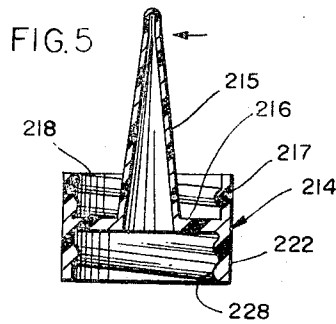
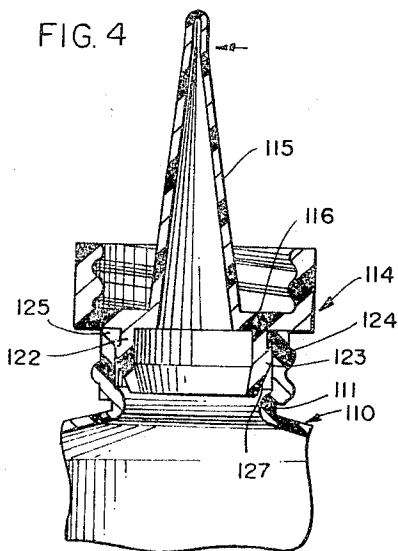
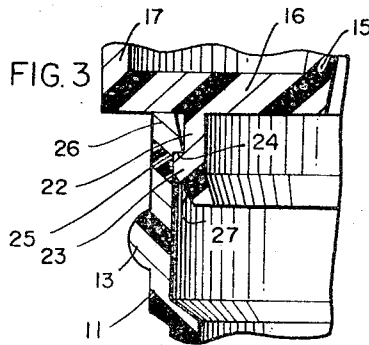
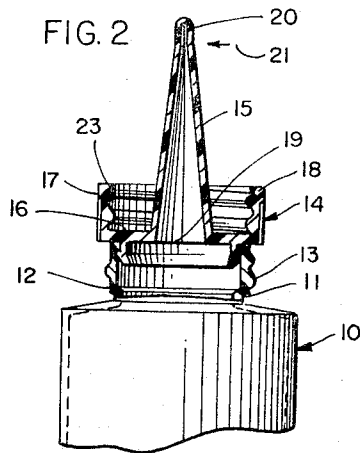
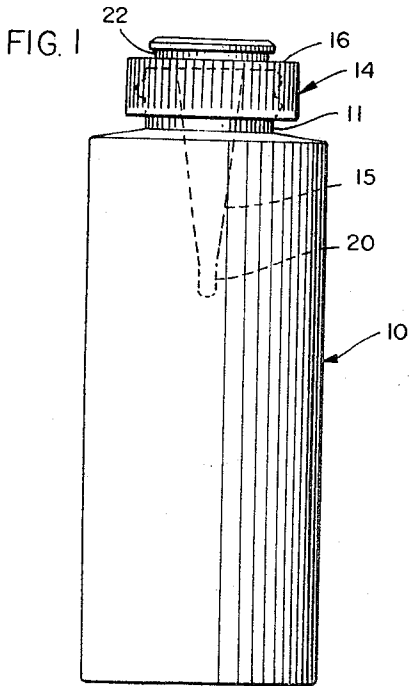


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E. F. OPPASSER ET AL.  
DISPENSING DEVICE INCLUDING CAP ATTACHABLE  
FOR EITHER SEALING OR DISPENSING  
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INVENTORS:  
EDWARD F. OPPASSER  
EDWIN R. THIELE

BY: Dawson, Pitton, Patton, Ljungquist & Alexander  
ATT'YS

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3,308,998

**DISPENSING DEVICE INCLUDING CAP ATTACHABLE FOR EITHER SEALING OR DISPENSING**

Edward F. Oppasser, Des Plaines, and Edwin R. Thiele, Melrose Park, Ill., assignors to Alberto-Culver Company, Melrose Park, Ill., a corporation of Illinois  
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This invention relates to a dispensing device and, more particularly, to a unique closure for a "squeeze" bottle type container.

In many instances, it is advantageous to dispense the fluid contents of "squeeze" type bottles through a spout. Cosmetics, for example, are desirably applied in this fashion so as to permit localized application. However, in many instances, packaging requirements do not permit the provision of a spout so that the same has had to be provided as a supplemental element, or the desirable localized application is lost.

It is a general object of this invention to provide a unique device which permits achievement of the desirable spout dispensing, yet which is compatible with contemporary packaging requirements.

A more specific object of the invention is to provide a dispensing device including a resilient container and a reversible type closure, the closure in a first position constituting a seal and having an integral spout positioned within the container; the closure in a second position disposing the spout outwardly of the container and in fluid delivery condition, so as to dispense fluid contents from the container interior. In this fashion, the originally provided container-closure combination meets the contemporary packaging requirements of having limited height not only for shipment and marketing, but also for storage in the home of the user.

Still another object of the invention is to provide an inverted reversible type cap for a dispensing container wherein the cap has a generally cup-shaped configuration equipped with integral thread means for securement to the throat of a dispensing container and an integral spout projecting in the same direction as the skirt or sidewall portion of the cup shape; additionally, the closure is equipped with an integral flange projecting away from the previously mentioned spout and skirt portion, so as to lockingly engage the throat of the dispensing container and position the spout outwardly for pin-point application of fluid provided in the container.

A further object of the invention is to provide a closure for a flexible "squeeze-type" bottle wherein the closure is reversible to dispose an integral spout inwardly when not in use and outwardly for dispensing, the closure including a perimetric flange extending in the direction opposite to that of the spout and adapted to resiliently deform the throat portion of the squeeze-type bottle when being assembled thereon prior to fluid dispensation.

Other objects and advantages of the invention may be seen in the details of construction and operation set down in this specification.

The invention is explained in conjunction with an illustrated embodiment in the accompanying drawing, in which—

FIG. 1 is an elevational view of a dispensing device constructed according to the teachings of this invention;

FIG. 2 is a fragmentary elevational view, partially in section of the device in FIG. 1 but with the closure thereof positioned in a reverse fashion and in a stage prior to actual dispensation of fluid contents from the lower portion;

FIG. 3 is a fragmentary enlarged sectional view of a portion of the showing in FIG. 2;

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FIG. 4 is an enlarged fragmentary sectional view of a modified form of the invention; and

FIG. 5 is a sectional view of yet another form of the invention.

In the illustration given and with reference first to FIG. 1, the numeral 10 designates generally a container of the "squeeze" bottle type which advantageously may be constructed of a thermoplastic material such as polyethylene. The container 10 of FIG. 1 is generally cylindrical and at its upper end is equipped with a constricted throat 11 providing a mouth 12 (see FIG. 2). The throat portion (still referring to FIG. 2) has a discrete length and is equipped with an integral thread as at 13 for the receipt of a closure or cap generally designated 14.

In FIG. 1, the cap closure 14 is installed in the fashion in which the over-all unit is marketed, the closure 14 providing a seal against discharge of the liquid contents (not shown) of the container 10. It will be seen that the closure 14 includes an integral spout 15 which is positioned inwardly of the container 10—in contrast to the showing in FIG. 2.

In reference to FIG. 2 reveals that the closure 14 includes an intermediate wall 16 which, when the closure 14 is installed in the position seen in FIG. 1, constitutes a top wall for the throat portion 11. From the intermediate wall 16, there extends generally perpendicularly a perimetric skirt or sidewall 17 which, with the intermediate wall 16, defines a generally cup-shaped body 18. The intermediate wall 16 of the cup-shaped body 18 is centrally apertured as at 19 (still referring to FIG. 2) and extending outwardly of the cup-shaped body 18 and about the aperture 19 is the previously mentioned dispensing spout 15. Initially, the dispensing spout 15 has its tip 20 closed by integral material. For example, the entire closure 14 may also be constructed of a thermoplastic material such as polyethylene and when the closure 14 is mounted in the condition seen in FIG. 2, dispensing can be achieved by snipping off the tip portion 20 by a knife, scissors or the like cutting along the line indicated by the arrow 21.

For securing the closure 14 in the alternative or second position seen in FIG. 2, the integral wall 16 is equipped with a depending skirt or flange 22 (see FIG. 3). The flange 22 is further equipped with an integral bead as at 23 which develops a shoulder as at 24. Provided on the interior of the throat portion 11 is a cooperating shoulder 25 which locks the closure in the dispensing position seen in FIG. 2.

In operating, the fluid filled unit including the container 10 and closure 14 is marketed and shipped in the condition seen in FIG. 1 with the spout 15 positioned interiorly of the container 10. At this time, integral threads as at 23 (see FIG. 2) provided on the interior of the cup-shaped body 18 engage the mating threads 13 of the throat portion 11. The tip 20 of the spout 15, being closed, results in the closure 14 providing a seal against loss of the liquid contents of the container 10. When use is indicated, the closure 14 is unthreaded from the throat portion 11 and snapped into place in the fashion seen in FIG. 3, the bead 23 temporarily deforming the upper shoulder-providing portion 26 of the throat 11 during locking engagement of the bead 23 with the shoulder 25. Thereafter, the tip 20 is removed or opened as desired and the unit made available for dispensing of fluid. If desired, the arrangement of parts in FIG. 2 can be reversed to the position of FIG. 1 so that storage in a constricted height cabinet is facilitated.

In FIG. 4, a modified form of the invention is seen which differs essentially from that seen in FIGS. 2 and 3 in the character of the bead 123. In FIG. 4, the numeral

110 generally designates the container portion of the device, the numeral 111 the constricted throat portion of the container 110, while the numeral 114 designates generally the reversible, spout-equipped closure. The numeral 115 designates the spout and the numeral 116 the intermediate wall of the closure 114. The depending annular skirt or flange 122 is equipped with the above-mentioned bead 123 and it is seen that the bead 123 provides a shoulder portion as at 124 for engaging the cooperating shoulder 125 of the throat portion 111. The showing in FIG. 4 differs from that of FIGS. 2 and 3 more particularly in the length of the lead-in taper as at 127. Here, it will be appreciated that the bead 23 or 123, as the case may be, is defined along its upper side i.e., the side nearer the intermediate wall 116, by a surface which is essentially parallel to the intermediate wall 116 to provide the step or shoulder 24 or 124 for engagement with the throat portion shoulder 25 or 125. The bead 123 is further defined by a second sidewall as at 127 which is of a gradual taper—as compared with the corresponding wall 27 seen in FIG. 3—to facilitate insertion of the flange 122 within the throat portion 111. Depending upon the rigidity of the material used for constructing the container 10, choice of the two forms of taper 27 may be made. In the showing in FIG. 4, the sidewall 127 of the bead 123 extends substantially over the thickness of the bead.

Still another form of the invention is seen in FIG. 5 wherein the numeral 214 again designates generally a closure for a squeeze bottle type container (not shown), but which may be the container seen in the preceding views. The upper portion (as shown) in FIG. 5 is the same as that seen in the preceding views wherein an intermediate wall 216 is equipped with an integral spout 215 and a skirt 217 cooperating with the intermediate wall 216 to provide a generally cup-shaped body 218. In the showing in FIG. 5, the other skirt or flange 222 extends generally co-extensively or in aligned fashion with the skirt 217 and further is equipped with an interior thread as at 228. Thus, the closure of FIG. 5 is mounted on the throat of a container in the same fashion irrespective of the disposition of the spout 215. In the case of the showings in FIGS. 2 and 4, for example, the sealing position of the closure has the cup-shaped body engaging the outside of the throat portion while the dispensing condition has the skirt 22 or 122 positioned inside the throat portion 11 or 111, respectively.

While in the foregoing specification, a detailed description of the invention has been set down for the purpose of illustration, many variations in the details herein given may be made by those skilled in the art without departing from the spirit and scope of the invention.

We claim:

1. A closure for a dispensing device having a discharge throat providing an open mouth, comprising: a unitary body adapted to be mounted in a first sealing position and a second dispensing position engaging said throat, said body including an intermediate wall defining a central aperture and first and second integral perimetric flanges extending in opposite directions from said intermediate wall said body further including an integral, closed spout about said aperture and extending in only one direction away from said intermediate wall, said first flange extending in the direction of said spout and having means for lockably engaging the exterior of said throat and sealing

said device in said sealing position, said second flange having an outside surface with means for lockably engaging the interior of said throat to form a seal therewith in said dispensing position.

2. The apparatus of claim 1 wherein said first flange is internally threaded and said discharge throat is externally threaded to receive said first flange to form a locked, sealed closure in said sealing position.

3. The apparatus of claim 1 wherein said discharge throat includes an internal lip adjacent the open mouth thereof and said second flange defines a recess on its external surface adjacent said intermediate wall for receiving said lip of said discharge throat to form a locked, sealed closure when said second flange is inserted into said throat in said dispensing position whereby said throat abuts said intermediate wall.

4. The apparatus of claim 3 wherein said second flange has a substantially smaller axial dimension than said first flange.

5. The structure of claim 3 further characterized by said second flange defining in an internally-tapered lead portion for guiding said second flange into removable, snapping engagement with said throat.

6. The structure of claim 5 wherein said tapered lead portion of said second flange extends in a radial direction substantially over the radial dimension of said lip to provide a relatively long tapered lead-in for said flange.

7. A dispensing device for fluids comprising a resilient container having a throat portion defining an open mouth integral thread means on said throat portion and a generally cup-shaped closure providing thereby a top wall and a perimetric side wall on one side of said top wall, said side wall being equipped with an integral thread means adapted to mate with said throat portion thread means in a first mounted position of said closure, said top wall defining a central aperture and an integral spout about said aperture, said spout extending from said top wall on one side to project into said container when said closure is in said first mounted position, said spout having a closed tip portion to seal said container when said closure is in said first mounted position, the other side of said top wall defining means for engaging the interior of said throat portion for forming a sealed, locked closure therewith in said second position comprising a bead on the inside periphery of said throat adjacent the mouth thereof and a recess on said second flange adjacent said intermediate wall defining a shoulder, said bead being held from movement axially of said spout by engagement with said shoulder and said intermediate wall.

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RAPHAEL M. LUPO, *Primary Examiner*,