C. J. KRYZANOWSKY.

REMOVER OR OPENER FOR BOTTLE CAPS.

APPLICATION FILED FEB. 4, 1915.

1,324,830.

Patented Dec. 16, 1919.

Fig. 1.

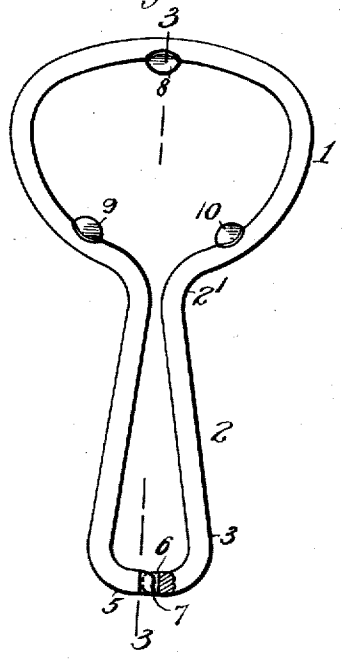


Fig. 2.

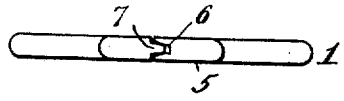
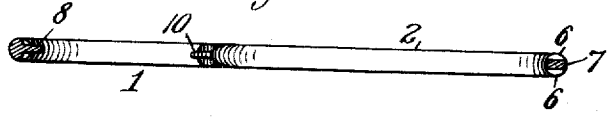


Fig. 3.



Witnesses:
J. B. Donovan
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UNITED STATES PATENT OFFICE.

CONSTANT J. KRYZANOWSKY, OF BALTIMORE, MARYLAND, ASSIGNOR TO THE CROWN CORK AND SEAL COMPANY OF BALTIMORE CITY, OF BALTIMORE, MARYLAND, A CORPORATION OF MARYLAND.

REMOVER OR OPENER FOR BOTTLE-CAPS.

1,324,830. Specification of Letters Patent. Patented Dec. 16, 1919.

Application filed February 4, 1915. Serial No. 6,032.

To all whom it may concern:

Be it known that I, CONSTANT J. KRYZANOWSKY, a citizen of the United States, residing at Baltimore, State of Maryland, have invented certain new and useful Improvements in Removers or Openers for Bottle-Caps, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to certain improvements in removers or openers for bottle caps of the well-known crown seal type.

It is the object of the invention to produce a novel crown remover which is made from a single piece of comparatively light wire and having crown-engaging projections or lips which are so arranged with respect to each other that the remover can be used to remove a crown in either an upward or downward direction, the crown-engaging projections being formed by pinching from the wire, the wire being bent to form a loop portion and a handle-portion, the ends of the wire-forming handle-portion being secured by a joint. Such a remover can be formed on high speed wire-forming machines, can be worked up without waste, and, by securing the ends of the wire together by a joint and thus making the wire continuous, a light wire can be employed, thus further reducing the cost of the remover.

For a complete understanding of the invention, reference may be had to the accompanying drawings, in which—

Figure 1 is a perspective view of the remover, a portion being shown in section;

Fig. 2 is a view looking toward the bottom of the remover shown in Fig. 1, and

Fig. 3 is a sectional view, the section being taken on the line 3—3 of Fig. 1.

Referring now to the drawings, the remover is made from a single piece of comparatively light wire. The wire length is bent so as to form a loop portion 1, the loop, in the preferred construction, being somewhat elliptical in form, though this particular form may be varied, if desired. The two ends of the wire depending from the loop after it is formed are extended from the loop to form a handle 2. In the preferred construction, the wires are first bent so as to come close to each other, forming a neck 2′, which affords a convenient place to fulcrum the thumb when the remover is used. The wires then preferably diverge from each other slightly to form a broadened portion 3 to give a sufficient and comfortable hand-hold. The ends of the wires are turned in toward each other, as indicated at 5, and these ends are united by a joint.

This joint is provided so as to give rigidity to the remover, and, further, to prevent the pinching of the hand when the remover is in use. By thus joining the two ends of the wire and thus producing a continuous structure, a smaller and consequently lighter wire can be used than would otherwise be the case, with a consequent cheapening in the production of the remover. While the particular character of this joint may be considerably varied, a convenient construction is that illustrated, in which the end of one wire is provided with a groove 6, and the end of the other wire with a locking tongue 7, this tongue being sprung into the groove 6, the parts being held firmly together by the resiliency of the wire.

Removers constructed in accordance with the invention will, in the best constructions, be provided with cap-engaging means so positioned relatively to each other that the loop portion of the remover may engage with a cap and remove the cap from the container by either an upward or downward movement of the remover, such construction being very convenient to use. While these cap-engaging projections may be formed on the loop-portion of the remover in various ways and may be of various character, in the preferred construction they are in the form of lips 8, 9 and 10, these lips being produced by pinching out the wire, an operation which can be performed in high speed wire-forming machines. As illustrated, there are provided three of these projections, this number having been found to be the most convenient to produce in the class of machines in which the wire is formed. As shown, one of these lips, as 8, is positioned in the center of the top or bridge of the loop, and lips 9 and 10 are positioned diagonally of the top one at the sides of the loop and near the bottom, this arrangement enabling a cap to be

engaged by the loop and removed by either an upward or downward movement of the remover.

What is claimed is:

1. A crown cap remover comprising a single piece of wire bent to form a loop portion for engagement with the cap and provided at such portion with a cap-engaging projection, and a handle-portion formed by the two ends of the wire beyond the loop portion, the two ends of the wire beyond the handle-portion being united by a tongue and groove joint, the tongue being sprung into the groove and held in position by the resiliency of the wire.

2. A crown cap remover comprising a single piece of wire bent to form a loop portion for engagement with and removal of the cap, and a second loop portion forming a handle beyond the first loop portion and being of such form that the ends of the loop forming the handle abut, said abutting ends being interlocked and held interlocked by the resiliency of the wire.

3. A crown cap remover comprising a single piece of wire bent to form a loop portion for engagement with and removal of the cap, and a second loop portion forming a handle with the ends of the wire abutting, a groove in one abutting end, and a tongue on the other abutting end held in said groove by the resiliency of the wire.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

CONSTANT J. KRYZANOWSKY.

Witnesses:
H. J. BROWNLEY,
D. H. PAGE.