

No. 646,627.

Patented Apr. 3, 1900.

F. RECHT.
CAP FOR BOTTLES.

(Application filed July 18, 1899.)

(No Model.)

Fig. 1.

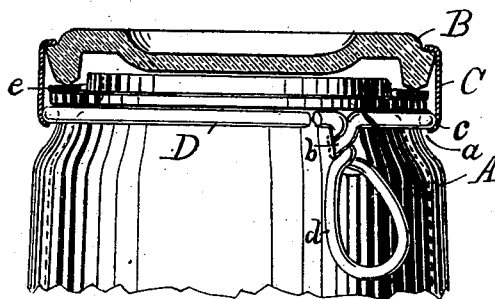


Fig. 2.

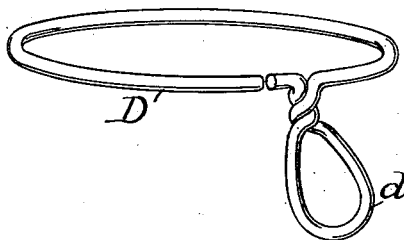


Fig. 3.

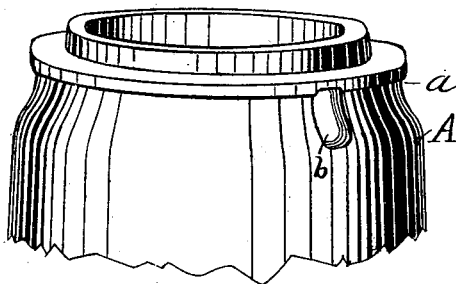


Fig. 4.

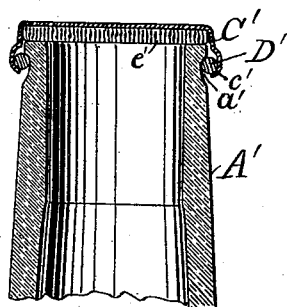


Fig. 5.

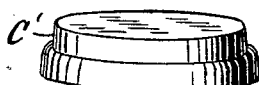
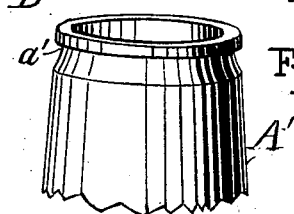


Fig. 6.



Fig. 7.



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UNITED STATES PATENT OFFICE.

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CAP FOR BOTTLES.

SPECIFICATION forming part of Letters Patent No. 646,627, dated April 3, 1900.

Application filed July 18, 1899. Serial No. 724,234. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK RECHT, a citizen of the United States of America, and a resident of the borough of Brooklyn, in the city of New York, county of Kings, and State of New York, have invented certain new and useful Improvements in Caps for Bottles, of which the following is a specification.

This invention is an improvement in the form of attachment of caps to bottles in which the flange of the cap is locked to the neck of the bottle by a wire that is intermediate between the flange and the neck and engages matching grooves in both.

The object is to provide a form of bottle-closure in which the cap is released and removed by dislodging the locking-wire from the bottle-neck with the cap or withdrawing the wire from both the matching grooves simultaneously. The grooves are close to the edge of the flange, so that the wire is accessible and can be readily dislodged from the groove in the neck either by prying it out of the groove or by drawing upon a free end or loop of the wire. A pocket is provided in the side of the bottle-neck which intersects the groove. This pocket affords convenient access to the wire for its dislodgment in uncapping the bottle, or in event of the wire being provided with a free end or loop this loop is led from the annular groove at the pocket, so as not to interfere with the rolling of the groove in the flange by means of spinning-rolls.

In the accompanying sheet of drawings, which form a part of this application, Figure 1 shows the neck and mouth of a wide-mouth bottle or jar with the cap therefor in section and illustrates the invention with the pocket in the side of the bottle-neck and a loop in the locking-wire. Fig. 2 is a perspective view of the wire. Fig. 3 is a perspective view of the neck and mouth of the jar. Fig. 4 shows in section the neck and mouth of a bottle with a modified form of cap and without a pocket in the side of the bottle-neck or a loop in the locking-wire. Fig. 5 is a perspective view of the cap for this modification. Fig. 6 is a perspective view of the wire. Fig. 7 is a perspective view of the neck and mouth of the bottle.

In the form shown in Figs. 1 to 3 the in-

vention is illustrated in connection with a jar A and the cap is formed in two parts, the top B being of glass and the flange C being of sheet metal. An annular groove *a* is formed in the outside surface of the bottle-neck, and a pocket *b*, which intersects the groove, is formed in the side. The depth of the groove is from a half to a third the diameter of the wire D, which encircles the neck and rests in the groove. The wire consequently when in the groove projects above the surface of the neck and forms a rib to engage the flange of the cap. The cap is locked on the jar by turning the edge over the wire by spinning-rolls or other mechanical means. The turned edge of the flange thus forms an annular groove *c*, matching with the groove in the bottle-neck, and the wire, since it rests in both grooves and is therefore intermediate between the neck and cap, locks the cap to the bottle. The groove in the flange fits the wire closely and holds it in the groove in the neck. A loop *d* is formed in the wire, preferably near one end, by bending the wire out from the groove. While this free or exposed end of the wire is styled a "loop," because preferably in this form, so that it can be readily seized by the hand and the wire withdrawn, it may be shaped in other ways, so as to serve the same purpose. The wire is bent out from the groove to form the loop at the pocket and loops into this pocket, so as not to interfere with the edge of the flange which is turned in. The cap is made to hermetically seal the jar by interposing a rubber ring *e* between the top of the cap and the mouth in the usual way.

In the form shown in Figs. 4 to 7 the invention is illustrated in connection with a bottle A', and the cap C' is stamped out of sheet metal into the form shown in Fig. 5 preparatory to being put on the bottle. The wire D' lies in the groove *a'* in the bottle-neck, and the cap on being applied to the bottle has the edge of its flange turned under the wire, thus forming a groove *c'* matching with the groove in the bottle-neck, with the wire intermediate and engaging both, thereby locking the cap on the bottle. The cap or the flange of the cap is of malleable material, so that it can be expanded to permit the dislodgment of the wire from the bot-

tle-neck in uncapping. The matching grooves are as close as possible to the edge of the flange, since otherwise the flange would so cover the wire that it could not be readily dislodged from the groove in the bottle-neck in uncapping. A disk of cork or other compressible material *c'* is placed between the cap and the mouth in the usual way to seal the bottle.

In order that the wire may be withdrawn without much effort, the annular groove in the flange of the cap is placed at its lower edge, and the edge of the flange is but slightly turned under the wire, though sufficiently to lock it to the bottle through the wire. The bottle-neck below the annular groove therein is cut away sufficiently to leave an annular space between the upset edge of the flange of the cap and the neck of the bottle of sufficient width to permit the ready passage of the wire therethrough with but a slight yielding of one of the parts in relation to the other. In the construction herein shown the flange of the cap will spread slightly.

The pocket in the neck and the loop in the wire may either or both be used or omitted with either form of the invention, and these elements are not essential to all the features of this invention.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination with a glass bottle, of a flanged cap for the mouth thereof, the neck of the bottle and flange of the cap being provided with matching annular grooves, and a wire intermediate between the neck and cap, and locking the cap to the bottle by engaging the grooves in both, the edge of the flange of the cap being separated from the wall of the bottle-neck by a space through which the wire can be withdrawn from the grooves upon a slight yielding of one of the parts in relation to the other, substantially as described.

2. The combination with a glass bottle, of a flanged cap for the mouth thereof, the neck of the bottle and the flange of the cap being provided with matching annular grooves adjacent to the edge of the flange, the parts being so formed as to leave an annular space between the edge of the flange and the neck

of the bottle, and a wire intermediate between the neck and cap and locking the cap to the bottle by engaging in the grooves in both, a portion of the wire being uncovered, whereby it may be seized and withdrawn from between the grooves through the annular space upon a slight yielding of one of the parts in relation to the other, substantially as described.

3. The combination with a glass bottle, of a flanged cap for the mouth thereof, the neck of the bottle and the flange of the cap being provided with matching annular grooves adjacent to the edge of the flange, the parts being so formed as to leave an annular space between the edge of the flange and the neck of the bottle, and a wire intermediate between the neck and cap and locking the cap to the bottle by engaging in the grooves in both, the wire being provided with a loop whereby it can be seized and withdrawn from between the grooves through the annular space upon a slight yielding of one of the parts in relation to the other, substantially as described.

4. The combination with a bottle, of a cap for the mouth thereof, the neck of the bottle and flange of the cap being provided with matching annular grooves, a pocket intersecting the groove in the neck, and a wire intermediate between the neck and cap and engaging the grooves in both, substantially as described.

5. The combination with a bottle, of a cap for the mouth thereof, the neck of the bottle and flange of the cap being provided with matching annular grooves, a pocket intersecting the groove in the neck, and a wire intermediate between the neck and cap and engaging the grooves in both, the wire being provided with a loop leading through the pocket by which it can be withdrawn from its engagement with the grooves, substantially as described.

Signed by me in New York city, borough of Manhattan, State of New York, this 17th day of July, 1899.

FREDERICK RECHT.

Witnesses:

S. W. BALCH,
THOMAS EWING, Jr.