United States Patent [19]

Hazard

[11] **3,873,005**

[45] **Mar. 25, 1975**

[54] **DISPENSING CLOSURE WITH SPOUT MOUNTED IN CLOSURE SKIRT**

[75] Inventor: **Robert E. Hazard,** North Kingstown, R.I.

[73] Assignee: **Polytop Corporation,** Slatersville, R.I.

[22] Filed: **Nov. 10, 1972**

[21] Appl. No.: **305,487**

[52] **U.S. Cl.** **222/153,** 222/536

[51] **Int. Cl.** **B67d 5/32**

[58] **Field of Search** 222/153, 402.11, 534, 535, 222/536, 537, 538

[56] **References Cited**

UNITED STATES PATENTS

3,116,856	1/1964	Prussin et al.	222/536 X
3,255,930	6/1966	Woodard	222/534 X
3,283,967	11/1966	Akers	222/536
3,677,445	7/1972	Linkletter	222/153
3,702,165	11/1972	Carow et al.	222/536 X

Primary Examiner—Robert B. Reeves
Assistant Examiner—Francis J. Bartuska
Attorney, Agent, or Firm—Edward D. O'Brian

[57] **ABSTRACT**

A "child-resistant" dispensing closure can be constructed utilizing a cap including a skirt and including an opening leading through the cap and utilizing a spout rotatably mounted on the cap so that in a closed position the spout fits within and appears as a part of the closure skirt. In this closed position the opening through the cap is sealed off by the spout. The spout is capable of being rotated so as to extend outwardly from the side of the skirt to an open position in which the opening through the cap is in communication with the passage through the spout. Structure is provided to impede accidential or unintentional rotation of the spout.

10 Claims, 4 Drawing Figures

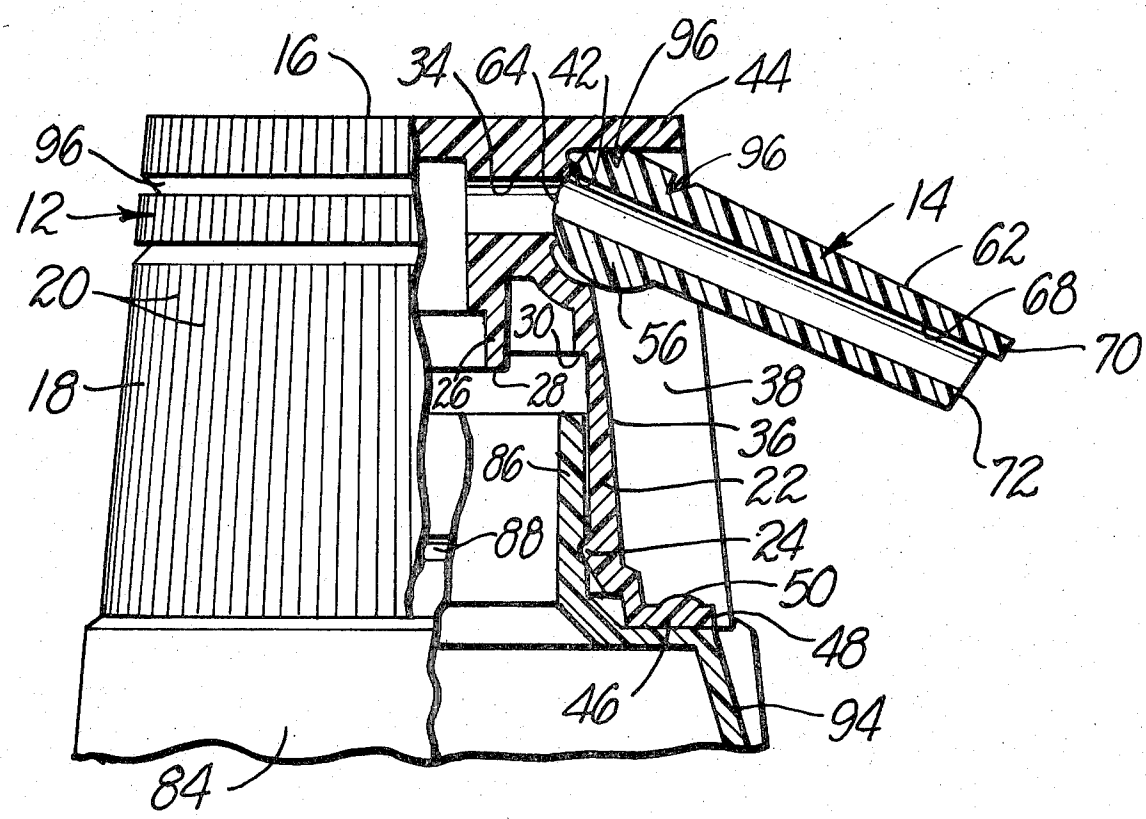


FIG. 1.

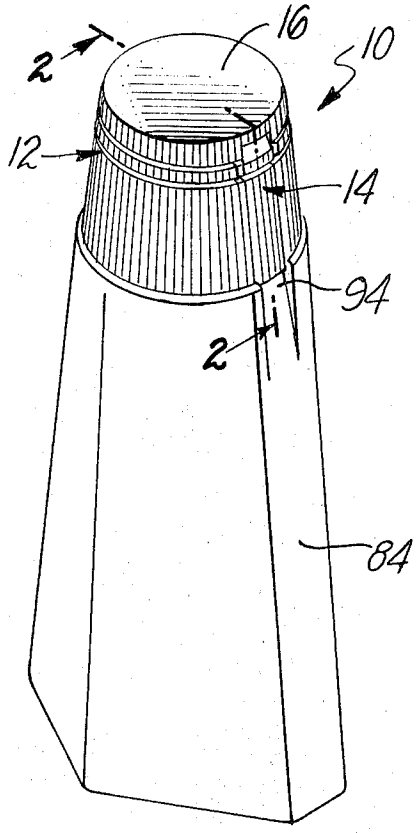


FIG. 2.

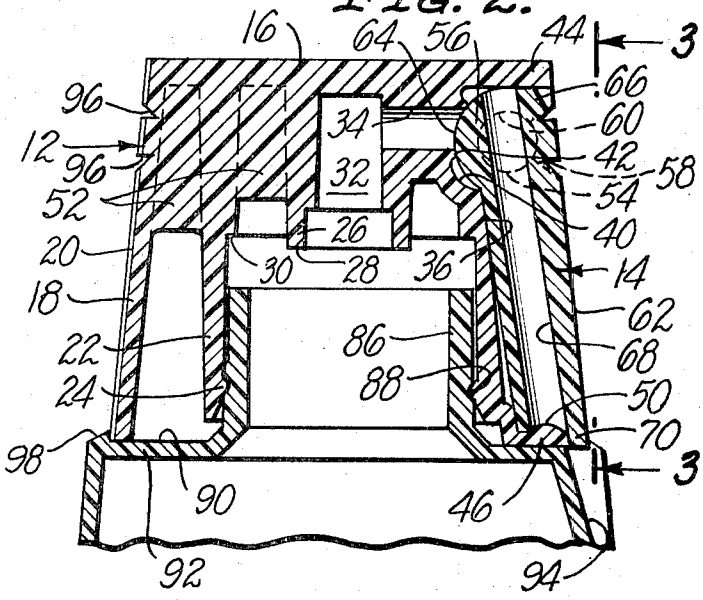


FIG. 3.

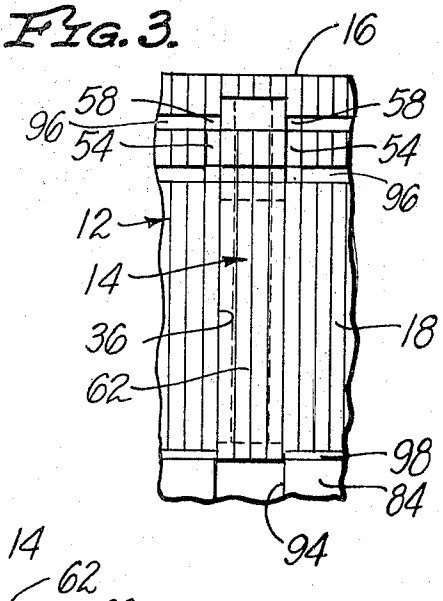
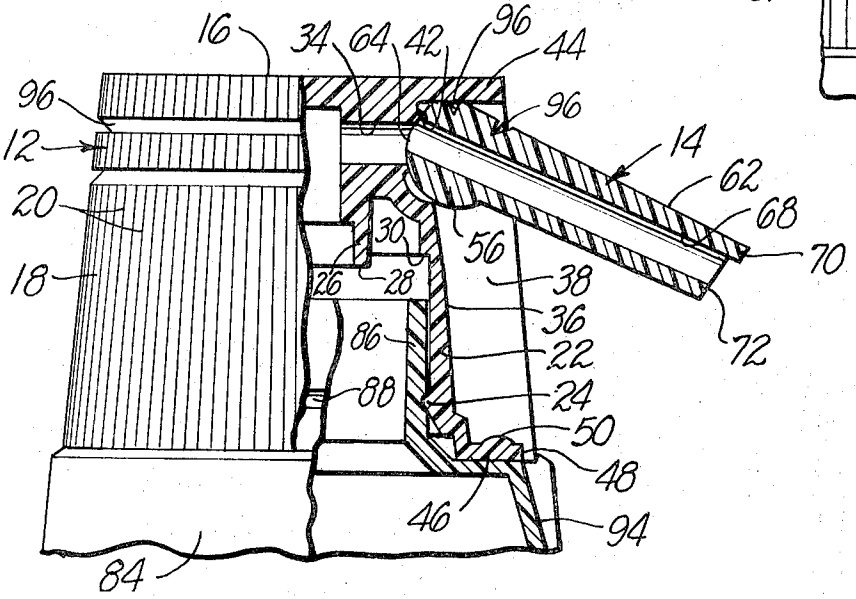


FIG. 4.



DISPENSING CLOSURE WITH SPOUT MOUNTED IN CLOSURE SKIRT

CROSS-REFERENCE TO RELATED APPLICATIONS

Hazard, et al., U.S. Pat. application Ser. No. 58,355 filed July 20, 1970, now U.S. Pat. No. 3,718,238 entitled "Safety Dispensing Closure." Hazard, et al., U.S. Pat. application Ser. No. 305,559, filed Nov. 10, 1972, entitled "Dispensing Closure With Pump Elements".

BACKGROUND OF THE INVENTION

Closures employing a spout or spout-type member rotatably mounted on a closure body so as to be capable of being rotated between open and closed positions have been known for many years. In the late 1940's and in the early 1950's injection moldeable, comparatively flexible, comparatively resilient and comparatively inexpensive polyethylene became available.

It is considered that the availability of this material resulted in the development of a number of such closure structures employing only two parts capable of being snapped or poped together. Such closure structures have commonly been designated as dispensing closures since they can be utilized to dispense the contents of a container without being removed from a container. Occasionally this term "dispensing closures" has been applied to closures having more than two parts and/or to closures assembled together by other than material deformation.

The original polyethylene dispensing closures were adopted and utilized because of a number of factors such as cost and customer convenience. In the early days of the field of such closures the spouts used in them were mounted at their tops so as to extend from them in both open and closed positions. Such extending type dispensing closures were considered to be necessary because of the problems of adequately sealing against leakage between the spouts and the caps in such closures. As the dispensing closure industry developed it was recognized that such extending type spout structures were not necessary, and that effective, attractive dispensing closures could be constructed utilizing essentially pop-in type trunnion and bearing structures holding rotatable spouts so that such spouts would not extend upwardly in all of their operative positions.

An effective type of dispensing closure of this broad variety is indicated in the Wilson, et al., U.S. Pat. No. 2,793,795. Other different types of bearings and trunnions which are considered desirable and/or effective in this type of closure are indicated in the Gustafson U.S. Pat. No. 3,023,939 and Kubilinus U.S. Pat. No. 3,089,626. In all of such structures—and there are many others which could be referred to—the spout member was held so that it could be rotated between an essentially horizontal closed position and an essentially vertical open position.

Following the development of closures of this type there occurred a commercial demand for so-called "flat top" type dispensing closures having essentially horizontal, essentially level upper surfaces. To a large extent this commercial demand was based upon desires for closures which could be utilized in stacking so as to support containers after being installed on containers. In other words, it was desired to have closures which could be utilized in stacks of packages utilizing such closures. Such flat or essentially flat top closures were

also desired by customers for essentially aesthetic type reasons.

These reasons were to a large extent related to another important commercial and utilitarian factor. Large scale purchasers of dispensing closures realized that the customer demand for their products would tend to be minimized if the closures used with their products had normally exposed cracks, configurations or the like where dirt and other contaminants might tend to accumulate. These purchasers have effect defined a need for dispensing closures which will present a neat appearance under all conditions of use.

The dispensing closure industry has attempted to meet this need for dispensing closures which would not accumulate dirt and the like by minimizing the size of bearing and trunnion structures utilized in holding the spouts in such closures by recessing these spouts within the tops of closure caps, by forming these spouts to specialized shapes and various similar expedients. To a large extent these efforts have been successful. Even so, however, there remains a need for dispensing closures in which there is substantially no way for dirt or other contaminants to accumulate.

During the development of dispensing closures a substantially parallel development affecting not only the dispensing closure field, but the field of closures generally has been taking place. This development concerns a growing recognition of the need for so-called "child-resistant" closures. In the past these have been referred to as "safety" closures. Although these terms can be defined in many ways, in general they have been used to designate closures which are rather difficult to open so that they are not apt to be opened by comparatively young children or by adults of less than normal mental capacity. Such child-resistant closures are intended to prevent such things as accidental poisonings, damage due to inadvertent closure opening and the like.

The realization of a need for child-resistant closures has, of course, resulted in a great deal of work devoted towards the development of dispensing closures of a safety closure category. It is considered that an understanding of the present invention does not require a detailed analysis of those child-resistant dispensing closures which are publicly known. In general, such structures tend to be comparatively complex, and/or expensive and/or difficult to utilize.

As the dispensing closure field has developed still another commercial need in this field has been manifested. This is the need for dispensing closures which can be utilized with various types of deformable containers, such as so-called "squeeze bottles" in dispensing the contents of a container without the container itself being removed from a supporting surface. For certain applications, it is considered that such side dispensing closures should be constructed so as to be capable of being utilized with a pump-type mechanism. Although the need for dispensing closures in this latter category has been recognized, it is considered that this need has not been adequately met by known dispensing closure structures.

SUMMARY OF THE INVENTION

The invention set forth in this specification broadly relates to new and improved dispensing closures. This invention is, however, more specific than this sentence would indicate in that it is concerned with providing new and improved dispensing closures meeting com-

mercial and utilitarian needs in the dispensing closure field as are indicated in the preceding discussion. More specifically, the invention is concerned with providing dispensing closures which are highly utilitarian and desirable from a stacking standpoint, from the standpoint that they are relatively immune from collecting significant amounts of dirt and contaminants under the normal conditions of storage and use and from the standpoint that their closing action is sufficiently unusual so as to be of such a nature that they may be considered as child-resistant closures.

The invention is also concerned with providing closures having these characteristics which are also of such a character that they may be effectively utilized in dispensing the contents of a container at the side of a container when they are employed on deformable containers. When used in these applications, the closures of the invention may, if desired, be employed with a pumping mechanism which is either separate or apart from these closures or which is incorporated within these closures. The invention is further intended to provide closures as indicated in the preceding discussion which can be manufactured at nearly the same costs as existing dispensing closures, which can be handled by large scale users without modification or significant modification of the capping equipment already in existence for use with non-dispensing closures and which are capable of giving prolonged, effective service utilization.

The invention is also concerned with the combination of closures as indicated with specially formed containers. Such a combination is considered to be desirable in making it more difficult for a child to open such a closure of the invention when it is installed on such a container than it is for a child to open such a closure when the same closure is installed upon a conventional container. Whether or not closures of the invention are to be utilized in combination with such specially designed containers will depend upon the relative degree of difficulty desired in opening a closure used for a particular application.

In accordance with this invention a dispensing closure having the characteristics indicated can be constructed so as to utilize a cap and a spout, the cap including a skirt and an opening leading through the cap, the spout being rotatably mounted on the cap and having a passage extending through it, the spout being capable of being rotated between a closed position in which the opening is closed off by the spout and an open position in which the passage is aligned with the opening by constructing such a closure so that there is a groove in the skirt of the closure, so that the opening leads into the bottom of the groove of the spout is located within the groove in such a manner that it may be rotated to an open position extending to a side of the skirt.

Also in acordance with this invention such a dispensing closure may be mounted upon the neck of a specially designed container in such a manner that it may be rotated upon the neck. Such a container is preferably formed so as to include a circumferential groove located in its top around the neck into which the bottom portion of the closure skirt fits and so as to include a radial groove extending from this circumferential groove. With this type of structure the closure spout cannot be rotated between open and closed positions because of the container except when the spout is positioned by cap rotation so that it can pass through the radial groove.

A number of other details and features are important to a dispensing closure in accordance with this invention. Such other items are indicated subsequently in this specification. Preferably the skirt and spout should be formed so that normally the spout appears as essentially a part of the skirt when it is in a closed position. Means as hereinafter indicated are preferably provided for tending to prevent inadvertent or accidential opening of the spout. Further, the closure preferably has a complete flat top for utilitarian and aesthetic reasons.

BRIEF DESCRIPTION OF THE DRAWING

Further details of this invention as best more fully explained with reference to the accompanying drawing in which:

FIG. 1 is an isometric view of a presently preferred embodiment or form of a dispensing closure in accordance with this invention installed upon a container formed in accordance with this invention;

FIG. 2 is a cross-sectional view taken at line 2—2 of FIG. 1;

FIG. 3 is a partial elevational view taken at line 3—3 of FIG. 2; and

FIG. 4 is a partial side elevational view in the same plane as in FIG. 2 in which a part of the closure is shown in cross-section and in which the spout of the closure is shown in an open position.

The closure and the container illustrated in the drawing both embody the intangible concepts of the present invention defined or summarized in the appended claims. It is to be realized that this closure is only one specific closure utilizing some of these concepts. These concepts may be embodied within somewhat differently appearing and somewhat differently constructed closures and containers through the use of routine engineering skill and/or aesthetic design skill.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

In the drawing there is shown a child-resistant dispensing closure **10** in accordance with this invention. This closure **10** includes a cap **12** and a spout **14**. Both of these parts are preferably formed of a somewhat resilient, somewhat flexible material such as a common polyolefin polymer. Materials of this type are conventionally utilized in dispensing closures.

The cap **12** is formed so as to include a continuous, impervious top **16** of a disc-like shape. A peripheral outwardly flared skirt **18** is formed on the cap **12** so as to extend from the top **16** as shown in the drawing. The flared shape of the skirt **18** is considered to facilitate the application of the closure **10** to a container utilizing conventional, existing capping equipment. It is also considered that the use of such equipment may be facilitated through the use of vertically extending scored lines or ribs **20** which extend the entire length of the skirt **18**. Preferably the top **16** is a completely flat top so as to facilitate what was referred to as "stacking" in the preceding discussion, so as to facilitate price marking, and so as to make it impossible for this top **16** to collect unsightly dirt or other material to any significant extent.

The cap **12** also includes an internal dependent subskirt **22** which is located concentric with the skirt **18** so as to depend from the top **16**. Preferably this subskirt

22 includes adjacent to its bottom a so-called snap-bead 24 which is adapted to snap over and mate with a corresponding part on a conventional bottle neck as hereinafter described so as to form a seal therewith when the closure 10 is mounted on a container. It will be apparent that the bead 24 is essentially a "holding means" to be used in securing the closure 10 upon a container. Other equivalent or substantially equivalent structures can be used. The bead 24 is preferred from a safety standpoint in that it is of such a character that when the closure 10 is installed on a container it is relatively difficult or substantially impossible to remove this closure from the container.

The closure 10 illustrated is formed so as to include a cylindrical wall 26 which is concentric with the skirts 18 and 22, which depends from the top 16 and which terminates at a lower surface 28. This closure 10 also includes an inwardly extending annular flange 30 located concentrically around the interior of the subskirt 22. This flange 30 and the cylindrical wall 26 are provided within this closure 10 so that the closure 10 can be used in a structure as set forth in the aforenoted application "Dispensing Closure with Pump Elements." If for any reason the seal formed between the subskirt 22 and the neck of the container is not adequate, other conventional sealing means or structures can be formed in lieu of either the wall 26 or the flange 30 or both to mate against the end of a container neck in a known manner.

The interior of the plug 26 in effect serves as a dispensing chamber 32 designed to convey material through the cap 12 to a horizontally directed opening 34 leading from the chamber 32 to an enlarged groove 36 extending vertically along the skirt 18. This groove 36 is defined by the subskirt 22 and parallel side walls 38 connecting the subskirt 22 with the skirt 18. Preferably the groove 36 has an enlarged area 40 adjacent to its top and preferably a known sealing ring 42 of a type conventionally used in dispensing closures is located so as to extend around the opening 34 into this area 40. This sealing ring 42 may be conveniently formed as set forth in the Akers' U.S. Pat. No. 3,495,745.

It will be noted that the ends of the groove 36 are defined by a portion 44 of the top 16 and by a small wall 46 extending parallel to this portion 34 between the walls 38 and the subskirt 22. Preferably this wall 46 is recessed from the exterior periphery of the skirt 18 so as to define a small notch 48 at the base of the groove 36. This wall 46 may conveniently include a small extending bump 50 of material. This structure of the groove 36 is in many respects similar to the construction of a similar groove shown in the Hazard U.S. Pat. No. 3,477,618. Preferably the cap 12 also includes internal webs or walls 52 designed to give the entire structure described stability.

The structure of the groove 36 is intended so that the spout 14 may be rotatably mounted in it by extending trunnions 54 on a base 56 of this spout 14 being popped through restricted entrances 58 leading to bearing openings 60. These entrances 58 and the bearing openings 60 are located along and in the walls 38. This structure is as described in the aforenoted Wilson, et al., U.S. Pat. No. 2,793,795 and as described in the Akers' U.S. Pat. No. 3,283,967 and in other references.

If desired, various other equivalent rotary mounting means may be utilized instead of the trunnions 54 and the bearing openings 60. Such other means are indicated in the aforenoted Gustafson U.S. Pat. No. 3,023,939 and in the aforenoted Kubilinous U.S. Pat. No. 3,089,626. It is considered essentially a matter of choice as to which of these mounting means is utilized in a particular application so long as the exterior of the skirt 18 is not interrupted by the mounting means employed so as to draw undue attention to the presence of the spout 14.

Preferably this spout 14 has an external surface 62 which is shaped so as to conform to a configuration of the exterior of the skirt 18 when the spout 14 is in a closed position as shown in FIGS. 1 and 2. This is considered to facilitate the utilization of the closure 10 in conventional capping equipment. It is also considered to add to the child-resistant character of this closure 10 by essentially hiding the spout 14 so that it will not be readily visible. To this end the sides of the spout 14 are preferably "blended" in with the pattern of the lines 20 and these lines 20 are utilized in the same pattern along the surface 62 of the spout 14.

The spout 14 is otherwise constructed in what is considered to be a known and conventional manner so as to have a base 64 having the shape of a surface of revolution concentric around the axes of the trunnions 54. This base 64 fits against the sealing ring 42 in a known manner so as to form a seal therewith at all times. The base 64 also preferably includes an enlarged, extending projection 66 extending the width of the spout 14 which is designed to abut against the top 16 so as to temporarily deform the top as the spout 14 is being rotated between the open and closed positions shown in FIGS. 3 and 4, respectively.

In this open position the projection 66 fits flush against the top 16 so as to tend to hold this spout 14 in an open position. Thus, this projection 66 and a part of the top 16 serve as a positioning means to position the spout 14 in a nearly horizontal downwardly directed position. This is considered necessary with the closure 10 in order to prevent the spout 14 from "sagging" once it is opened to a position in which the passage 68 within the spout might be wholly or partially cut off from the opening 34. It is also intended to discourage any tendency for the spout 14 to be manipulated as in a conventional dispensing closure.

The spout 14 also includes a small extending lip 70 which is adapted to fit within the notch 48 and a tapered end 72 which is adapted to be snapped into place against the wall 46 over the bump 50 so that when the spout 14 is closed the lower end of the passage 68 is sealed off. In effect, this bump 50 acts as a detent means to hold the spout closed. The exterior of the lip 70 preferably continues the exterior appearance of the surface 62.

In order to achieve as great a degree of child-resistance concerning the opening and closing of the closure 10, it is preferred to utilize this closure 10 on a specially formed container 84 as shown in the drawing. It is to be understood, however, that the closure 10 need not be utilized on a container corresponding to the container 84. This closure 10 can be utilized on a wide variety of conventional containers—including those having threaded necks—by appropriate modification of the subskirt 22 for attachment to any such neck.

The container 84 has a neck 86 formed in a conventional manner so as to include a groove 88 into which the bead 24 fits. The container 84 differs from conven-

tional containers in that it has a circumferential groove or recess **90** formed in its top **92** around the neck **86.** This groove **90** is dimensioned so that the bottom portions of the skirt **18** and the subskirt **22** will fit within it as shown in such a manner that the spout **14** cannot be engaged so as to be opened and cannot be rotated between open and closed positions unless the closure **10** is located so that the spout **14** is opposite to and in substantial alignment with a radially extending groove or notch **94** formed in the top **92.** This groove **90** can be the flat top on a bottle around a bottleneck which extends beyond the skirt **18.** This groove **94** intersects the groove **90** and extends radially outwardly from it. It is of such a width and depth that the lip **70** may be engaged with comparative difficulty when the spout **14** is adjacent to the groove **94** so that this spout **14** may be rotated between open and closed positions. To facilitate manufacturing this groove **94** can extend the length of the container **84.**

When the closure **10** is used with a container such as the container **84** normally the manufacturer will install this closure **10** so that the spout **14** is offset with respect to the groove **94.** With a mounting structure for mounting and holding the spout **10** on the neck **86** as described, the closure **10** will be capable of being rotated to a position on the neck **86** in which the spout **14** may be manipulated as indicated. In this position this spout **14** may be moved in opening and closing the closure **10** in the same manner as if it was installed on a conventionally formed container.

When the spout **14** is in a closed position as shown in FIGS. **1** and **2** the lip **70** may be engaged by reaching under the skirt **18** so as to rotate the spout **14** to an open position. A degree of difficulty will be encountered in opening the closure **10** since the location of this spout **14** will not be readily apparent. Further, the action of the projection **66** and the bump **50** will tend to impede and discourage initial rotation so that there will be a tendency to discourage manipulation of the spout **14** by comparatively young children.

Once the spout **14** is rotated to an open position as shown in FIG. **4** it may be utilized to deliver the contents of a container such as a container having deformable walls to the side of the container. This is considered to be highly advantageous for some purposes or applications. To aid in this, the closure **10** may be utilized with a tube fitting closely within the plug **26** going to the bottom of a container and/or with other pump elements which are either separate from or incorporated within the closure **10.**

Because the passage **68** is directed at a slight angle of horizontal after the closure **10** has been opened, the contents of this passage **68** will tend to drain out of it preventing the occasional problem with prior dispensing closures of material being trapped within the passage in a spout and of such material drying out and/or accumulating bacteria or the like. With the structure described, even if some such material should not drain from the passage **68,** this passage **68** will be effectively closed off when the spout **14** is rotated to a closed position as shown in FIG. **2.**

Both the closure **10** and the container **84** may be modified in accordance with conventional engineering and/or design skill so as to alter the mechanical aspects of and the aesthetics of the structures illustrated. As an example of this, circumferential grooves **96** may be provided both in the skirt **18** and in the spout **14** carrying out the pattern of the entrances **58** and of the space appearing beneath the portion **44** between this portion **44** and the base **56** of the spout **14.** Thus, it will be apparent that these grooves **96** serve to aid in at least partially hiding or concealing the location of the spout **14** on the closure.

Similarly, it is possible to proportion the circumferential groove **90** so that it includes an edge **98** which will engage and temporarily deform the lip **70** in such a manner as to permit the spout **14** to be closed if it should be rotated from an open position to a closed position when not in alignment with the groove **94.** During such rotation with the spout **14** in such an unaligned position the lip **70** will "pop" or "snap" past the edge **98** as the spout **14** is closed so that the closure **10** cannot subsequently be opened until it is turned so that the spout **14** is in alignment with the groove **94.**

I claim:

1. In a dispensing closure having a cap and a spout, said cap including a skirt and an opening leading through said cap, said cap being adapted to be secured to a container, said spout being rotatably mounted on said cap and having a passage extending therethrough, said spout being capable of being rotated between a closed position in which said opening is sealed off by contact with said spout and an open position in which said passage is in alignment with said opening, the improvement which comprises:

a vertically extending groove in the skirt of said closure, said groove having an upper end located beneath said top of said cap,

said spout being rotatably mounted on said cap beneath the top of said cap so as to be positioned within said groove in said closed position and so as to extend outwardly and downwardly from a side of said cap in said open position,

the portion of said spout which is exposed when said spout is in said closed position appearing substantially as a continuation of said skirt when said spout is in said closed position, and

said spout being of less length than the length of said skirt and fitting entirely within said groove when in said closed position,

said spout terminating adjacent to the lower edge of said skirt,

said top of said cap opposite said upper end of said groove being capable of being temporarily deformed,

a portion of said spout which is adjacent to said top when said spout is in said closed position being shaped so as to engage and temporarily deform said top adjacent to said groove when said spout is rotated from said closed to said open position and to fit against said top when said spout is in said open position so as to hold said spout in said open position.

2. A dispensing closure as claimed in claim **1** including:

detent means for holding said spout in said closed position.

3. A dispensing closure as claimed in claim **1** wherein:

said skirt is an outwardly flared skirt extending from said top and said cap having vertically extending lines located therein,

said spout has a surface which appears as a continuation of said skirt when said spout is in said closed

position, the pattern of said lines on said skirt being continued on said surface.

4. A dispensing closure as claimed in claim 1 wherein:

said top is a flat, impervious top.

5. A dispensing closure as claimed in claim 1 including:

detent means for holding said spout in said closed position,

groove means extending circumferentially around the periphery of said skirt and said spout hiding the presence of said spout,

means for mounting said skirt on a container neck so that said closure may be rotated on such a neck,

and wherein,

said skirt is an outwardly flared skirt extending from said top and said cap having vertically extending lines located therein,

said spout has a surface which appears as a continuation of said skirt when said spout is in said closed position, the pattern of said lines on said skirt being continued on said surface,

said top is a flat, impervious top.

6. In the combination of a dispensing closure and a container having a container neck, said closure having a cap and a spout, said cap including means engaging said neck so as to mount said closure on said neck, a skirt and an opening leading through said cap, said spout being rotatably mounted on said cap and having a passage extending therethrough, said spout being capable of being rotated between a closed position in which said opening is sealed off by contact with said spout and an open position in which said passage is in alignment with said opening, the improvement which comprises:

said spout being mounted on said skirt adjacent to the top of said skirt so as to extend downwardly towards the bottom of said skirt in said closed position,

said container having a circumferential recess located around said neck and having a radially extending notch extending radially from said recess,

said notch being of such width and depth that said spout may be rotated between said opened and closed positions when it is opposite said notch,

said skirt and said spout fitting within said recess when said spout is in said closed position so that said spout cannot be rotated to said open position unless it is located opposite said notch,

said closure being rotatable on said neck so as to be capable of being rotated to positions in which said spout is not opposite said notch as well as to a position in which said spout is opposite said notch.

7. The combination claimed in claim 6 wherein:

said spout is capable of being snapped into said closed position when it is not opposite said notch.

8. The combination claimed in claim 7 including:

a groove in the skirt of said closure,

said spout being rotatably mounted on said cap so as to be positioned within said groove in said closed position and so as to extend outwardly to a side of said cap in said open position,

a portion of said spout appearing substantially as a part of or continuation of said skirt when said spout is in said closed position.

9. The combination claimed in claim 8 including:

cooperating positioning means on said spout and on said cap for holding said spout in a horizontally extending, downwardly directed position from which the contents of said passage will drain out of said spout during the use of said closure and when said closure is in said open position,

detent means for holding said spout in said closed position,

groove means extending circumferentially around the periphery of said skirt and said spout hiding the presence of said spout,

and wherein,

said skirt is an outwardly flared skirt extending from said top and said cap having vertically extending lines located therein,

said spout has a surface which appears as a continuation of said skirt when said spout is in said closed position, the pattern of said lines on said skirt being continued on said surface,

said top is a flat, impervious top,

said spout is capable of being snapped into said closed position when it is not opposite said notch.

10. A container having a container neck extending from the top of the container for use in mounting on said container a dispensing closure having a spout capable of being rotated in a vertical plane between a closed position in which said spout extends generally between the top and bottom of said closure and an open position in which said spout extends outwardly from said closure, in which the improvement comprises:

a circumferential recess located around said container neck,

a radially extending notch located in said top so as to extend radially outwardly from said recess,

said notch being of sufficient dimension to permit said spout to be rotated between open and closed positions when said spout is located opposite said notch,

said recess being sufficiently large to accommodate a part of said closure and a part of said spout when said closure is mounted on said neck and being of such dimension as to preclude rotation of said spout from said closed position when said spout is positioned away from said notch, and

means on said neck for mounting said closure so that said closure can be rotated on said neck so as to position said spout opposite said notch and away from said notch.

* * * * *