

W. F. STONE.
 DEVICE FOR REMOVING BOTTLE SEALS.
 APPLICATION FILED OCT. 13, 1910.

996,433.

Patented June 27, 1911.

Fig. 1.

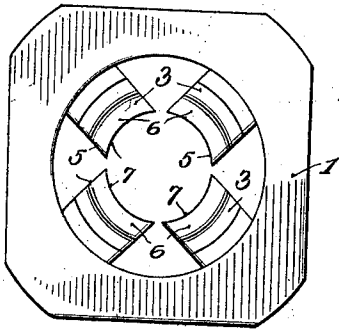


Fig. 2.

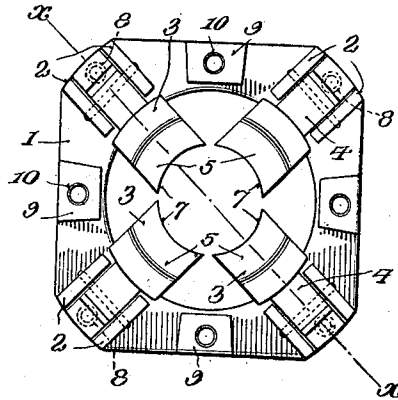


Fig. 3.

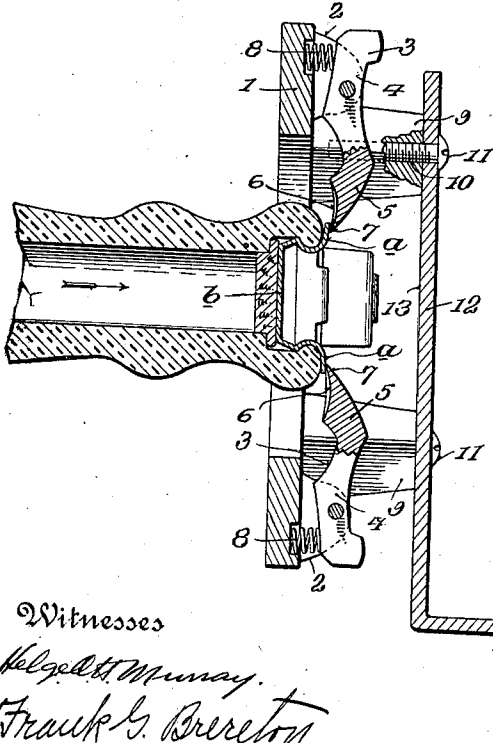
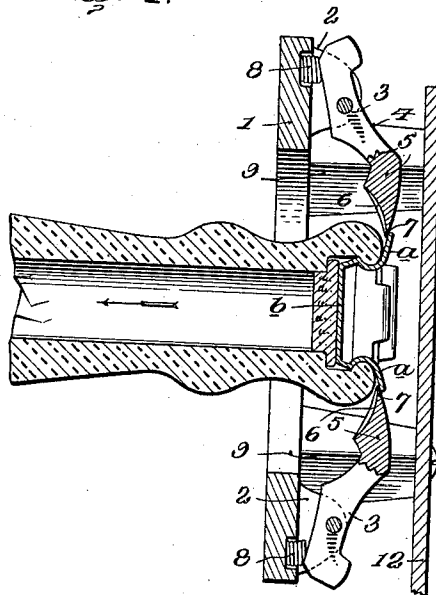


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM F. STONE, OF WOODBURY, NEW JERSEY, ASSIGNOR TO STAR SEAL COMPANY.
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DEVICE FOR REMOVING BOTTLE-SEALS.

996,433.

Specification of Letters Patent. Patented June 27, 1911.

Application filed October 13, 1910. Serial No. 586,890.

To all whom it may concern:

Be it known that I, WILLIAM F. STONE, a citizen of the United States, residing at Woodbury, in the county of Gloucester and State of New Jersey, have invented certain new and useful Improvements in Devices for Removing Bottle-Seals, of which the following is a specification.

This invention relates to improvements in devices for removing bottle seals, or more particularly to devices known in the trade as "bar tools", or tools by which bottle closures may be removed, other than by hand.

The opener is adapted for attachment to bars and other suitable supports arranged in convenient places behind bars, and the construction of the device is such that the opening operation is, to a very great extent, automatic, it only being necessary to insert the bottle neck into the device and withdraw the same, in order to effect an infallible removal of the seal. The construction of the opener adapts it for use in removing a seal patented to Charles Winter Number 904,825 dated Nov. 24, 1908, which is illustrated in the drawings accompanying this application.

The object of the invention is to provide a simple and inexpensive device which may be readily attached to bars or supports conveniently located near the same and which will, by a simple and easy manual operation, comprising simply an insertion of the capped bottle into the device and the withdrawal of the same, remove the seal.

It will be understood that the device may be employed, upon a suitable support, for private use or wherever its use may be required or desired.

Referring to the drawings illustrating the invention: Figure 1 is a front view of the opener, detached from the support; Fig. 2 is a rear view of the device, the support being likewise omitted; Fig. 3 is a sectional view of the opener taken about on line $x-x$ of Fig. 2, with the grippers in normal position; Fig. 4 is a similar view showing a capped bottle inserted in the opener with the parts in the position they assume as the bottle is being withdrawn.

Referring to the drawing, the numeral 1 designates the body of the opener which may be made of cast metal or any suitable material. The body is preferably rectangular in shape as shown, and provided at each corner with two standards 2, between which

are pivoted four grippers 3. Each gripper comprises in the main, an arm 4 having integral therewith, a wider gripping end 5, which is hollowed out as indicated at 6 to conform generally to the contour of the lip of the bottle and at the same time, serves to accurately center the bottle when the same is inserted into the opener. The broadened ends 5 of the grippers are turned down so that they present knife edges 7, which, as the bottle is withdrawn, enter beneath the lip of the bottle and the tabs a of the closure b .

The closure comprises a disk having an upturned flange divided into independently movable sections, each section being provided with a tab a , so that when the bottle is removed from the opener, the sections of the closure flange will be simultaneously crowded in and the seal broken and the closure left in the grippers. Each pivoted gripper has behind its pivotal point, a spiral spring 8 which holds the gripper normally toward the front of the body 1, the forward movement of the grippers being limited by contact between the body of the opener and the arms 4 of the gripper. These springs return all of the grippers instantly to normal position after each unsealing operation.

Preferably at three points upon the body, I provide standards 9 having therein threaded sockets 10 for the reception of screws 11 by which the whole device is attached to a metallic bracket 12, which bracket is so formed that it will present a surface 13, which forms a stop at the rear of the opener against which the mouth of the bottle contacts, thereby limiting the distance to which the bottle may be inserted in the opening operation. This bracket is further formed with wings 14 provided with perforations 15, by which the whole device may be rigidly attached to a suitable support.

It will be understood from the drawing, that the seal is not disturbed in the operation of inserting the bottle, as this operation merely forces all of the grippers simultaneously back until the bottle contacts with the support behind the opener. This inward movement of the bottle will bring all of the grippers simultaneously into contact with the lip of the bottle adjacent to the tabs of the closure and upon withdrawing the bottle, the grippers will follow up and around the bottle lip, inserting themselves

under the tabs and bringing the edges of the grippers in a position to crowd all of the tabs simultaneously in, breaking the seal and gripping the same in such a way that the withdrawal of the bottle leaves the seal in the grasp of the grippers. The succeeding operation of opening the next bottle, will dislodge the seal removed by the preceding operation, permitting it to drop out of the opener.

As shown, the broadened ends of the grippers when in normal position are of such width that their side edges or points, contact, or nearly so and that the approximately circular space between the ends of the grippers is of considerably smaller diameter normally than the mouth of a bottle, so that all of the grippers have to be simultaneously forced apart, to permit the insertion of the bottle. However, the action of the several springs has a tendency to constantly restore all of the grippers to the normal position, so that in the final movement of removing the bottle, all of the grippers are in normal position, with a seal gripped between their ends.

The construction described has demonstrated in practice, the complete practicability of the device which is infallible in its operation upon the seal for which it is intended for use and further, the construction is such that no breakage of the bottles or chipping of the lips occurs, since no considerable force at any time, is applied to the glass of the bottle, adjacent to the mouth.

The movement necessary to unseal the bottle is a straight in and out movement and requires no prying or twisting of the bottle, all of which movements obviously, have a tendency to break the bottles.

Having thus described my invention, what I claim is:

1. A bottle opener comprising a suitable body, a plurality of yielding grippers mounted upon the body and adapted to engage and hold a bottle seal upon the withdrawal of a bottle from the opener.

2. A bottle opener comprising a suitable body, a plurality of grippers pivoted there-

to, a spring for each gripper exerting a tendency to force the grippers toward the forward parts of the body, said grippers being adapted to grip and hold a seal upon the withdrawal of a bottle from the opener.

3. A bottle opener comprising a suitable body, a plurality of radially arranged spring pressed grippers, provided with sharpened edges at their inner ends adapted to engage and hold portions of a bottle closure upon the withdrawal of the bottle from the tool.

4. A bottle opener comprising a suitable body, a plurality of grippers pivoted to the body, a spring for each gripper exerting a tendency to maintain the grippers in their forward positions, suitable standards upon the body of the opener and a bracket secured to said standards, providing a surface to limit the inward movement of the bottle in inserting the same in the opener, the grippers being adapted to grip and remove the seal upon the withdrawal of the bottle.

5. A bottle opener comprising a suitable body, a plurality of rockable grippers mounted upon the body and adapted to engage and hold a bottle seal upon the withdrawal of the bottle from the opener, and means for limiting the forward movement of the bottle in inserting the same into the opener, preparatory to the unsealing operation.

6. A bottle opener comprising a suitable body, a plurality of rockable grippers mounted upon the body and adapted to engage and hold a bottle seal upon the withdrawal of the bottle from the opener, a bracket secured to the body of the opener and serving as a means for limiting the forward movement of the bottle, in the unsealing operation and also as a means for attaching the opener to a suitable support.

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

WILLIAM F. STONE.

Witnesses:

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