Jan. 26, 1937. F. M. LUNN 2,069,075

BOTTLE OR LIKE CONTAINER

Filed April 10, 1935

Fig. 1.

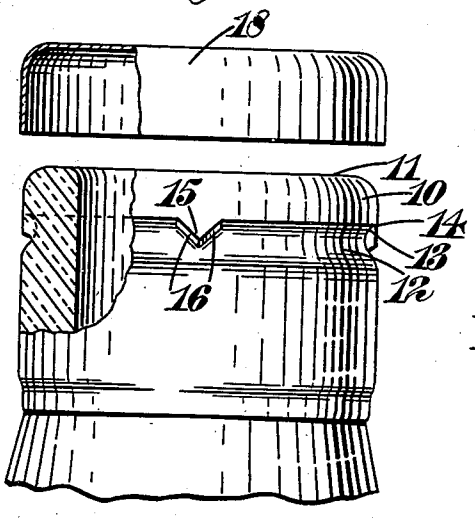


Fig. 3.

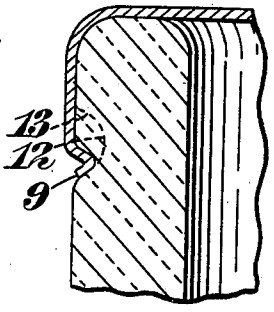
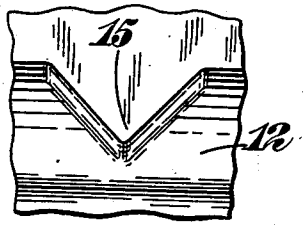


Fig. 2.



Inventor:
Frank Mary Lunn.
By
Byrnes, Stebbins & Blenko,
Attys.

Patented Jan. 26, 1937

2,069,075

UNITED STATES PATENT OFFICE

2,069,075

BOTTLE OR LIKE CONTAINER

Frank May Lunn, London, England, assignor to United Dairies (London) Limited, London, England, a British company

Application April 10, 1935, Serial No. 15,678
In Great Britain April 20, 1934

5 Claims. (Cl. 215—38)

This invention relates to bottles and like containers having an external rib provided around the bottle near or at the top (e. g. contiguous with the top of the bottle) and projections associated with the rib such that a deformable cap (e. g. of aluminium foil) placed over the mouth of the bottle and pressed over the rib to form a tight closure may be loosened for ready removal by rotation of the cap relatively to the bottle.

The invention is concerned with that known type of bottle in which the rib comprises a downwardly-directed shoulder extending continuously around the mouth of the bottle and forming at the lower part of the periphery of the rib a well-defined sealing-edge over which the cap is pressed to form a tight seal. In one convenient construction of this type of bottle the rib is formed by an annular groove in the exterior surface of the bottle, the upper side of the groove constituting the aforesaid shoulder. It has been proposed to provide one or more grooves having unconnected ends, for instance, of helical form, for the purpose of swaging outwardly a cap on the bottle by rotation of the latter with respect to the bottle so as to permit easy removal of the cap, but in this case the sealing edge formed by the groove or grooves is consequently discontinuous.

The type of bottle or other container referred to is particularly advantageous for obtaining a tight and efficient seal by means of a deformable cap and an object of the invention is to provide an improved construction of this type in which the cap may be loosened for removal by rotation with respect to the bottle or other container.

According to the present invention there is provided a bottle or like container of the type hereinbefore referred to, wherein the shoulder forming the continuous and well-defined sealing-edge is provided with a plurality of spaced downward projections, around which the sealing-edge is continuous. In use, a deformable cap is pressed over the rib and its skirt portion engages the continuous sealing-edge to provide a tight closure at all points around the mouth of the bottle. By means of the projections the cap is held against accidental rotation on the bottle which might loosen the seal, but by positive relative rotation of the cap and the bottle the skirt portion of the cap may be loosened to permit the removal of the cap without tearing.

The projections are preferably of triangular shape with a downwardly directed apex.

In a preferred construction the sealing edge is formed by an annular groove in the bottle as aforesaid and the projections extend only partly across the width of the groove.

An embodiment of this invention applied to a milk bottle is shown by way of example in the accompanying drawing in which:—

Figure 1 is an elevation partly in section on an enlarged scale of the neck of the bottle and shows also the form of cap applied to the bottle;

Figure 2 is a detail view of one of the projections, and

Figure 3 is a detail sectional view taken through one of the projections and showing the cap pressed into the sealing position.

Referring to the drawing the bottle is provided with a mouth whose lip is rounded into an external rib 10. This rib which is contiguous with the top surface 11 of the bottle is formed by an annular groove 12 in the exterior surface of the bottle, the upper side of this groove forming one side of the rib which constitutes a downwardly directed shoulder with a well-defined sealing-edge 14.

The shoulder 13 is formed with a plurality of projections 15 of triangular shape with a downwardly-directed apex, which projections extend for the greater part of the width of the groove 12 and parallel with the axis of the neck of the bottle.

The well-defined sealing-edge 14 is continued at 16 around the periphery of each projection, the projection standing up on the surface of the groove with only that amount of curvature which is essential in the moulding of glass or like material.

In the embodiment shown in the drawing, four projections are provided spaced around the bottle but any other number of such projections may be employed as required.

Referring again to Figure 1, the cap 18 is applied to the bottle to overlie the rib 10 and also the groove 12. The cap which may be of aluminium foil is pressed in known manner in close contact with the bottle to make a tight seal with the continuous sealing-edge 14, 16. When it is desired to remove the cap it is turned relatively to the bottle so that by reason of the projections 15, the cap is swaged outwardly and is made free to be lifted from the neck of the bottle without tearing. The cap may thus be replaced as a temporary cover for the bottle.

The provision of the groove 12 is also of an advantage in that it produces a form of reinforcement of the edge of the cap which, in addition to being turned inwardly over the sealing-

edge 14, is turned outwardly again as indicated at 19 in Figure 3.

It is to be understood that in addition to milk bottles the invention may be applied to other bottles or like containers for which a deformable cap such as one of aluminium foil is to be provided.

I claim:—

1. In combination a bottle or like container comprising an external rib around the container in the neighborhood of the mouth thereof and formed with a downwardly directed shoulder, said rib being provided with a plurality of swaging projections extending downwardly therefrom and having edges forming parts of said shoulder, and a deformable cap completely covering said swaging projections and having its skirt portion swaged under said downwardly directed shoulder at all points around the complete periphery of the mouth of the bottle.

2. The combination as claimed in claim 1 in which the projections are substantially triangular with an apex of each projection directed downwardly.

3. In combination a bottle or like container comprising an annular groove around the exterior of the container in the neighborhood of the mouth thereof, said groove having along its upper edge a downwardly directed shoulder, a plurality of swaging projections extending into said groove and spaced around the container, said projections having edges forming parts of said shoulder, and a deformable cap covering said projections and having its skirt portion swaged under said downwardly directed shoulder at all points around the complete periphery of the mouth of the bottle.

4. The combination as claimed in claim 3 in which the downward projections extend from the shoulder only partly across the width of the groove.

5. In combination a bottle or like container comprising a mouth having a lip bounded by a groove, thus forming a downwardly directed shoulder, a plurality of swaging projections extending from said shoulder and spaced around the container, said projections having edges forming parts of said shoulder, and a deformable cap completely covering said swaging projections and having its skirt portion swaged under said downwardly directed shoulder at all points around the complete periphery of the mouth of the bottle.

FRANK MAY LUNN.