

[54] SINGLE-PIECE PLASTIC CLOSURE CAP

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[22] Filed: Mar. 2, 1972

[21] Appl. No.: 231,291

[30] Foreign Application Priority Data

Mar. 16, 1971 Switzerland..... 3790/71

[52] U.S. Cl. 215/321

[51] Int. Cl. B65d 41/32

[58] Field of Search..... 215/38 R, 46 R, 41, 42, 215/100; 220/47, 60 R, 94

[56] References Cited

UNITED STATES PATENTS

2,490,791 12/1949 Erb 215/46 R
2,895,654 7/1959 Rieke..... 220/94 A

2,987,206 6/1961 Grussen 215/46 R X
3,459,315 8/1969 Labarre 215/42
3,462,035 8/1969 Grussen 215/42
3,656,648 4/1972 Powalowski 215/46 R
3,750,820 8/1973 Labarre 215/42

FOREIGN PATENTS OR APPLICATIONS

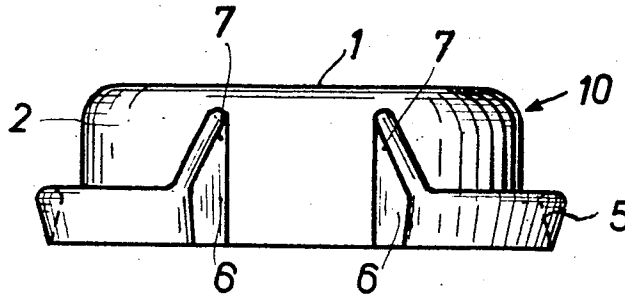
1,027,391 4/1966 Great Britain 215/46 R

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[57] ABSTRACT

A closure cap formed of plastic for containers comprising a cap member having a bracket or strap at least partially extending about a ring-shaped outer wall of the cap member, the bracket being secured to such outer wall. The bracket extends along an arc which is greater than 180° and less than 360°, and the terminal regions of such bracket are flexed towards one another and towards the interior of the cap member and the ends thereof are secured to the outer wall of the cap member.

2 Claims, 3 Drawing Figures



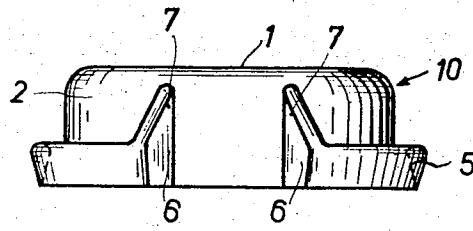


Fig. 1

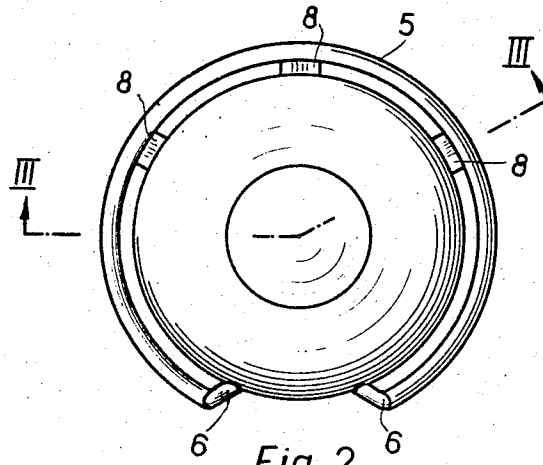


Fig. 2

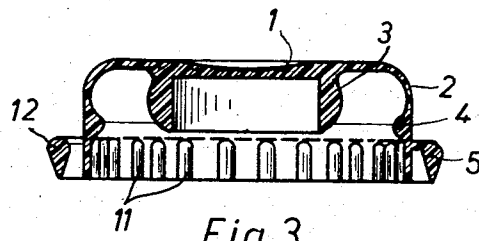


Fig. 3

SINGLE-PIECE PLASTIC CLOSURE CAP

BACKGROUND OF THE INVENTION

The present invention relates to a new and improved closure cap formed of plastic for containers or the like which is of the type comprising a strap or bracket extending at least partially about the ring-shaped outer wall of the cap member and which is secured to such outer wall of the cap member.

Such strap or bracket serves the purpose of removing the cap member from the container without any auxiliary means, the cap member preferably being constructed as a snap-on closure cap and applied to containers having a mouth portion equipped with a peripheral bead.

This bracket or strap is manually engaged, and by pulling upon such bracket the cap member can be removed from the container. Yet, when carrying out this operation the danger exists that such bracket may tear at its attachment location.

SUMMARY OF THE INVENTION

Hence, with the foregoing background in mind it is a primary object of the present invention to provide a new and improved construction of cap member which avoids the danger of rupture or tearing-away of such strap or bracket.

Still a further significant object of the present invention relates to a new and improved construction of cap member which is relatively simple in construction, economical to manufacture, equipped with a pull strap or bracket for reliably removing the cap member from the container or the like to which it is applied and without danger of rupturing or tearing away the pulling strap from the cap member proper.

Now, in order to implement these and still further objects of the invention, which will become more readily apparent as the description proceeds, the inventive cap member is manifested by the features that the pulling strap or bracket extends along an arc which is greater than 180° and less than 360° , and that the terminal regions of such strap are bent towards one another and towards the interior of the cap member and the ends of such terminal regions of the pulling strap are connected with the outer wall of the cap member.

BRIEF DESCRIPTION OF THE DRAWING

The invention will be better understood and objects other than those set forth above, will become apparent when consideration is given to the following detailed description thereof. Such description makes reference to the annexed drawing wherein:

FIG. 1 is a side view of a preferred constructional form of inventive closure cap member;

FIG. 2 is a top plan view of the closure cap member depicted in FIG. 1; and

FIG. 3 is a cross-sectional view of the closure cap member depicted in FIG. 2, taken substantially along the line III—III thereof.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Describing now the drawing, the exemplary embodiment of closure cap illustrated therein will be seen to comprise a cap member 10 which is essentially circular-cylindrical in shape. It comprises a cap floor or bottom portion 1 from which downwardly depends an

outer skirt 2 and at a radial spacing from such outer skirt 2 an inner skirt 3. The outer downwardly depending skirt 2 is provided at the central region of its height with an inwardly protruding annular or ring-shaped bead 4, the upper boundary surface of which ascends more pronouncedly towards the apex than its lower boundary surface. The inner skirt 3 possesses a substantially barrel-shaped outer boundary surface, as shown.

The region of the wall of the floor 1 of the cap member 10 which is disposed internally of the inner skirt 3 possesses a concave configuration and is domed downwards. A gripping bracket or pulling strap 5 is provided at the section of the outer skirt 2 which is disposed beneath the annular bead 4 and which section is provided with vertically extending internal ribs 11. This gripping bracket or strap 5 surrounds the aforementioned section of the outer skirt along an arc of approximately 330° with essentially uniform radial play. Gripping strap or bracket 5 is of substantially band-shaped configuration and the longer cross-sectional extension thereof is arranged in the axial direction of the cap member. Further, this strap 5 is constructed so as to be enlarged or thickened towards the top thereof, as generally indicated by reference character 12. Its terminal regions 6 are bent towards one another and towards the interior of the cap member 10 and the ends thereof are connected with the outer wall of the outer skirt 2, as shown.

Now as best seen by referring to FIG. 2 the configuration of the terminal regions 6 of the strap or bracket 5 is such that these terminal regions form an obtuse angle together with the neighboring section of the strap.

Continuing, and as best seen by referring to FIG. 1 the terminal regions 6 of the strap or bracket 5 are provided at their upper ends with an extension 7, possessing an upwardly directed wedge-shaped configuration and likewise attached with the outer wall of the outer skirt 2. Each such wedge-shaped extension 7 at the region of the outer wall of the cap member forms a support wall. In the exemplary embodiment under consideration strap 5 is connected at three locations by means of tearable webs 8 with the outer wall of the outer skirt or skirt member 2. Finally, it is mentioned that the described closure cap member advantageously is formed of a resilient plastic material, such as polyethylene for instance.

Closure caps of the type above-described primarily serve for bottles or other receptacles containing beverages, such as beer, lemonade and so forth. Upon applying the closure cap to the bottle the section of the skirt located beneath the annular or ring-shaped bead serves as the centering section. Upon completion of mounting of the closure cap at the bottle the neck of the bottle extends into the space between both skirt members 2 and 3, the annular bead 4 of the closure cap engaging beneath the annular bead of the bottle and drawing the cap member tightly downwards against the neck of the bottle. The barrel-shaped external surface of the inner skirt member 3 bears tightly against the inner wall of the neck of the bottle.

During the initial opening of a bottle equipped with such type closure cap member the strap or bracket 5 is seized and the webs 8 torn away. The strap 5 is then flexed upwardly over the floor or bottom 1 of the cap member 10 and by pulling on this strap the cap member itself is raised. The cap member then also can be again

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used for reclosing the bottle, the strap being capable of assuming its original position.

The strap thus serves as a security against unauthorized initial opening of the bottle or other receptacle with which the cap member is used and functions as a gripping ring for removing the cap member during the opening operation.

By virtue of the particular design of the strap or bracket and its attachment locations in conjunction with the given location of the latter it is possible to obtain a closure cap member having a gripping strap or bracket by means of which rupturing or tearing away of the strap under load is avoided.

While there is shown and described present preferred embodiments of the invention, it is to be distinctly understood that the invention is not limited thereto but may be otherwise variously embodied and practiced within the scope of the following claims. ACCORDINGLY,

What is claimed is:

1. A closure cap formed of plastic for containers or the like, comprising a cap member having a substantially ring-shaped outer wall provided with an inwardly

protruding annular bead at the central region of the axial length of said outer wall, a strap partially enclosing said ring-shaped outer wall of the cap member and disposed adjacent the free end of said outer wall, said strap extending along an arc which exceeds 180° and is less than 360° and having terminal regions which are bent toward the outer wall of the cap and connected with the outer wall of said cap member at spaced and neighboring positions, the end of the bent terminal regions of said strap forming an obtuse angle with the neighboring sections of said strap, the end of the bent terminal regions of the strap adjacent the top of the cap member being provided each with a wedge-shaped support wall connected with the outer wall of said cap member and extending toward the closed end of the cap member over said inwardly projecting bead, whereby said strap provides a point of leverage at the portion of said bead closest to the free end of said outer wall to facilitate removal of said cap from containers or the like.

2. The closure cap as defined in claim 1 wherein said arc is approximately 330°.

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