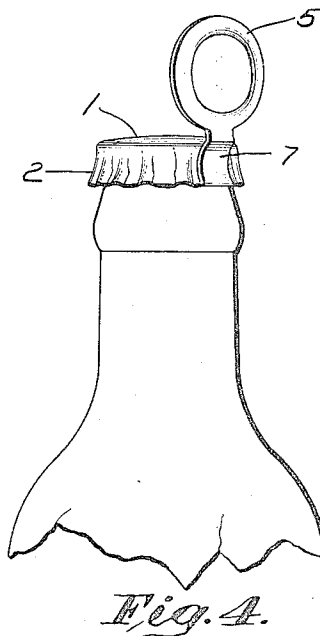
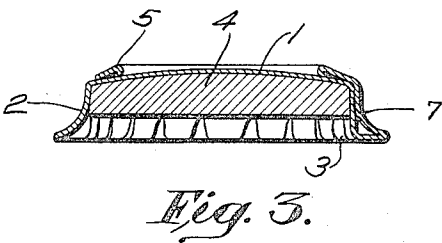
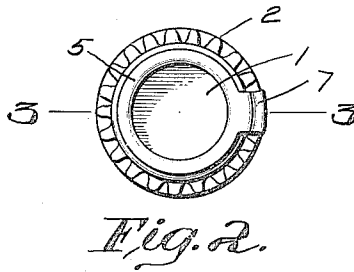
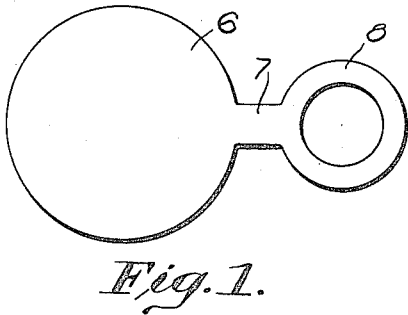


C. V. GAVAZA.
 BOTTLE CAP.
 APPLICATION FILED SEPT. 8, 1913.

1,127,357.

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Witnesses,
 Powell F. Hatch
 Catherine L. Sullivan

Inventor,
 Cecil T. Garaza
 by Charles W. Mc Dermott
 his attorney

UNITED STATES PATENT OFFICE.

CECIL V. GAVAZA, OF BOSTON, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS,
TO GAVAZA BOTTLE CAP COMPANY, OF JAMAICA PLAIN, MASSACHUSETTS, A COR-
PORATION OF MAINE.

BOTTLE-CAP.

1,127,357.

Specification of Letters Patent.

Patented Feb. 2, 1915.

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To all whom it may concern:

Be it known that I, CECIL V. GAVAZA, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvements in Bottle-Caps, of which the following is a specification.

The present invention relates to bottle caps. As well known to those skilled in the art, these caps are usually formed of sheet metal having a top furnished with a circumferential depending skirt adapted to receive the mouth of a bottle and provided with a series of shoulders or projections adapted to engage in an annular groove formed on the outside periphery of the bottle neck near its mouth. These caps require a special tool for their removal. Experience has shown that numerous bottles are destroyed by the consumers who, failing to possess an opener, are obliged to break the necks of the bottles in order to reach the contents thereof. Furthermore the use of an opener is liable to chip the mouths which renders the bottles useless as it is impossible to exclude the air from the contents thereof when subsequently filled and capped. In order to obviate the use of openers and thus prevent the great loss due to breakage it has been proposed heretofore to provide the caps with a device of some kind for removing the cap from the bottle. It is impossible, however, to place a quantity of these caps in the hopper of the commercial capping machine and select the caps one at a time from the hopper and feed them to the sealing head with which this machine is provided. Consequently caps provided with an opening device have not been adopted commercially although their need is recognized.

The object of the present invention is to produce a bottle cap, of that class provided with an opener, which may be successfully handled in the commercial capping machine.

To the accomplishment of this object a feature of the invention contemplates the provision in a bottle cap provided with a top and a circumferentially depending skirt, of an opener arranged in close contact with the top of the cap, and a neck shaped to conform to the curve of the skirt

and the bend at the juncture of the skirt and top integrally connected to the skirt and opener.

This construction permits the caps to be handled in the commercial capping machine as they occupy substantially the same space as an ordinary cap, and offer no projections liable to tangle with other caps in the hopper which would prevent their selection therefrom and their subsequent feed through the chute of the machine.

The various features of the present invention will be best understood from an inspection of the accompanying drawing, illustrating the preferred embodiment of the invention, in which,

Figure 1 is a plan of the blank from which the cap is formed; Fig. 2 is a plan of the cap; Fig. 3 is a sectional elevation on the line 3-3, Fig. 2; and, Fig. 4 is a perspective of a cap in place upon a bottle and showing the finger ring raised in position preparatory to the removal of the cap.

In the illustrated embodiment of the invention the cap consists of a top 1 which is provided with a circumferentially depending skirt 2 formed as usual with a series of shoulders or corrugations 3 adapted to engage in an annular groove on the outside periphery of the bottle neck near its mouth and lock the cap with the usual seal 4 tightly pressed over the bottle mouth. In order to provide means for the ready removal of the cap from the bottle the cap is provided with a finger ring 5 which is arranged concentric to the seal 4 upon the top of the cap.

In forming the cap a blank is formed from sheet tin comprising a circular disk 6, a neck 7 and an annulus 8. The disk is then shaped to form the main portion of the cap while the internal and external peripheries of the annulus are rounded and beveled respectively, (Fig. 3). The neck 7 is bent in one direction to cause it to conform and engage with the skirt 2 and in another direction to cause the annulus to be disposed in close contact with the top of the cap. As the neck 7 is made slightly longer than the depth of the skirt 2 the annulus, although somewhat smaller in diameter than the top of the cap, is concentric with the top when arranged thereon.

With this construction the cap 1, although provided with the finger ring 5, occupies substantially the same space as an ordinary cap thus permitting the cap to be fed through the feed chute of the commercial capping machine. As the external periphery of the ring 5 is beveled a smooth joint is formed at the juncture of the cap 1 and skirt 2. This construction allows the caps to be thrown into the hopper of the capping machine and operated upon by the selecting mechanism, which withdraws the caps one at a time to the feed chute, without danger of the rings being elevated as the caps contact with each other during their movement in the hopper.

To remove the cap the finger ring 5 is bent into a vertical position, (Fig. 4) and the user then inserts a finger through the ring and by pulling on the ring removes the cap. As the internal periphery of the ring is rounded the thin sheet tin is prevented from cutting into the finger during the removal of the cap.

While the invention has been illustrated and described in connection with the well known "crown and cork" cap it will be readily apparent to those skilled in the art that the invention may be equally useful in connection with other kinds of caps.

It will also be clear to those skilled in the art, with the general object of the present invention in view, that changes may be made in the details of structure, the described and illustrated embodiment thereof being intended as an exploitation of its underlying essentials, the features whereof are definitely stated in their true scope in the claims herewith.

What is claimed as new, is:

1. A bottle cap, having, in combination, a top provided with a circumferentially depending skirt, an opener arranged in close contact with the top of the cap, and a neck shaped to conform to the curve of the skirt and the bend at the juncture of the skirt and top and integrally connected with the skirt and opener, substantially as described.

2. A bottle cap, having, in combination, a top provided with a circumferentially depending skirt, a ring arranged in close contact with the top of the cap and integrally connected with the skirt, said ring having a rounded internal periphery to prevent injury to the finger of the user, and a beveled external periphery to provide a smooth

joint at the juncture of the top and skirt, substantially as described.

3. A bottle seal comprising a flanged cap and an annulus having a neck joining it to the edge of the cap, said neck having two bends one of which is coterminous with the edge of the flange of said cap, and said annulus being disposed in close contact with the top of said cap.

4. A bottle seal comprising a flanged cap, and an annulus having a neck joining it to the edge of the cap, the neck being given two bends and made of a length to present the annulus upon the top of the cap and concentric therewith.

5. A bottle seal comprising a flanged cap, and an annulus having a neck joining it to the edge of the cap, the neck being bent to present the annulus upon the top of the cap, said annulus having its inner edge rounded over.

6. A bottle seal comprising a flanged cap, and an annulus having a neck joining it to the edge of the cap, the neck being bent to present the annulus upon the top of the cap, said annulus having its outer edge beveled.

7. A bottle cap, having, in combination, a top provided with a circumferentially depending skirt, an opener arranged in close contact with the top of the cap, and a neck connected with the skirt and opener, substantially as described.

8. A bottle cap, having, in combination, a top provided with a circumferentially depending skirt, an opener arranged in a plane parallel to the plane of the top of the cap, and a neck connecting the skirt and opener having a portion arranged in the same plane as the opener and another portion arranged substantially perpendicular to the plane of the opener, substantially as described.

9. A bottle seal comprising a flanged cap, and an annulus having a neck joining it to the edge of the cap, the neck being bent to present the annulus upon the top of the cap.

10. A bottle cap, having, in combination, a top provided with a circumferentially depending skirt, and an opener connected to the skirt having a ring for the engagement of a finger arranged in a plane parallel to the plane of the top of the cap, substantially as described.

CECIL V. GAVAZA.

Witnesses:

L. E. RICHARDSON,
GEO. N. GAVAZA.