May 7, 1935.

S. J. TELLER

CONTAINER CLOSURE MEANS

Filed July 20, 1934

Inventor
S. Jay Teller
Patented May 7, 1935

2,000,200

UNITED STATES PATENT OFFICE

2,000,200

CONTAINER CLOSURE MEANS

Spencer Jay Teller, West Hartford, Conn., assignor to Colt's Patent Fire Arms Manufacturing Co., Hartford, Conn., a corporation of Connecticut

Application July 26, 1934, Serial No. 736,141

3 Claims. (Cl. 215—7)

This invention relates to container closure means of the type having a readily breakable portion which is necessarily broken when the closure means thereof is removed 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 ultimate consumer and to each intermediate distributor or dealer who handles the package that the original contents are intact and that there has been no substitutes or adulteration. More particularly the invention relates to a container closure means of the type disclosed in the application of Benjamin F. Conner, Serial No. 723,864 filed May 4, 1934, and in the application of Benjamin F. Conner and William F. Schmalz, Serial No. 723,865 filed May 4, 1934.

In accordance with the present invention there is provided a readily breakable indicator member which is structurally separate from the main closure for the container and which is adapted to be put in place on the container after the closure is in place. The indicator member is so shaped that it cannot be substantially turned independently of the closure, and the indicator member and the container are provided with interengaging means which serve to break the indicator member when the closure and the said member are turned to unscrew the former.

Preferably the indicator member is in the form of a ring which surrounds the lower portion of the closure and leaves the top thereof exposed.

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 limiting or defining the scope of the invention, the claims forming a part of this specification being relied upon for that purpose.

Of the drawings:

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 plan view of the container closure means shown in Fig. 1, the bottle being omitted.

Fig. 3 is a perspective view of the metallic means for engaging the indicator member to hold it in place.

Fig. 4 is a horizontal sectional view taken along the line 4—4 of Fig. 1.

Fig. 5 is a view similar to Fig. 1, but showing the closure and the indicator member relatively turned so as to break the skirt portion of the latter.

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 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. As shown the bottle 1 is provided with the usual external thread 3 and with an annular bead 4 below the thread.

For closing the mouth of the bottle there is provided a closure cap 5 which may be of standard form. The cap 5 has an internal thread 6 which engages the external thread on the bottle and in the cap is provided with a gasket or liner 7 in accordance with usual practice. The cap 5 is non-circular in horizontal section and as shown it is hexagonal.

Associated with the cap 5 is an indicator member 8 which is of such size and shape that it can be put in place on the container after the closure cap 5 is in place. While I do not limit myself, the indicator member 8 is preferably a ring which surrounds the lower portion of the cap and which leaves the upper portion entirely exposed. The indicator member or ring 8 is shaped to interengage with the closure cap in such a manner as to prevent relative rotation. As shown, the inner opening in the ring 8 is hexagonal and approximately fit the exterior shape of the cap.

Associated with the indicator ring and with the closure cap is a means which permits downward movement of the indicator ring into normal relationship with the cap, but which automatically prevents upward movement thereof out of such relationship. Preferably and as shown the ring 8 is provided with a shallow interior annular groove 9 which is adapted to receive a metallic strip 10 as shown in Fig. 3. The groove 8 is bounded at the bottom by an inward projecting bead 11 which is of such small size that it permits the ring to be stripped from the mold on which it is formed. The metallic strip 10 is shaped to conform to the interior contour of the ring 8 and to fit the groove 9 thereof, and it is snapped into place in the groove 8 prior to the assembly of the ring 8 with the cap and the container. The strip 10 is provided with inward projecting resilient prongs 12, 12.

The ring 8 is provided with a downward extending annular skirt 13 which is readily breakable. To facilitate breaking, the skirt may be made very thin, or it may be provided with weakening notches as indicated at 14, 14. To further

55
facilitate breaking of the skirt, an annular groove is provided at 15 to provide a zone of weakness between the skirt 13 and the main body of the ring 8. Formed integrally with the skirt 13 is at least one inward projecting cam 16 and preferably there are two such cams arranged oppositely. The head 4 on the bottle is provided with cams 17, 17 adapted to cooperate with the cams 16, 16. In using the closure means the container is filled in any usual or preferred manner and the primary closure cap is put in place in accordance with usual practice. The metallic strip 10 is first assembled with the ring 8, as already described, and then the ring 8 is fitted over the closure cap and pushed downward into its normal position as shown in Fig. 1. In this position the prongs 12, 12 on the metallic strip 10 spring inward and are in position to engage the bottom of the cap 5 to prevent upward removal of the ring 8. With the ring 8 in its normal position as shown, the skirt 13 thereof surrounds the head 4 on the bottle and the cams 17, 17 on the bottle are in the paths of rotary movement of the cams 16, 16 on the skirt 13. It will be observed that in assembly care must be taken to put the ring 8 in place with the cams 16, 16 out of engagement with the cams 11, 11.

In order to open the container it is merely necessary to rotate the closure cap 5 in the ordinary manner. The indicator ring 9 necessarily rotates with the cap, and this rotation of the ring brings the cams 16, 16 into engagement with the cams 11, 11, thus causing the breaking of the skirt 13 as indicated in Fig. 5. With the skirt 13 broken as shown, the cap 5 and the remainder of the indicator member can be readily removed. It will be observed that the indicator is necessarily broken when the closure cap is unscrewed, thus providing a definite indication that there has been at least an attempt to obtain access to the contents of the container. With the indicator member broken, the customer, or in fact anyone else handling the package, will know, or at least have reason to suspect, that the contents of the container have been tampered with and he should refuse to accept the package. Thus by refusing to accept any package on which the indicator member is not intact the customer can protect himself against adulteration or substitution of the container contents. It will, of course, be understood that the indicator member will ordinarily carry a suitable trade-mark to provide additional protection to the customer. While I do not so limit myself I prefer that the indicator member 8 be molded from a material of the synthetic resin class. Such a material is somewhat brittle and is readily broken when provided with sufficiently thin walls or with suitable zones of weakness, as for instance those at 14, 14 and 15. 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 an internally threaded closure adapted to engage an external thread on a container and to close the container open, provided a readil \[...\]