

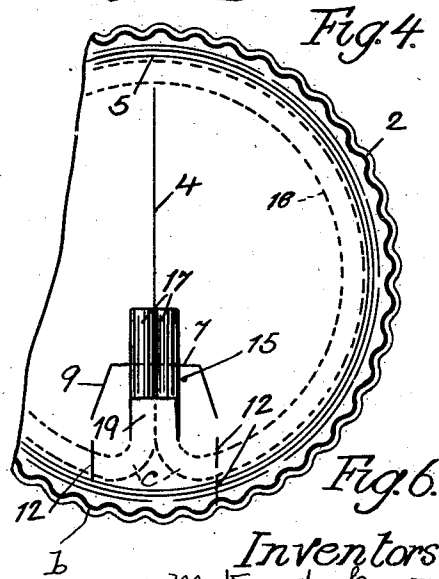
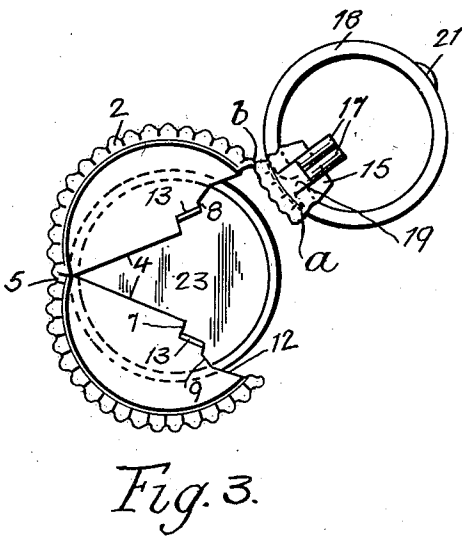
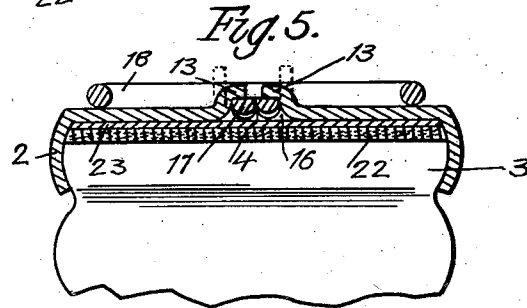
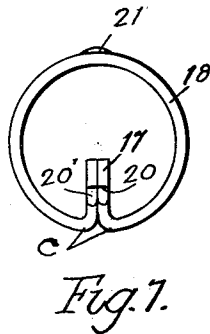
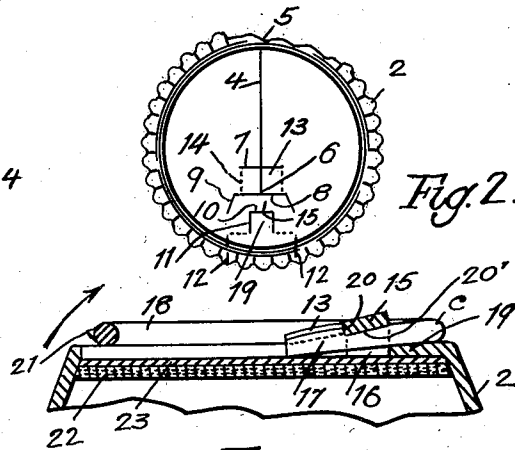
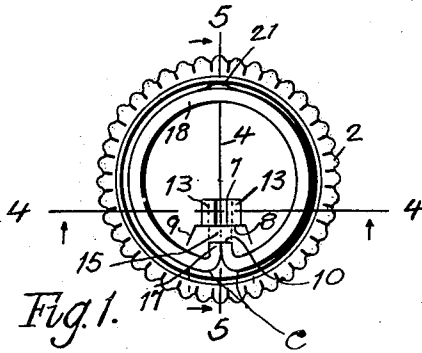
Oct. 16, 1951

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2,571,898

CRIMPED CAP REMOVER

Filed Sept. 20, 1950



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UNITED STATES PATENT OFFICE

2,571,898

CRIMPED CAP REMOVER

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Application September 20, 1950, Serial No. 185,838
In Canada August 29, 1950

2 Claims. (Cl. 215-46)

1

This invention relates to means for removing crimped caps from bottles, and the objects of the invention are:

1. To enable this type of cap to be readily and easily removed laterally of the bottle top.

2. To prevent the fractioning means for the cap from being longitudinally displaced while the bottle is handled.

In its broadest conception the invention comprises a crimped cap generally of common construction but sufficiently slit to form it almost into two halves which are retained in relationship by unslit portions of the cap, and a rupturing member piercing said cap and over portions of which parts of said cap are clamped, as hereinafter more particularly explained.

Fig. 1 is a plan view of the top of the cap.

Fig. 2 is a plan view of the cap without the ring.

Fig. 3 is a plan view showing the cap ruptured.

Fig. 4 is a section on the line 4-4, Fig. 1.

Fig. 5 is a section on the line 5-5, Fig. 1.

Fig. 6 is a plan view of the underside of the cap.

Fig. 7 is a view of the rupturing member or ring.

In the drawings like characters of reference refer to the same parts.

As shown in Figures 4 and 5, the rupturing element is shown in the preferred form of a ring, and this ring lies chiefly snugly against the top side of the cap.

The cap 2 is crimped and clamped to the top 3, of the bottle by the usual clamping means (not shown).

The cap 2, is slit, as shown at 4, for most of its diameter but so as to leave an unslit portion 5, in the crimped rim, which acts somewhat as a hinge (Fig. 3) when the two halves of the cap are separated. Near the opposite end of said slit 4, and nearer the centre of the cap than the extremity 6, of said slit, the cap is equally slit at each side of the slit 4, as shown at 7. The cap is further slit at the extremity 6, equally at each side of the slit 4, as shown at 8, and a slit 9, is formed in an angular position in said cap at each end of the slit 6, and directly in communication therewith. Spaced apart from the slit 6, is a slit 10, which extends equal distances beyond the diameter of the cap measured along the slit 4. The slits 7, 8, and 10, lie parallel to each other. At each end of the slit 10, is a slit 11. These slits 11 are substantially parallel to the slit 4. In alignment with the outer ends of the angular slits 9, and spaced apart therefrom, are slits 12, so positioned as to sufficiently weaken the top and crimped flange of

2

the cap as to permit the cap to be ruptured in alignment with said slits 12.

As the various slits are cut in the top of the cap, two separated ears 13, are formed up along the dotted lines 14. (Fig. 2.) Simultaneously with the formation of the ears 13, the metal bounded by the slits 8, 9, 10 and 11, is displaced, thus forming a bridge 15, and a tongue 19. Forming said bridge and tongue provides a passageway 16, through which the ends 17, of the ring 18, are passed to be positioned under the ears 13, and over the tongue 19. As the ears 13, and bridge 15, are clamped over the ends 17, these ends are firmly gripped between these ears and bridge 15, and tongue 19.

To prevent the longitudinal displacement of the ring 18, the upper side of each end 17, is provided with a shoulder 20, against which one side of the bridge 15, abuts. In forming the shoulders 20, a sloped surface 20', is formed against which the bridge 15, is held. This construction prevents longitudinal displacement of the said ring in either direction.

The ring 18, is provided with a lug 21, which promotes ease of lifting the ring.

A cork disc 22, is positioned within the cap, and, if desired, a metal disc 23, may be interposed between the cap and said cork disc. However discs made of any suitable material may be used in the cap as the contents of the bottle the cap is used on may require to be kept in a good condition.

As shown in Fig. 7, each arcuate side of the ring 18, terminates in an inturned end 17. These ends extend parallel with the slit 4, and their line of contact is in alignment with said slit.

To remove the cap the ring 18, is moved in the direction of arrow (Fig. 5). This movement displaces the ears 13, into the position shown in Fig. 3, and by the dotted lines in Fig. 4, and simultaneously the bridge 15, is lifted thus rupturing the material of the cap between the outer ends of the slits 9, and the slits 12. This movement tears a fragment *a* (Fig. 3) away from the cap except at the location *b* (Figs. 3 and 6). By pulling the raised ring 18, to the right, the halves of the cap are moved apart on the hinge 5, and may be lifted off the bottle.

The shoulders *c* of the ring 18, when this ring is lifted, are forced into contact with the cap 2, and thus act as the fulcrum for the inturned ends 17.

As shown in Fig. 5, the ears 13 lie upon the end 17, above the shoulder 20, and the bridge 15 abuts against the said shoulder for its full height.

3

Changes in construction may be made in that herein disclosed without going outside this disclosure and the terms of the claims.

We claim:

1. A container closure comprising a crimped metal cap having a slit in its median line, and having other slits at spaced intervals transversely through said slit, and, at the ends of two of said transverse slits having slits at an angle to said diameter slit, thus forming a pair of ears; a tongue; and a bridge intermediate said ears and said tongue; a disrupting member having an intumed portion extending below said bridge and above said tongue, said ears and said bridge clamping said extension to hold said member snugly against said cap.

2. A container closure comprising a crimped metal cap having a slit on its median line, and having other slits at spaced intervals transversely through said slit and, at the ends of two of said transverse slits having slits at an angle to said diameter slit, thus forming a pair of ears; a tongue, and a bridge intermediate said ears and said tongue; a disrupting member in the form of

4

a ring having an intumed portion extending below said bridge and above said tongue, and provided on the upper side of said intumed portion with a shoulder and a sloped surface, the said ears being clamped over said intumed portion above said shoulder, and said bridge being clamped on said sloped surface and abutting said shoulder thereby holding said disrupting member securely in position.

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