No. 769,650. PATENTED SEPT. 6, 1904.

J. R. HARRISON.

DETACHING DEVICE FOR BOTTLE CLOSURES.

APPLICATION FILED JAN. 5, 1903.

NO MODEL.

Fig. 1.

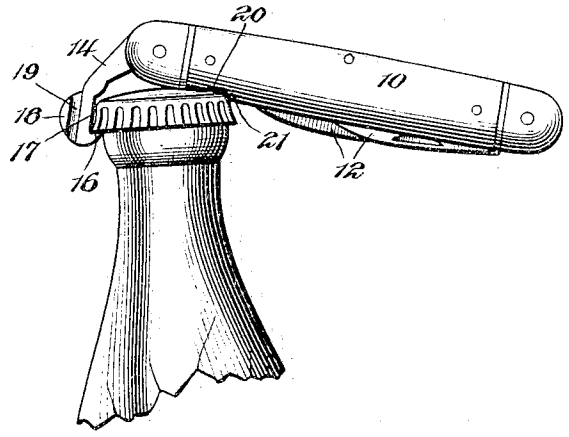


Fig. 2.

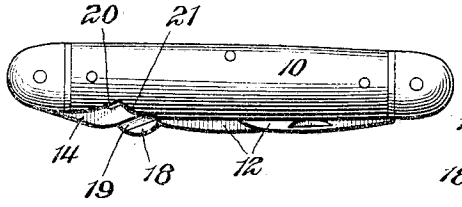


Fig. 3.

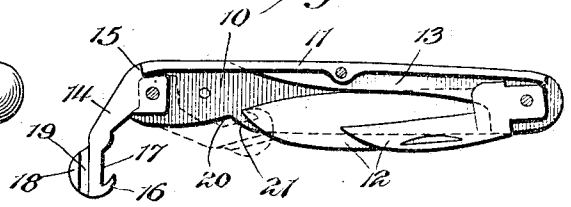
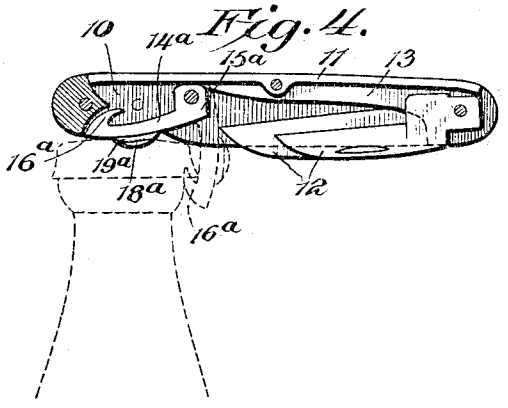


Fig. 4.



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Witnesses

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No. 769,650. Patented September 6, 1904.

UNITED STATES PATENT OFFICE.

JULIAN R. HARRISON, OF BARNWELL, SOUTH CAROLINA, ASSIGNOR OF ONE-HALF TO JOHN M. EASTERLING, OF BARNWELL, SOUTH CAROLINA.

DETACHING DEVICE FOR BOTTLE-CLOSURES.

SPECIFICATION forming part of Letters Patent No. 769,650, dated September 6, 1904.

Application filed January 5, 1903. Serial No. 137,847. (No model.)

To all whom it may concern:

Be it known that I, JULIAN R. HARRISON, a citizen of the United States, residing at Barnwell, in the county of Barnwell and State of South Carolina, have invented a new and useful Detaching Device for Bottle-Closures, of which the following is a specification.

This invention relates to that class of devices employed in removing crimped seal-caps from bottles.

It is the object to provide a simple instrument of this character which may be carried in the pocket and may be constructed as part of an ordinary pocket-knife. I am aware that, broadly stated, this arrangement is not new; but heretofore, so far as I know, the custom has been to provide a blade pivoted to a suitable handle, this blade having a hook which forms a rigid part thereof and projects from an intermediate portion of the lower edge. In use the hook is engaged beneath the lower edge of the cap, and the outer end of the blade constitutes the fulcrum, which rests upon the cap. These devices are open to some objection, because as soon as upward pressure is applied to them they tend to and often do slip outwardly and out of engagement with the caps without removing the same.

The feature of this invention resides in a structure wherein the hook or shoulder that engages the cap is movable with respect to the fulcrum and is drawn toward it during the uncapping operation. As a result the instrument is securely fastened to the cap during the removal of the latter.

In the drawings, Figure 1 is a side elevation of one form of the improved device, showing the same applied to a seal-cap. Fig. 2 is a side elevation of the detaching device when closed. Fig. 3 is a longitudinal sectional view showing the hook in open position. Fig. 4 is a longitudinal sectional view through a slightly-modified form of construction.

Similar reference-numerals designate corresponding parts in all the figures of the drawings.

In the embodiment illustrated in the first three figures a handle is employed comprising spaced side pieces 10 and a back-spring 11. Suitable knife-blades 12 are pivoted in one end of this handle, these blades being separated by the usual division or partition plate 13. In the other end of the handle is pivoted a cap-engaging hook 14, having at its pivoted end a shoulder 15, which is arranged to abut against the end of the back-spring 11, and thus prevent the movement of said hook beyond a predetermined angular position with relation to the handle. This hook comprises a shank having an offset portion, the free end of which is provided with an inwardly-extending bill 16, which projects upwardly toward the handle, said bill forming the lower wall of a socket 17. On the rear or outer edge of the hook is arranged a lug 18, having a longitudinally-disposed nail-receiving slot 19. The handle is provided in its lower edge and contiguous to the end having the hook 14 with a transverse notch or seat 20, forming a fulcrum-shoulder 21.

In use the hook is arranged in its angular position and the bill 16 is engaged under the edge of the cap. The shoulder 21 bears against the opposite outer corner, as shown in Fig. 1, and the handle thus constitutes a fulcrum, said hook and handle being disposed in coacting relation and engaging opposite portions of the cap. Upon pressing downwardly upon the free end of the handle it will be evident, therefore, that the cap will be raised from the bottle and thus removed, this movement serving to securely clamp the detaching device to the cap, so that there is little chance of its becoming disengaged. In fact, the more power applied to the handle the tighter will be the clamping action. This, therefore, is an important feature of the invention, and the desired result is obtained by the employment of a portion of the handle as the fulcrum, the hook being relatively movable with relation thereto. The shoulder 21, it will be observed, prevents the longitudinal movement or slip-

ping of the handle 10 upon the cap, and thus said cap is clamped between the bill 16 and said shoulder.

In Fig. 4 the same result is obtained by a slightly-modified form of construction. In this instance it will be observed that the hook 14^a is pivoted to an intermediate portion of the handle, being provided with a shoulder 15^a, that maintains the same in its angular relation. This hook is also provided with a lug 18^a, having a nail-receiving slot 19^a, and its bill (designated 16^a) projects inwardly and at the same time toward the end of the handle, said end in this case constituting a fulcrum. The parts coact in the manner already described, the only difference being that in this structure the outer or free end of the handle is raised instead of depressed during the detaching operation.

These structures, while very simple in construction, have decided advantages, for, as pointed out, the caps are securely fastened to them, and thus accidental detachments are prevented, while the opening of the bottles is assured.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a detaching device for bottle seal-caps, the combination with a handle having a fulcrum portion adapted to rest upon the cap, of a hook comprising a shank pivoted to the handle adjacent to the fulcrum portion and having an offset portion that fits against one side of the cap, and a terminal bill carried by the offset portion and extending toward the fulcrum portion of the handle, said bill being constructed to engage under the edge of the cap to be removed.

2. In a detaching device for bottle seal-caps, the combination with a handle having a fulcrum portion adapted to rest upon the cap and a notch at one end of the fulcrum portion, of a hook pivoted to the handle at one end of the fulcrum portion and having a bill projecting toward the same and constructed to engage under the edge of the cap to be removed.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JULIAN R. HARRISON.

Witnesses:

BEN. E. WOODWARD,

FRANK H. CREECH.