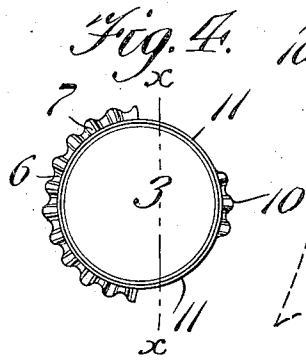
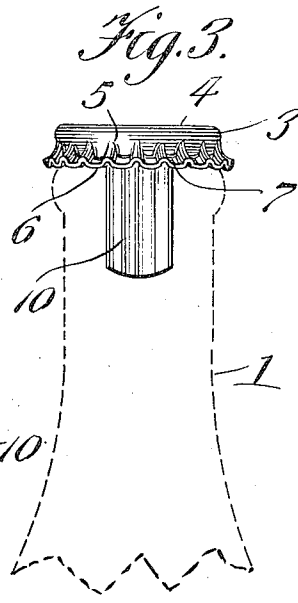
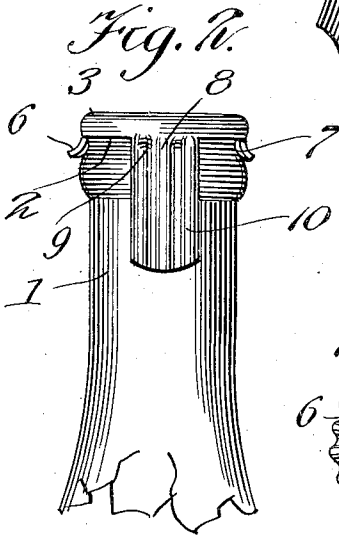
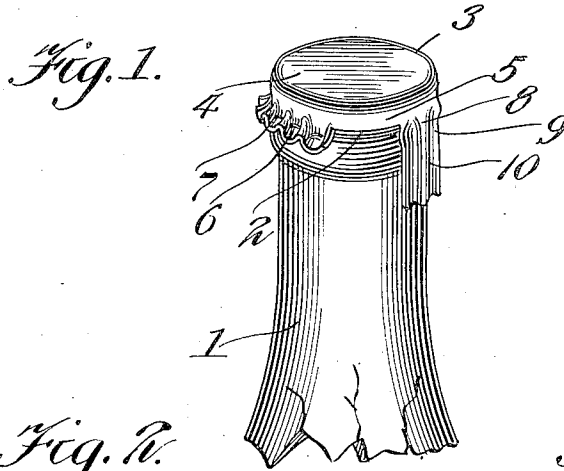


A. M. MILLER.
 BOTTLE CAP.
 APPLICATION FILED JUNE 17, 1908.

931,450.

Patented Aug. 17, 1909.



Witnesses
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UNITED STATES PATENT OFFICE.

ADRIAN M. MILLER, OF AUGUSTA, GEORGIA.

BOTTLE-CAP.

No. 931,450.

Specification of Letters Patent.

Patented Aug. 17, 1909.

Application filed June 17, 1908. Serial No. 438,960.

To all whom it may concern:

Be it known that I, ADRIAN M. MILLER, a citizen of the United States, residing at Augusta, in the county of Richmond and State of Georgia, have invented new and useful Improvements in Bottle-Caps, of which the following is a specification.

This invention relates to improvements in metallic caps or seals for bottles, the object of the invention being to provide a cap of that type having a rim shouldered to interlock with a shoulder on the bottle with means for conveniently extracting or removing it from the bottle neck, the construction of the cap being such as to maintain while applied a tight sealing connection, while permitting of a ready removal when a portion thereof is withdrawn from engagement with the bottle shoulder.

The invention consists of the features of construction hereinafter fully described and claimed, reference being had to the accompanying drawing, in which:—

Figure 1 is a perspective view of the neck of a bottle closed by my improved cap. Fig. 2 is a side elevation of the same. Fig. 3 is a side elevation looking at the diametrically opposite side of the cap from that shown in Fig. 2 and showing the bottle in dotted lines. Fig. 4 is a bottom plan view of the cap.

Referring to the drawing, the numeral 1 designates the neck of a bottle of that type provided with a locking shoulder 2 arranged externally below the rim edge of the neck, and 3 designates a bottle cap of that type comprising a crown portion 4 having a depending uncorrugated rim 5 to surround the neck above the shoulder, said rim being provided at its lower edge with a corrugated flange or extension provided with indented portions or shoulders to interlock with the shoulder 2 and thus secure the cap to the neck.

In accordance with my invention, the rim 5 is provided with a flange or extension 6 extending about half way around the circumference thereof, said flange or extension being corrugated or otherwise formed to provide a series of spaced shoulders or indented portions 7 to engage the shoulder 2, said shoulders 7 being preferably formed in practice by crimping the flange through the action of a suitable machine into engagement with the shoulder on the bottle neck. At the diametrically opposite side of the cap the rim 5 is provided with a similar flange

or extension 8, extending to a lesser degree around the surface of the rim, the transverse width of the flange 8 being preferably equal to one-eighth, more or less, of the circumference of the rim. These proportions of the engaging flanges or extensions may vary, but the locking portion 6 should be in practice of a width to extend nearly, if not quite, around one-half of the circumference of the rim, while the portion 8, may vary in size as circumstances under different conditions may require. The portion 8 is formed with a series of locking shoulders or indentations 9 corresponding to the shoulders 7 and is provided with a depending extension 10 serving as a finger tab or lever by which the portion 8 may be withdrawn from locking engagement with the shoulder 2 and the cap pried off the bottle.

It will be observed that by the construction and arrangement of the locking portions 6 and 8 above described, cut-away portions or recesses 11 are provided between the extreme adjacent ends of the locking portions, or that the rim is free from locking flanges or extensions between such locking portions, so that the cap is confined on one side of its center by the locking flange 6 and on the opposite side of its center by the locking portion 8, which grip the bottle securely enough to maintain the cap firmly in position to secure a seal against any ordinary internal pressure. When the finger tab or lever 10 is pulled outward and upward, and the locking portion 8 is thereby disengaged from the shoulder 2, it is obvious that the cap being free from other engaging projections on the same side as the portion 8 may be tilted upward and forced forward to move the locking portion 6 out of engagement with the shoulder, whereupon the cap will be disconnected. The absence of locking portions along the surfaces 11 facilitates the removal of the cap, in that the cap is weakened on a line transversely between the same to permit the side of the body of a refractory cap on which the shorter flange is formed to bend on the line $x-x$, Fig. 4, upward to the required degree to facilitate its extraction. This operation is facilitated by leaving the rim uncorrugated or unstiffened so that it will not oppose an inhibitory resistance. As shown, the tab 10, however, is provided with longitudinal corrugations forming continuations of the locking corrugations of the flange 8.

These corrugations in the tab sufficiently stiffen it to prevent it from unduly bending and to render it strong enough to apply the necessary power to said flange to bend the cap as described. Hence my invention provides in a simple manner a means by which caps of this character may be removed without the use of auxiliary extracting devices.

Having thus fully described the invention, what is claimed as new is:—

A bottle cap comprising a top provided with a depending uncorrugated circular rim having locking flanges at diametrically opposite sides thereof, said flanges being corrugated to provide interlocking shoulders for interlocking engagement with a shoulder on the bottle neck, one of said flanges extending practically around one half the surface of

the rim and the other a materially less distance around the diametrically opposite surface of the rim, leaving comparatively wide spaces between the opposing ends of said flanges, whereby the cap and flange are weakened transversely between said spaces, and a finger tab or lever projecting from the shorter flange, said tab having longitudinal stiffening corrugations forming continuations of the corrugations of said shorter flange.

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

ADRIAN M. MILLER.

Witnesses:

A. E. CURLING,
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