June 29, 1943. C. E. ANDERSON 2,323,080

LEVER TYPE BOTTLE OPENER

Filed Jan. 3, 1941

Fig. 1.

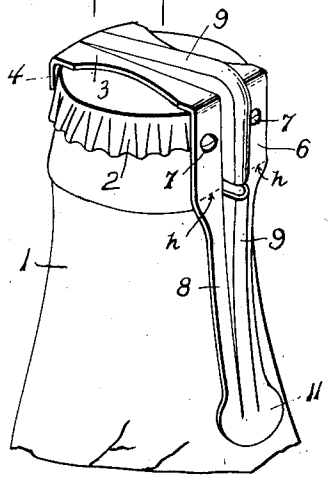


Fig. 2.

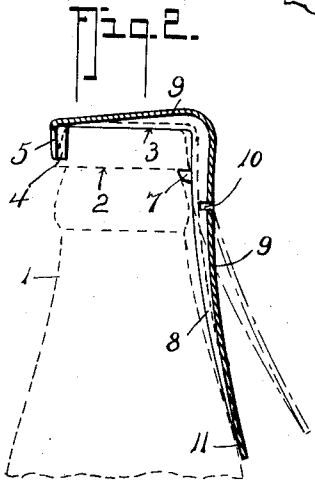


Fig. 3.

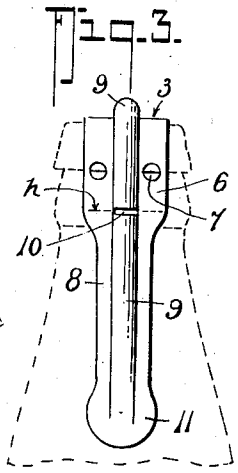


Fig. 4.

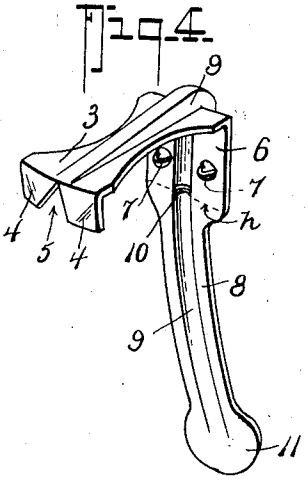


Fig. 5.

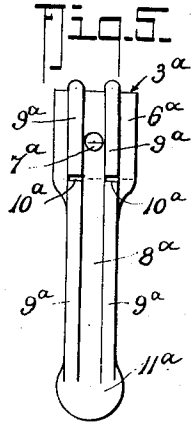
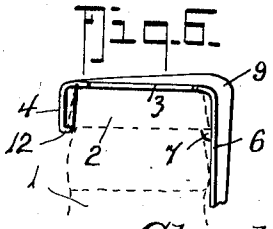


Fig. 6.



Inventor

Charles E. Anderson

By H. Wenship Wheatley

Attorney

Patented June 29, 1943 2,323,080

UNITED STATES PATENT OFFICE

2,323,080

LEVER TYPE BOTTLE OPENER

Charles E. Anderson, Nashville, Tenn.

Application January 3, 1941, Serial No. 373,041

5 Claims. (Cl. 81—3.46)

My invention relates to a new and improved bottle opener of the lever type, which has been especially devised and designed with the following objects in view, to wit:

To provide an opener made in one piece of sheet metal, ribbed, bent, cut as hereinafter described, and formed to fit over the top of a bottle cap and down the side of the bottle neck; to provide an opener that is intended for use only once and can be placed on the bottle cap by the bottler or the dealer after shipment is received, or by the individual just prior to opening the bottle; to provide an opener which, when placed on the cap before shipment, will not interfere with the stacking of the bottle cases one on top of another; to provide an opener which will not interfere with the present type of crimped bottle cap, nor the placing of the same by capping machines now in use; to provide an opener which clamps over the capped bottle by a downward pressure and which cannot be removed without, at the same time, removing the cap; to provide an opener with no protruding parts to catch on other objects when filled bottles are handled roughly; to provide an opener with a lever handle which with small force can be swung away from the bottle neck so one can get his fingers underneath before exerting the necessary upward pressure to remove the cap; and to provide an opener at a cost of material and manufacture so small that a ready market for the opener may be found.

Other objects will in part by obvious and in part be pointed out hereinafter.

To the attainment of the aforesaid objects and ends the invention still further resides in the novel details of construction, combination and arrangement of parts, all of which will be first fully described in the following detailed description, and then be particularly pointed out in the appended claims, reference being had to the accompanying drawing, in which:

Fig. 1 is an enlarged perspective view of a portion of a capped bottle with the preferred embodiment of my invention applied thereto.

Fig. 2 is a central vertical longitudinal section of the opener shown in Fig. 1, the bottle and cap being indicated in dotted lines.

Fig. 3 is a front elevation of the same.

Fig. 4 is a perspective view of the opener by itself.

Fig. 5 is a front elevation of another embodiment of my invention.

Fig. 6 is a detail view of a modification.

In the drawing, in which like numerals and letters of reference indicate like parts in all the figures, 1 is a bottle with a crimped cap 2 of a well known type.

The opener which comprises my invention consists of a strip of sheet metal of suitable strength and gauge. This strip is provided with a rib 9 (preferred form, Figs. 1 to 4) or ribs 9a (second form, Fig. 5), and is bent to form a flat top portion 3, toe members 4, 4, a front flat portion 6, and a handle 8 terminating in a finger piece or end 11.

The front plate 6, in the preferred form, has two prongs 7, 7 punched in the metal to cooperate with the two toes 4, 4 (formed by cutting out a notch 5 in the metal) in holding the opener on the cap. The toes 4, 4 and prongs or protuberances 7, 7 constitute a four-point clamp which, as practice has demonstrated, will hold the top of the opener so tight to the cap that it cannot be removed from the same except by the use of a tool.

The distance between a toe end and the directly opposite prong is slightly less than the corresponding chord of the arc of the cap so that when the opener is installed on the cap by a firm downward pressure a spring tension is created, thereby locking the opener to the cap. If desired, the ends of the toes 4, 4 may be formed with inwardly bent projections 12 to catch under the lower edge of the cap, similarly to the prongs 7, as shown in Fig. 6.

In order to strengthen the device, at least one longitudinal rib 9 is formed in the strip. This rib extends practically the full length of the strip, as shown.

At a suitable distance below the prongs 7, 7 the rib 9 is cross-slotted as at 10, thus enabling the metal of the plate 6 at each side of the slot 10 to be bendable as a hinge along the dotted line *h*.

In using my opener to remove the cap, one lifts lever 8 by moving the finger piece out from the bottle neck by an outward and upward motion. The first part of the lever's movement requires little effort as the metal will bend readily along line *h* until the dot and dash position in Fig. 2 is reached, at which time the rib ends at the slot 10 will meet and constitute a hinge-stop.

Further movement imparted to the lever 8 will lift the cap from the bottle.

The opener is so designed that all available leverage action is utilized, the lever acting along substantially the entire diameter of the cap from prongs 7, 7 to toes 4, 4, the fulcrum being at the toe end of the opener. Consequently, all pressure on the handle of the lever is used to remove

the cap, rather than by attempting to remove the cap by bending and distorting it. This bending and distorting of the cap has been the chief objection to many of those devices heretofore patented and which have had but a brief commercial life.

In Fig. 5 is shown another embodiment, using two ribs and one prong in the front plate. In this figure those parts which correspond to like parts in the preceding figures bear the same reference number plus the index letter *a*, so a repetition of the description thereof will, it is thought, be unnecessary.

The lifter can be used without the slot 10 in the rib or ribs, but more effort is required to get the cap off; the slot or slots are preferred.

In the drawing I have shown two embodiments and one modification of my invention, but I wish it understood that other variations, modifications and changes in the details of the device can readily be made by those skilled in the art without departing from the spirit of the invention and the scope of the appended claims.

What I claim is:

1. In a bottle opener, a thin metal strip bent to comprise a top portion to extend entirely across a bottle cap, toes projecting downwardly from the top portion to engage the side of the cap, a front plate portion having prongs to engage under the edge of the cap at the side opposite the toes, a handle depending from the front plate and lying along the neck of the capped bottle, and at least one longitudinal stiffening rib extending along the top portion and the front plate and handle, said rib being cross-slotted at a place below the location of the prongs to provide a bendable portion of the strip as a hinge for the purposes described.

2. In combination with a crimped cap, of a cap remover comprising a body extending across the top of the cap and down a side of the cap and continuing as a handle, there being toes on the body extending down along the opposite side of the cap to engage the side of the cap, there being prongs on the handle side of the body to engage under the edge of the cap, the distances between opposite toes and prongs being normally less than the corresponding chords of the cap whereby when the body is pressed down on the cap the body will spring into place as a permanent attachment to the cap, said body having at least one longitudinal rib extending approximately the full length of the body from the toes to the handle, said rib having a cross-slot below the level of the prongs thereby to provide a bendable portion of the body between two approximately rigid portions, for purposes described.

3. In a bottle cap remover, a metal strip bent to fit over the cap along a diameter thereof and having at least two toes extending down along a side of the cap and engaging the same, and a front plate, with at least one prong, extending down along the opposite side of the cap with the prong located to engage under the edge of the cap and cooperate with the toes to hold the remover in place on the cap, and a handle extending down from the front plate to lie alongside the neck of a bottle when the cap is in place on the same, there being a pair of ribs formed longitudinally in the strip and extending approximately the full length of the strip and being provided with a cross-slot at places adjacent but below said prong.

4. In a bottle opener, a strip bent to comprise a rigid top portion to extend entirely across a bottle cap, at least one toe projecting downwardly from the top portion to engage a side of the cap, a front plate portion having at least one prong to engage under the edge of the cap at the side opposite the toe, and a handle depending from the front plate and lying along the neck of the capped bottle, at least one longitudinal stiffening rib extending along the top portion, the front plate and the handle and having a cross-slot located at a place below the location of the prong to provide a bendable portion of the strip as a hinge for the purposes described.

5. In a bottle opener, an attachment for crown caps comprising a top portion extending diametrically entirely across the bottle cap, means at one end of said top portion for engaging the side of the cap, means at the other end of said top portion for engaging under the edge of the top at the side diametrically opposite the place where the first mentioned means engages the side of the cap, a handle depending from the second mentioned means and shaped to lie along the neck of the capped bottle and hingedly united with said second mentioned means, and means limiting the hinge movement of the handle, said first mentioned means and said second mentioned means having provisions for gripping the cap to hold the opener on the cap.

CHARLES E. ANDERSON.