Aug. 17, 1948. F. VOGEL 2,447,146

BOTTLE CAP

Filed June 29, 1945

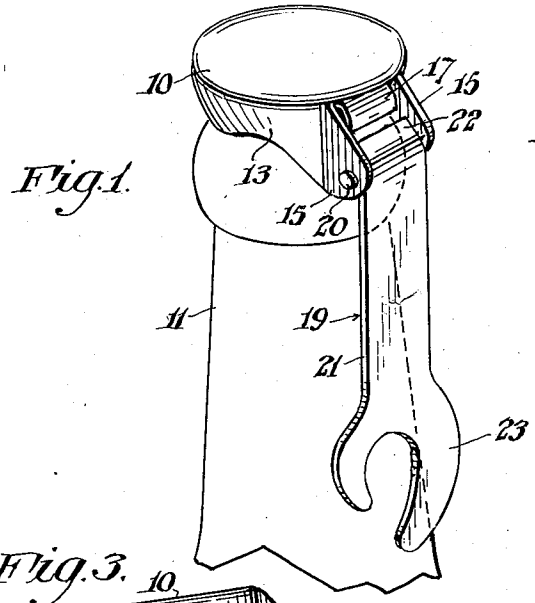


Fig. 1.

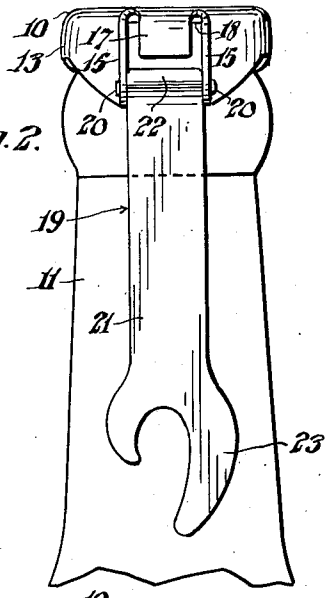


Fig. 2.

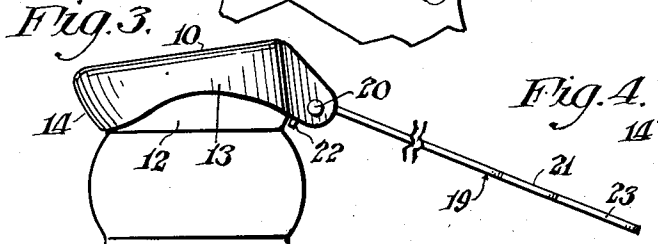


Fig. 3.

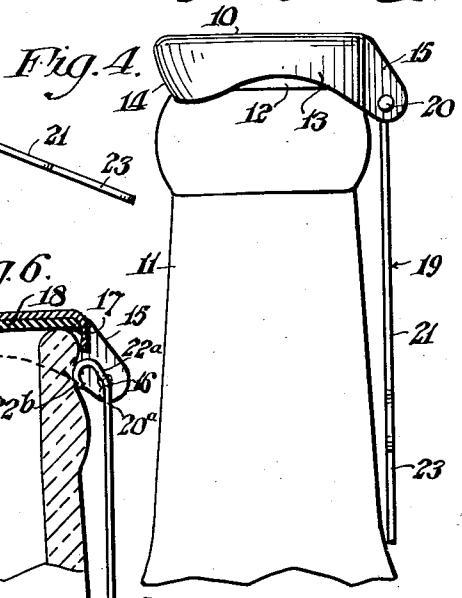


Fig. 4.

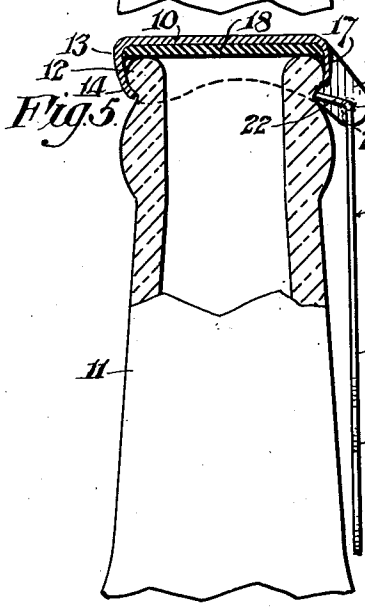


Fig. 5.

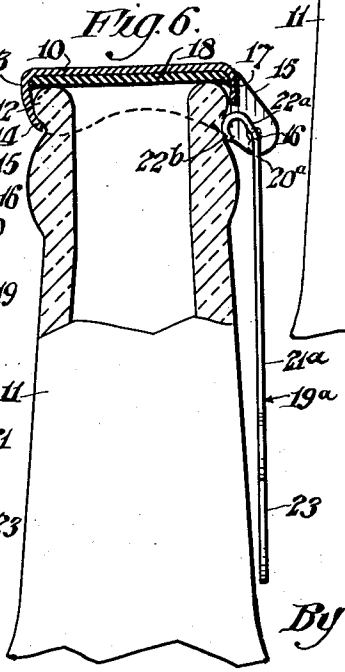


Fig. 6.

Inventor:
Frank Vogel,
By W. W. Williamson
Attorney.

Patented Aug. 17, 1948 2,447,146

UNITED STATES PATENT OFFICE

2,447,146

BOTTLE CAP

Frank Vogel, Philadelphia, Pa., assignor to Philip A. Udall Distributing Co., Inc., a corporation of New York

Application June 29, 1945, Serial No. 602,266

9 Claims. (Cl. 215—38)

1

My invention relates to a new and useful bottle cap and particularly to improvements on the invention disclosed in my co-pending application, Serial No. 573,873.

One of the objects of the present invention is to provide an exceedingly simple and effective cap for temporarily closing a bottle after the original closure has been removed.

Another object of the invention is to so combine the elements of the unitary structure that the cap will be drawn down tightly upon the mouth of a bottle to positively seal the same and prevent escape of the contents whether in liquid or gaseous form.

A further object of the invention is to provide a bottle cap comprising a body having a depending flange with a portion formed to constitute an inclined underslung gripping element for disposition under the lip or bead of a bottle, and a lever of unique formation to engage beneath the bottle lip or bead for pulling the cap down tightly on the bottle mouth.

Still another object of the invention is to provide a bottle cap that can be fashioned from stampings and including a body or closure element carrying a gasket to seal and compensate for certain uneven formations on the mouth of a bottle, said body having means to hold the gasket in place, and an angular locking lever pivoted to ears on the body for drawing the gasket tightly against the bottle mouth.

A still further object of this invention is to provide a locking lever as a part of the bottle cap, which lever has a resilient nose to engage the lip or bead of a bottle and compensate for varying thicknesses of lips or beads on different bottles.

With the above and other objects in view this invention consists of the details of construction and combination of elements hereinafter set forth and then designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same I will describe its construction in detail referring by numerals to the accompanying drawing forming a part hereof, in which:

Fig. 1 is a perspective view illustrating the cap assembled on the mouth of a bottle, the neck portion of which is shown.

Fig. 2 is a side elevation thereof looking to-

2

wards what will be considered the back of the cap.

Fig. 3 also is a side elevation at right angles to Fig. 2 showing the cap in the initial position of application to a bottle.

Fig. 4 is a similar view after the sealing operation is complete.

Fig. 5 is a sectional elevation of the bottle neck and cap thereon.

Fig. 6 is a similar view illustrating a modified form of lever.

In carrying out the invention as herein embodied, 10 represents the body portion of the cap produced from any suitable material and fashioned in a shape and size to fit the mouth end of a bottle 11 which mouth end has a lip or bead 12 surrounding it to provide a shoulder.

A depending flange 13 extends partly around the body 10 and the front portion is inclined to produce an underslung gripping element 14 to be hooked under the lip or bead 12 on a bottle prior to the cap being forced down into sealing position. The balance of the flange is proportioned to readily pass over the lip or bead 12 of the bottle.

Rearwardly projecting spaced ears 15 extend from the back portions of the flange 13 where said flange terminates, and each of said ears has a hole 16 therein. Between these ears 15 is a tongue 17 depending from the cap body, and in conjunction with the flange 13 and the gripping element 14 functions to frictionally and graspingly hold a gasket 18 of compressible material within the cap against the inside face of the body 10.

An angular locking lever 19, Figs. 1 to 5 inclusive, is pivoted between the ears 15 by pivot lugs 20 formed integral with the lever, or some equivalent means, such as a pin passing through said lever. The pivoting means register with and are rotatably mounted in the holes 16 in the ears 15. Said locking lever includes a handle portion 21 for applying the necessary force to operate the lever, and a nose 22 to engage underneath of the bottle lip or bead 12 as a fulcrum for drawing down the rear portion of the cap. The nose 22 is arranged at an angle to the handle, preferably slightly greater than a right angle but, in any case, proportioned and positioned to remain in engagement with the lip or bead of the bottle

when the cap is pulled down tightly for maintaining the seal. The outer end of the lever handle, preferably, is fashioned to form a bottle cap remover **23**.

In Fig. 6, I have illustrated a modified construction of locking lever **19***a* comprising a handle portion **21***a* and a nose **22***a* with pivoting means **20***a*. In this form of locking lever, the nose **22***a* includes a return bend **22***b* constituting a resilient beak which will engage the bottle lip or bead and compensate for irregularities or varying thicknesses in the lips of bottles of different makes which might not be compensated for by the compressible gasket.

To apply the cap to a bottle and seal the latter, the handle portion of the locking lever is raised and the cap slightly tilted, as shown in Fig. 3, so the underslung gripping element **14** can be engaged beneath the bottle lip or bead **12**. When the rear portion of the cap is lowered, the nose of the locking lever will assume a position against the bottle lip on the lower half thereof. The handle portion of the lever is then swung downwardly and inwardly towards and against the side of the bottle. This causes the pivot point of the lever to rotate about the terminal end of the nose as an axis, where the latter rides on the bottle lip, so that the underslung gripping element is pulled under the bottle lip and the rear of the cap drawn downward until the gasket is firmly compressed on the bottle mouth which tightly seals the bottle.

The pivot point of the locking lever being below the point of contact of the nose with the bottle lip or past a dead center, the cap is securely held against accidental displacement and any ordinary pressure within the bottle. By reversing the above mentioned operations, the cap may be easily and quickly removed.

Of course I do not wish to be limited to the exact details of construction herein shown and described as these may be varied within the scope of the appended claims without departing from the spirit of my invention.

Having described the invention what I claim as new and useful is:

1. A bottle cap comprising a body to overlie the mouth of a bottle having an annular lip, a flange extending partly around the body and having a forward portion fashioned to provide an underslung gripping element that engages beneath the bottle lip, a gasket on the inside of said body, outwardly projecting spaced ears carried by the body at the rear thereof and opposite the gripping element, a locking lever pivoted between said ears and including a handle portion and a nose to directly engage the underside of the bottle lip, and a tongue depending from the body between the ears to assist in holding the gasket in place.

2. The bottle cap of claim 1 wherein the nose of the lever has a return bend constituting a resilient beak.

3. A bottle cap comprising a body to overlie the mouth of a bottle having an annular lip, a flange extending about the major portion of said body and of circular formation, an inclined underslung gripping element fashioned from the flange to slidably engage on the bottle lip, outwardly projecting spaced ears formed from the flange opposite the gripping element, a tongue depending from the body within the space between the ears, a gasket mounted against the inner face of the body, and held in place by the flange and tongue, and a flat locking lever pivoted at its sides in said ears and including a handle portion and a nose to engage the underside of the bottle lip to force the cap rearwardly and downwardly due to the sliding action of the gripping element.

4. The bottle cap of claim 3 in combination with a resilient beak formed by a return bend on the nose of the locking lever.

5. A bottle cap including a body proportioned to close the top of a bottle having a lip, a flange extending partly around and integral with the body and having an underslung forward portion for engaging beneath a portion of said lip, a gasket on the inside of said body, a tongue integral with the body and depending from said body, said tongue and flange holding the gasket in position, and a lever pivotally connected to the rear of the body and adapted to operate in conjunction with the bottle lip to move the forward underslung portion into engagement with and under said lip thereby to compress the gasket and hold the cap to the bottle.

6. A bottle cap including a body proportioned to close the top of a bottle having a lip, a flange extending partly around and integral with the body and having an underslung forward portion for engaging beneath a portion of said lip, a gasket on the inside of said body, a tongue integral with and depending from said body, said tongue and flange holding the gasket in position, and means connected to and supported by the body and coacting with the bottle lip for shifting the underslung forward portion into engagement with and under said lip thereby to hold the cap to the bottle, said means including an angle lever including a handle portion and a bottle lip engaging portion, said lever being mounted for swinging movement to move the lip engaging portion into engagement with the bottle lip and into and past a dead center while in engagement with the lip.

7. A bottle cap including a body for closing the open end of a bottle having a lip, a flange extending partly around the body and having a forward underslung portion for engaging under the lip of the bottle, outwardly extended spaced ears carried by the body at a location substantially diametrically opposite said underslung portion, the ears being provided with transversely aligned openings, a tongue integral with the body and depending therefrom between the ears, a gasket held in the body by the flange and said tongue, and an angle lever formed from a length of rigid strip material, swingably carried in said ear openings, and movable into and past a dead center for engaging the bottle lip and shifting the underslung portion beneath said lip and simultaneously drawing the rear portion of the cap against the open end of the bottle.

8. A bottle cap including a body for closing the open end of a bottle having a lip, a flange extending partly around the body and having a forward underslung portion for engaging under the lip of the bottle, outwardly extending spaced ears carried by the body, a tongue integral with the body and depending between the ears at a point substantially diametrically opposite the underslung portion, a gasket held in place in the body of the cap by the flange and said tongue, said ears being provided with transversely aligned openings, and means carried in said openings and movable into and past a dead center for engaging beneath the bottle lip below the tongue for bodily shifting the cap to draw the underslung portion under said lip and pull the rear part of

the cap onto the open end of the bottle, said means including an angle lever having an elongated arm and a short arm, said short arm being positioned to engage under the lip of the bottle, said short arm being proportioned to move into and past a dead center, thereby to hold the cap in shifted position.

9. The bottle cap of claim 8 in combination with a resilient beak on the extremity of the short arm.

FRANK VOGEL.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
916,198	Roberts	Mar. 23, 1909
1,693,830	Triska	Dec. 4, 1928
1,734,372	Graham	Nov. 5, 1929
2,127,776	Krueger	Aug. 23, 1938

FOREIGN PATENTS

Number	Country	Date
176,893	Switzerland	July 16, 1935
179,737	Switzerland	Dec. 2, 1935