

R. O. BOARDMAN.  
 BOTTLE CAP REMOVER.  
 APPLICATION FILED DEC. 2, 1912.

1,100,818.

Patented June 23, 1914.

Fig. 1.

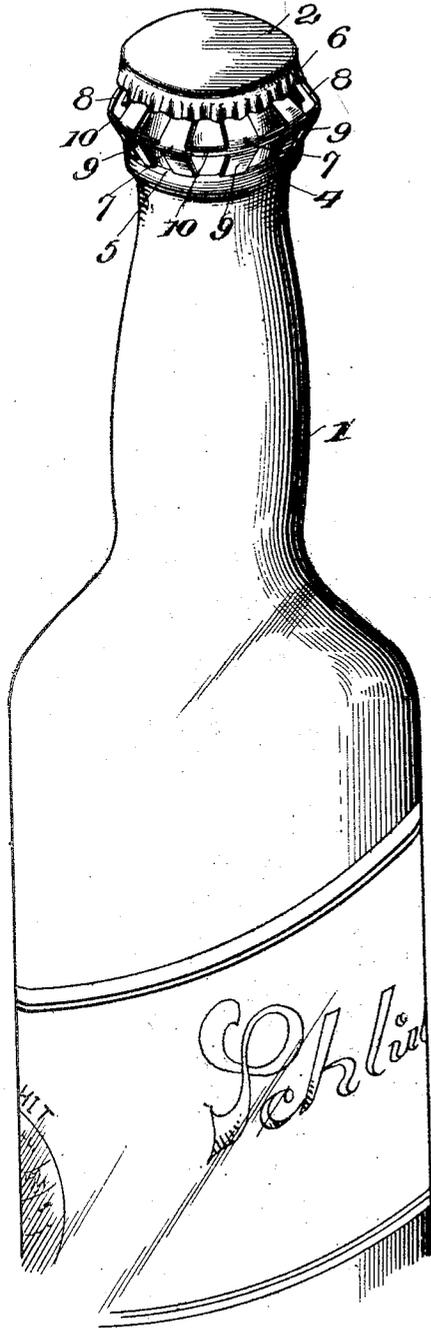


Fig. 2.

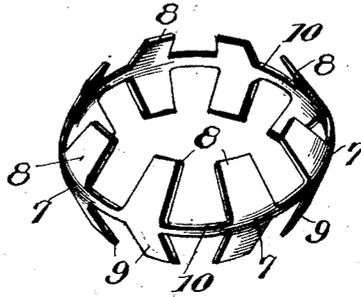
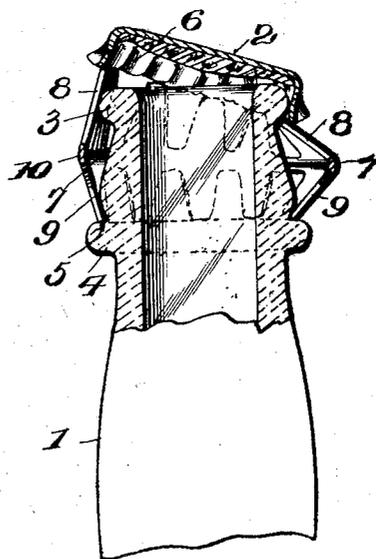


Fig. 3.



Inventor

Robert O. Boardman.

Witnesses  
 Edmund E. Coffey  
 W. S. Woodruff

By

*W. S. Woodruff*

Attorneys

# UNITED STATES PATENT OFFICE.

ROBERT O. BOARDMAN, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR OF ONE-HALF TO  
MARTIN H. DYKSTRA, OF GRAND RAPIDS, MICHIGAN.

## BOTTLE-CAP REMOVER.

1,100,818.

Specification of Letters Patent. Patented June 23, 1914.

Application filed December 2, 1912. Serial No. 734,566.

*To all whom it may concern:*

Be it known that I, ROBERT O. BOARDMAN, citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Bottle-Cap Removers, of which the following is a specification.

This invention relates to bottle closures and more particularly to a device for removing the cap closures from beer bottles, and the like. As is well-known, such cap closures are ordinarily removed by the use of an implement entirely separate and distinct from the cap. Such opening devices are liable to be lost and mis-placed, and even when at hand must be applied to the cap prior to manipulation to pry the cap from the mouth of the bottle. It has been proposed to provide, as a substitute for such opening devices, a cap having an integral tongue designed to be grasped by the fingers and pulled to remove the cap, or to provide a cap constructed in sections, arranged to be separated to such an extent as to permit of removal of the cap without the use of the ordinary opener. Such caps, however, present the disadvantage that a special machine is necessary for their manufacture and usually they are not so constructed as to permit of the use of the ordinary capping machine. Furthermore, they are expensive to manufacture and can usually only be manipulated by a person capable of exerting a strong grip.

In connection with the foregoing it is the object of the present invention to provide a bottle cap opener so constructed that it may be readily assembled with the ordinary bottle cap at the time of placing the latter upon the bottle to be sealed, and may be readily and quickly manipulated by any one for the purpose of prying off the cap.

It is a further aim of the invention to so construct the opening device that it may be manipulated without liability of cutting or bruising one's hands and without liability of chipping the mouth of the bottle.

For a full understanding of the invention reference is to be had to the following de-

scription and accompanying drawing, in which:—

Figure 1 is a perspective view of the device embodying the present invention applied to an ordinary beer bottle and assembled with the cap closure thereof. Fig. 2 is a perspective view of the opening device removed from the bottle and cap. Fig. 3 is a view illustrating the manner in which the device is to be manipulated in prying off the cap.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawings by the same reference characters.

In the drawings the numeral 1 indicates the neck of a bottle of that type usually employed in dispensing beer or various beverages, and 2 indicates an ordinary crown cap which constitutes the closure for the mouth of the bottle. As usual, the neck of the bottle is formed at its upper end with a circumscribing bead 3 with which the rim of the cap-closure is to have locking engagement and the neck is further provided with a circumscribing bead 4 located a suitable distance below the bead 3 and having a relatively narrow flat upper surface 5. While the cap 2 is here shown as of the well-known crown type, it will be understood that it may be of any other type so long as it is provided with a locking flange such as the flange 6, or is provided with a portion which projects a slight distance beyond the surface of the neck to form a shoulder or abutment for the opening device. The device embodying the present invention consists, in a broad sense, of an annular series of connected V-shaped fingers and is preferably formed from a single piece of material and is of a diameter to fit about the neck of a bottle between the cap 2 and bead 4. In the drawing the fingers are indicated by the numeral 7 and as stated are V-shaped, or more specifically speaking, each includes upwardly and downwardly projecting portions indicated respectively by the numerals 8 and 9, these portions extending at an obtuse angle to each other. The member includes integral connecting portions 10 which extend between

and connect the fingers at the juncture of their portions 8 and 9. As stated, the device as a whole, is of annular form, and it will be observed that the portions 8 of the entire series of fingers project upwardly and inwardly toward the axis of the device whereas the fingers 9 project downwardly and inwardly toward the said axis. Both portions of the fingers are approximately the same length and for the purpose of reinforcement they are preferably of greater width at and adjacent their line of juncture with each other than at their ends, they being continuously tapered toward their said ends.

In applying the device the same is disposed upon the bottle neck surrounding the said neck and with the lower or free ends of the portions 9 of the fingers resting upon the shoulder afforded by the flat upper side of the rib 4. The cap-closure 2 may then be applied in the usual manner and the projecting lower edge portion of its rim will extend over and engage with the upper ends of the portions 8 of the fingers in a manner clearly shown in Fig. 3 of the drawing.

It will be apparent that the device will be securely held as against accidental displacement and that between the ends of its fingers, it is spaced from the outer surface of the bottle neck.

In opening a bottle equipped with the above described device, the bottle is disposed with the intermediate portion of one or more of its fingers 7 contacting with the edge of a table or bar, and lateral pressure is exerted which will, of course, result in a tendency of the fingers to flatten out against the side of the bottle neck. In doing this, however, they exert upward pressure against the rim of the cap 2 and the cap is pried from its engagement with the bead 3.

It is to be understood, of course, that the device will be manufactured from sheet-metal sufficiently stout to prevent collapse of the portion thereof which is spaced from the bottle neck, when pressure is exerted against it, although not so rigid as to require the exertion of any considerable force in flattening out the fingers to cause them to exert a prying force against the rim of the bottle cap.

From the foregoing it will be apparent that the cap-removing device embodying the present invention is simple in construction, may be readily and cheaply manufactured, may be applied to any ordinary beer or like bottle, and is arranged to act in conjunction with any ordinary cap closure which requires to be pried from the mouth of the bottle to which it is applied.

Having thus described the invention what is claimed as new is:—

1. As a new article of manufacture, a

bottle-cap remover adapted to be assembled upon the neck of a bottle having a cap closure and comprising a bulged body adapted to bear beneath the cap closure and against an abutment upon the neck.

2. As a new article of manufacture, a bottle-cap remover adapted to be assembled upon the neck of a bottle having a cap closure and comprising an annular body outwardly bulged and adapted to engage at its upper end beneath the said closure and at its lower end against an abutment upon the neck of the bottle.

3. As a new article of manufacture, a bottle-cap remover adapted to be assembled upon the neck of a bottle having a cap closure and comprising an annular outwardly bulged body having an interdigitated cap-engaging end, the body being adapted to bear at its other end against an abutment upon the said neck of the bottle.

4. As a new article of manufacture, a bottle-cap remover adapted to be assembled upon the neck of a bottle having a cap closure and comprising a body having a flexible finger provided with oppositely angularly extending portions, one of the portions being adapted to engage beneath the cap closure and the other against an abutment upon the neck of the bottle.

5. As a new article of manufacture, a bottle-cap remover adapted to be assembled upon the neck of a bottle having a cap closure and comprising a body having a flexible finger provided with oppositely extending portions, the body at the juncture of the portions being outwardly bulged, and one of the portions being designed to engage beneath the cap-closure and the other portion to engage against an abutment upon the neck of the bottle.

6. The combination with a bottle having a circumscribing shoulder upon its neck, and a closure-cap fitted upon the mouth of a bottle, of a removing device for the closure including a finger having oppositely angularly extending portions, the finger at the juncture of the said portions being outwardly bulged.

7. A bottle-cap-remover, comprising an annular series of connected flexible fingers having portions extending upwardly and inwardly and arranged to engage against the rim of the cap and having portions projecting downwardly and inwardly and arranged to engage against an abutment upon the bottle.

8. A bottle-cap-remover, comprising an annular series of connected flexible fingers having portions extending upwardly and inwardly and arranged to engage against the rim of the cap and having portions projecting downwardly and inwardly and arranged to engage against an abutment

upon the bottle, the fingers at the points of juncture of their said portions being outwardly bulged.

5 9. A device of the class described comprising a cap closure and a remover therefor consisting of a bulged body extending from the closure and adapted to engage a shoulder upon the neck of a bottle, and

when pressed inwardly to disengage the closure from the mouth of the bottle. 10

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT O. BOARDMAN. [L. s.]

Witnesses:

RAY O. DENNISON,  
HERMAN W. VERSEPUT.