Sept. 8, 1936. W. F. SCHMALZ 2,053,498

CONTAINER CLOSURE MEANS

Original Filed July 17, 1934

Fig. 1

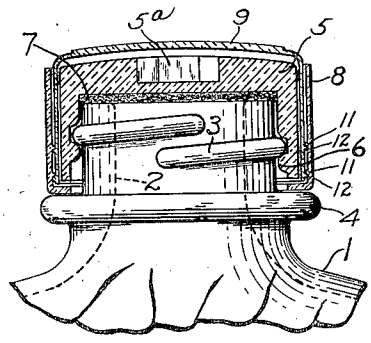


Fig. 2

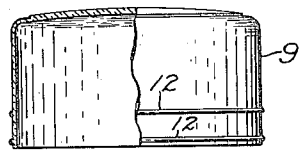
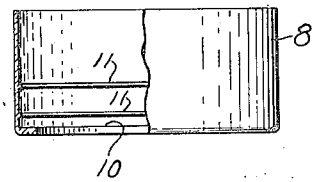


Fig. 3



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CONTAINER CLOSURE MEANS

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13 Claims. (Cl. 215—7)

This invention relates particularly to container closure means of the type having a readily breakable portion or member which is necessarily broken before the container can be opened to permit access to or discharge of the container contents. A closure means of this character when properly put in place on a container serves, so long as it remains unbroken, as a definite indication to the utlimate consumer and to each intermediate distributor or dealer who handles the package that the original contents are intact and that there has been no substitution or adulteration.

The principal object of the present invention is to provide a closure means of the type described wherein the container and the closure cap therefor are or may be of standard construction, and wherein the cap is nevertheless protected in such a way that it can be removed only by first breaking one or both of two auxiliary members associated with it.

Other objects of the invention will be apparent from the following specification and claims.

In the accompanying drawing I have shown the embodiment of the invention which I now deem preferable, but it will be understood that the drawing is intended for illustrative purposes only and is not to be construed as defining or limiting the scope of the invention, the claims forming a part of this specification being relied upon for that purpose.

Of the drawing:

Fig. 1 is a vertical sectional view of a container closure means embodying the invention, the closure means being in place on a bottle which is shown in elevation.

Fig. 2 is a combined sectional and elevational view of the sealing cap or member.

Fig. 3 is a combined sectional and elevational view of the enclosing member.

Referring to the drawing, 1 represents a container with which the container closure means embodying the invention may be used, the said container having a mouth or opening at 2. The container is shown as being a glass bottle, but it will be understood that the invention may be used with a wide variety of containers. The bottle is provided with the usual external thread at 3 and with the usual annular bead at 4 below the thread.

For closing the mouth of the bottle there is provided a closure cap 5 which may be of standard or substantially standard form. The cap 5 has an internal thread 6 which engages the external thread 3 on the bottle, and the cap is provided with a gasket or liner 7 in accordance with usual practice. While I do not so limit myself the cap 5 may be understood to be circular in horizontal cross section.

In order to prevent unauthorized removal of the cap 5 I provide two members having interengageable parts adapted to snap into engagement with each other, the said members being adapted when so engaged to surround the cap 5 and to prevent any access thereto which would enable it to be rotated. When the bottle is of standard construction, the said interengaged members are freely rotatable independently of the bottle and of the cap. At least one of the members is readily breakable so that upon being broken access can be had to the cap 5 to rotate it. The two members referred to may differ as to construction and arrangement, but preferably and as shown there is an outer member 8 which entirely surrounds or encloses the cap 5 and there is an inner or cap member 9 which fits within the member 8 and extends over or covers the top of the cap 5.

The enclosing member 8 is provided with an inward extending flange 10 which is positioned below the bottom of the cap 5 and above the bead 4, this flange serving to prevent upward or downward movement of the said member 8. The two members 8 and 9 are provided respectively at 11, 11 and 12, 12 with internal and external annular beads which are sufficiently shallow to permit them to be snapped off from the molds on which the said members 8 and 9 are formed. The diameters of the said beads 11, 11 and 12, 12 are so related to each other that when the member 9 is pressed into the member 8 the beads 12, 12 snap past the beads 11, 11 and thus serve to lock the two members together.

In using the container closure means shown in the drawing the bottle is filled in any usual or preferred manner, and then the member 8 is put in place, resting on the bead 4 of the bottle. Then the closure cap 5 is screwed into place, this cap being positioned within the enclosing member 8. Inasmuch as the member 8 would interfere with any wrench or other tool engaging the periphery of the cap 5 the said cap may be provided with a hexagonal or otherwise non-circular recess at 5a to be engaged by a suitable wrench. After the closure cap 5 is in place the sealing cap or member 9 is put in place by being moved vertically downward until the beads 12, 12 thereof snap past the beads 11, 11 on the enclosing member 8.

After the sealing cap 9 and the enclosing member 8 have once been interengaged with each

other by means of the said beads in the manner described, it is impossible to separate them. The bead 4 prevents movement of the member 8 in the downward direction, and there is no way in which upward pressure can be applied to the cap member 9. Although the members 8 and 9 cannot be separated from each other and cannot be moved upward or downward, they can preferably be freely rotated relatively to the container and the closure cap, but such rotation can have no tendency to rotate the closure cap.

At least one of the members 8 and 9 is so constructed as to be readily breakable and preferably both of them are readily breakable. When it is desired to obtain access to the contents of the container, one of these members, preferably the enclosing member 8, is broken as for instance by inserting a suitable tool between it and the member 9. After the member 8 has been broken the member 9 can be removed and then the closure cap 5 can be unscrewed in the usual manner. It will be understood that either the member 8 or the member 9 or both will ordinarily carry a suitable trade-mark or other marking to provide additional protection to the consumer.

While I do not so limit myself I prefer that the members 8 and 9 be molded from a material of the synthetic resin class. Such a material is somewhat brittle and is readily breakable when provided with sufficiently thin walls as exemplified by the concentric walls of the said members 8 and 9. Such a material has the further advantages that it is available in a variety of colors and can be readily molded to provide any desired external trade-mark or ornamental design.

What I claim is:

1. The combination in a container closure means, of a threaded container having an opening, a threaded closure engaging the thread on the container and closing the container opening, a readily breakable member partly enclosing the closure and having a portion engaged by the said closure to prevent removal of the member, and a sealing cap covering the closure and fitting within the enclosing member, the said member and sealing cap being provided with interengageable means in snap locking engagement with each other and the enclosing member while unbroken preventing any application to the sealing cap of upward force tending to separate it from the enclosing member and the closure.

2. The combination in a container closure means, of a threaded container having an opening, a threaded closure engaging the thread on the container and closing the container opening, a member partly enclosing the closure and having a portion engaged by the said closure to prevent removal of the member, and a readily breakable sealing cap covering the closure and fitting within the enclosing member, the said member and sealing cap being provided with interengageable means in snap locking engagement with each other and the enclosing member preventing any application to the sealing cap of upward force tending to separate it in an unbroken condition from the enclosing member and the closure.

3. The combination in a container closure means, of an externally threaded container having an opening, an internally threaded closure of the cap type engaging the thread on the container and closing the container opening, and two enclosing members for the closure cap provided with interengageable means in snap locking engagement with each other and one of them being readily breakable, one of the said members being a sealing cap covering the closure cap and the other of the said members having a portion engaged by the closure cap to prevent removal of the said member and the last said member partly enclosing the sealing cap to prevent any application thereto of upward force tending to separate it from the closure cap.

4. The combination in a container closure means, of a threaded container having an opening, a threaded closure engaging the thread on the container and closing the container opening, and two enclosing members for the closure provided with interengageable means in snap locking engagement with each other and one of them being readily breakable, one of the said members being a freely rotatable sealing cap covering the closure and the other of the said members being also freely rotatable and having a portion engaged by the closure to prevent removal of the said member and the last said member partly enclosing the sealing cap to prevent any application thereto of upward force tending to separate it from the closure.

5. The combination in a container closure means, of a threaded closure engaging the thread on the container and closing the container opening, and two molded readily breakable enclosing members for the closure cap one of which is a sealing cap covering the closure and having an external annular bead and the other of which partly encloses the sealing cap and has an internal annular bead in snap engagement with the bead on the sealing cap, the last said member having a portion engaged by the closure to prevent removal of the said member and the said member serving to prevent any application to the sealing cap of upward force tending to separate it from the closure.

6. The combination in a container closure means, of two members adapted for enclosing a container closure and provided with interengageable means adapted to be snapped into locking engagement with each other and one of them being readily breakable, one of the said members being a sealing cap adapted to cover the closure cap and the other of the said members having a portion adapted to be engaged by the closure to prevent removal of the said member and the last said member when engaged with the cap partly enclosing it to prevent any application thereto of upward force tending to separate it from the closure.

7. The combination in a container sealing means, of a readily breakable member adapted to partly enclose a closure cap and having a portion engageable by the said cap to prevent removal of the member, and a sealing cap adapted to cover the closure cap and to fit within the enclosing member, the said member and sealing cap having interengageable annular beads adapted to snap into locking engagement with each other and the said member and cap being freely rotatable independently of the closure cap.

8. The combination in a container sealing means, of a readily breakable molded member adapted to partly enclose a closure cap and having a portion engageable by the said cap to prevent removal of the member, and a readily breakable molded sealing cap adapted to cover the closure cap and to fit within the enclosing member, the said member and sealing cap having interengageable annnular beads adapted to snap into locking engagement with each other and the

said member and cap being freely rotatable independently of the closure cap.

9. The combination in a container closure means, of an externally threaded container having an opening, an internally threaded closure of the cap type engaging the thread on the container and closing the container opening, the said cap havig a non-circular portion at the top adapted to be engaged by a wrench and spaced inward from the periphery of the cap, and two enclosing members for the closure cap provided with interengageable means in snap locking engagement with each other and one of them being readily breakable, one of the said members being a sealing cap covering the closure cap and closely adjacent the periphery thereof and the other of the said members having a portion engaged by the closure cap to prevent removal of the said member and the last said member partly enclosing the sealing cap to prevent any application thereto of upward force tending to separate it from the closure cap.

10. The combination of a bottle having an external thread adjacent the mouth and having an annular bead below the thread, an internally threaded closure of the cap type engaging the thread on the bottle and closing the bottle opening, and two enclosing members for the closure cap provided with interengageable means in snap locking engagement with each other and one of them being readily breakable, one of the said members being a sealing cap covering the closure cap and the other of the said members having a flange extending inward between the bottom of the closure cap and the said bottle bead and the last said member partly enclosing the sealing cap to prevent any application thereto of upward force tending to separate it from the closure cap.

11. The combination of a bottle having an external thread adjacent the mouth and having an annular bead below the thread, an internally threaded closure of the cap type engaging the thread on the container and closing the container opening, and two enclosing members for the closure cap provided with interengageable means in snap locking engagement with each other and one of them being readily breakable, one of the said members being a sealing cap covering the closure cap and freely rotatable relatively thereto and the other of the said members being also freely rotatable relatively to the closure cap and the bottle and having a flange extending inward between the bottom of the closure cap and the said bottle bead and the last said member partly enclosing the sealing cap to prevent any application thereto of upward force tending to separate it from the closure cap.

12. The combination of a bottle having an external thread adjacent the mouth and having an annular bead below the thread, an internally threaded closure of the cap type engaging the thread on the container and closing the container opening, and two freely rotatable readily breakable molded enclosing members for the closure cap one of which is a sealing cap covering the closure cap and having an external annular bead and the other of which partly encloses the sealing cap and has an internal annular bead in snap engagement with the bead on the sealing cap, the last said member having a flange extending inward between the bottom of the closure cap and the said bottle bead and the said member serving to prevent any application to the sealing cap of upward force tending to separate it from the closure cap.

13. The combination of a bottle having an external thread adjacent the mouth and having an annular bead below the thread, a closure cap engaging the said bottle thread, and a readily breakable member adapted to partly enclose the closure cap and having a flange extending inward between the bottom of the closure cap and the said bottle bead, and a sealing cap covering the closure cap and fitting within the enclosing member, the said member and sealing cap having interengaged annular beads snapped into locking engagement with each other and the said member and cap being freely rotatable independently of the closure cap.

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