secured to the portion 21 of the attachment by a slip or slide fit. This closure is also preferably molded from a plastic.

In securing the eyecup attachment to the bottle 10, a gasket 26 of rubber or the like, may be interposed between the upper edge of the neck 11 of the bottle and the flange 16, and compressed therebetween, to thereby form a fluid-tight seal between the attachment and the bottle.

When it is desired to use the device for laving the eyes, the device, with the closure 24 in position, is inverted, so that the solution flows through the opening 17 and openings 23, and into the compartment formed by the part 14 of the attachment and the closure 24. When a suitable quantity of the solution has been transferred to this compartment, the device is returned to its normally upright position, whereupon the solution is retained in the eyecup without the aid of the closure 24. The closure 24 may then be removed so that the eyecup can be applied to the eye in the usual manner. Since the openings 23 are positioned adjacent the upper edge of the cup, at a substantial distance above the bottom of the cup, a sufficient quantity of fluid will be retained therein when the bottle is righted. After the treatment, the solution may be disposed of and the closure 24 is replaced. This operation may be repeated until the bottle is emptied, whereupon it may be easily and quickly refilled through the opening 18, or the attachment secured to another full bottle which is purchased without an eyecup attachment.

It will be apparent from the foregoing that the attachment is of extremely simple design, which is relatively easy to mold, that it may be molded from readily available plastics having desired physical and chemical properties, that its use does not require a separate stopper or closure for the bottom of the bottle, and that the closure 24 need not be in place when the bottle is refilled. It will also be noted that it may be manufactured in large quantities from parts which are inexpensive to mold and assemble, that it may be used in association with conventional glass containers, that it may be quickly and easily attached to and detached from such containers, and that it may be cleaned or sanitized without any difficulty.

It is to be understood that the form of my invention, herewith shown and described, is to be taken as a preferred example of the same, and that various changes in the shape, size and arrangement of parts may be resorted to, without departing from the spirit of my invention, or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. An eyecup attachment of the character described comprising a cup-like member having a depending collar provided on its inner surface with screw threads, said collar having an inwardly extending flange adjacent its upper end defining a circular opening, and a second cup-like member disposed within said first member in spaced relation to the latter, said second member provided with spaced openings and having a thickened upper edge forming a shoulder which rests upon and is secured to the upper edge of said first member, and a closure adapted to rest on said second member and provided with a flange having a slide fit with said second member.



2. An eyecup attachment of the character described, said attachment comprising a cup-like member of elliptical cross-section and having a depending cylindrical collar formed integrally therewith having threads on its inner surface, said member also having a radially-inwardly extending flange formed integrally therewith, said flange defining a circular opening adapted for axial alignment with the opening in the neck of a bottle and disposed at substantially the junction between said member and said collar, and a second cup-like member of elliptical cross-section disposed within said first member and in spaced relation to said flange, said second member having openings therein adjacent the ends forming the major axis of the ellipse, said second member having a thickened upper edge forming a shoulder which rests upon and is adhesively secured to the upper edge of the first member.

3. An eyecup attachment, as defined in claim 2, in which a removable cover or closure is provided, of elliptical contour and having a marginal depending flange having a slide fit with the thickened upper edge of said second member, said flange, when the closure is in operative position, being disposed exteriorly of said thickened upper edge.

4. An eyecup attachment, as defined in claim 3, in which said closure is molded from a plastic.

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