Oct. 16, 1945. G. H. HUTAFF, JR 2,386,860

BOTTLE CAP AND RELEASE THEREFOR

Filed March 18, 1944

Fig. 1.

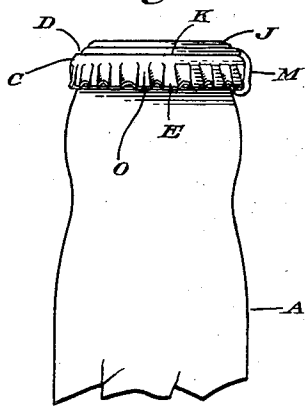


Fig. 2.

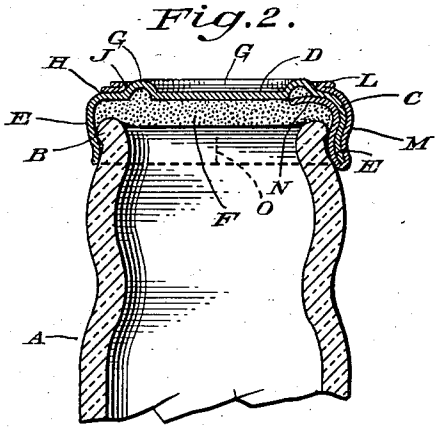


Fig. 3.

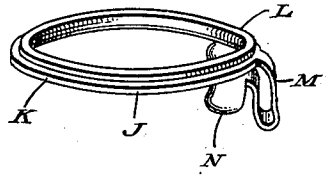


Fig. 4.

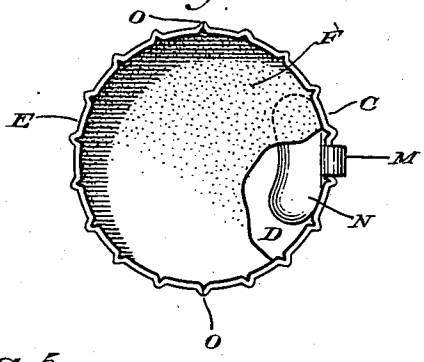
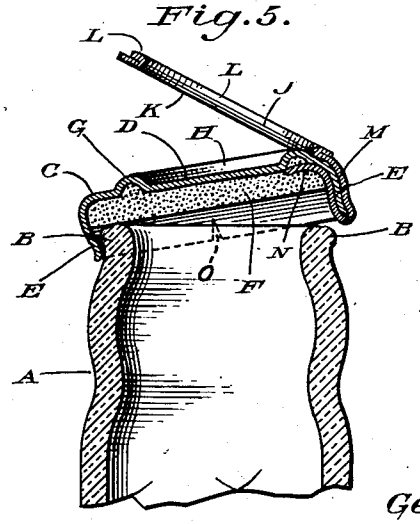


Fig. 5.



INVENTOR.

George H. Hutaff, Jr.

BY

Milans & Milans

ATTORNEYS

Patented Oct. 16, 1945 2,386,860

UNITED STATES PATENT OFFICE

2,386,860

BOTTLE CAP AND RELEASE THEREFOR

George H. Hutaff, Jr., Wilmington, N. C.

Application March 18, 1944, Serial No. 527,081

8 Claims. (Cl. 215—46)

This invention relates to bottle caps of the commonly known crimped flange type provided with an interior sealing medium, as cork, adapted to be held in effective closing and sealing relation to a bottle containing a beverage, by the binding of the flange of the cap around the mouth of the bottle and over and beneath the usual bead on the neck thereof.

The fundamental object of the invention is to provide, in association with such a cap as has been referred to, usually formed of sheet metal, an inexpensive, strong, and readily manipulated device to facilitate the removal of the cap from the bottle or similar container.

The preferred embodiment of the invention has for its characteristic feature the provision of a releasing means for the cap, comprising a sheet metal or equivalent member having an exposed pull extension accessible to the user and an anchoring or head portion projecting laterally from said extension, adapted to be embedded between the top of the metal cap body and the cork insert thereof at the bend of the flange of said body and inwardly and laterally thereof, to be firmly held or anchored in the cap between said cap body and insert.

Inherently the combination involves the use of a minimum of metal, in the formation of the releasing means from a sheet, it being obvious that quite thin material be utilized to take up as little space as possible within the normal cap body and cork insert, sheet metal being most advantageous for that purpose, the formation of the head and interfitting thereof in the body of the cap, above the insert, giving a particularly strong anchor in small space without unduly spacing the cork insert from the inner surface of the cap body against which the anchoring portion lies.

Another feature of the preferred embodiment of the invention comprises making the pull extension of the cap releasing device into a terminal circular or ring formation of reinforced angular cross-section, adapted when not in use to lie flat upon the top of the cap and preferably around a corresponding circular rib pressed outwardly in the cap formation whereby the same may protect the ring when overlying the cap, from engagement with extranuous objects and displacement from its seating arrangement with the cap in shipping, handling, etc.

All of the foregoing objects and advantages and details of construction to attain the end stated, will be more fully understood from the accompanying drawing wherein the preferred embodiment is illustrated, when considered in connection with the more specific description hereinafter contained.

In the drawing:

Figure 1 is a side elevation of a beverage bottle with the improved cap-releasing device thereon.

Fig. 2 is an enlarged cross-sectional view of the neck portion of the bottle and cap secured thereto, as generally illustrated in Fig. 1.

Fig. 3 is a perspective view of the cap-releasing device separated from the cap.

Fig. 4 is a bottom view, parts being broken away, to illustrate the seating of the anchoring head of the releasing device between the cap and the cork or sealing insert.

Fig. 5 is a sectional view similar to Fig. 2, showing the cap in the process of releasing the same from the bottle.

Referring more specifically to the drawing A represents, generally, the type of glass bottle or other container having a beaded mouth portion B, adapted to be sealed by the cap of the present invention.

C is a flexible sheet metal cap shaped to fit the mouth portion of the bottle and having a top D and depending crimped flange E, as usual, adapted to be pressed into close contact with and beneath the bead B of the bottle to secure the cap in sealing position on the bottle, a cork disc F being contained within the cap for sealing purposes as will be readily understood. The cap is provided with an embossed circular rib G, pressed upwardly from the body thereof and located inwardly substantially from the marginal edge of the cap, which is slightly rounded and merged into the crimped flange E, referred to, forming an intervening seat H for a ring J presently to be particularly defined, it being here noted that the circular projecting bead G is of a height preferably a little greater than the thickness of the ring to prevent extranuous objects engaging and lifting the ring and raising the same when not intended.

The ring J is the actuating member for a pull device adapted to distort, raise and release the cap from the bottle. It is adapted to be engaged by the finger of a user when raised to a position above the cap, when exerting said pull. The ring is formed of sheet metal and bent to present an angular cross-section with a horizontal bottom flange K and upstanding inner flange L, rounded at their juncture to present a smooth and relatively thick surface for contact with the flesh of the finger. The flange L is bent over upon the face of the bottom flange K to lie parallel with the latter and further strengthen the ring structure.

The ring has an integral relatively wide and flat continuation M running from the base flange K, of the ring, normally downwardly around the edge of the crimped flange E of the cap turning inwardly at the bottom edge of the flange E and upwardly to an anchoring extension N. The anchoring extension is elongated laterally to engage interiorly of the cap beneath the seat H, and curved transversely to fit the rounded junction between said seat and flange E and also curved transversely to fit the circular portion of the cap, the edge of which constitutes the inner wall of the rib G. The interfitting of the extensions N, conforming to the interior shape of the embossed, flanged cap, constitutes a firm interlock between the cap and ring when the cork insert F is forced home and secured in place by friction, cement or otherwise, it being understood that the cork insert, of disc formation, binds the anchoring portion of the puller in place against displacing movement either circumferentially of the cap or escape from the edge of the cap. The particular advantage, in addition to the characteristic of a minimum of sheet metal being necessitated in the formation of the device, is the corresponding minimum of space required for securement thereof between the top of the cap and the cork insert, together with the facility of assembling the puller relative to the cap, it being seen that the puller may be inserted at any point peripherally of the cap, and the cork thereupon secured in place below the anchoring portion.

The connecting part of the sheet metal between the anchoring portion and the ring is conveniently of substantially thin metal, but sufficiently strong because of its width. The crimping of the cap on the bottle will correspondingly crimp the member M on the interior of the flange E of the cap without trouble.

With the cap assembled and properly secured in sealing state on a bottle it will be appreciated that by raising the ring J from its seat and introducing the finger thereinto, a pull in an upward direction will bend the flange of the cap outwardly and distort the cap thereby enlarging the diameter thereof, normally hugging the bead at the mouth of the bottle, and enabling the cap to be pulled from said mouth.

The crimped flange may be rendered a bit more flexible to facilitate spreading of the flange and outward bending thereof under the pulling action of the ring by slitting said flange at one or opposite points O, terminating a short distance below the top of the flange so as to correspondingly weaken the depending free portion of the flange without impairing the sealing and binding engagement of the upper portions of the crimped flanges on the bead of the bottle.

Changes may be made in the embodiment presented, as may be embraced within the terms of the hereto appended claims, such as omitting the embossed ring on the top and the special cross-section of the pull ring.

I claim:

1. A bottle cap and release therefor comprising a sheet metal cap having a top and crimped securing flange, combined with a release device comprising a pull member, an elongated flexible shank extending therefrom adapted to extend downwardly around and up into the cap adjacent to the flange thereof and an anchoring portion at the end of said flexible member elongated transversely relative to the latter beneath the top and of relatively narrow width radially of the cap, and a cork seal, for fastening the anchoring portion between the same and top by impingement on the anchoring member over the inner and end edges thereof.

2. A bottle cap and release therefor comprising a sheet metal cap having a top and crimped securing flange, combined with a release device comprising a pull member, an elongated flexible shank extending therefrom adapted to extend downwardly around and up into the cap adjacent to the flange therefor and an anchoring portion at the end of said flexible member elongated transversely relative to the latter beneath the top, and a cork seal, for fastening the anchoring portion between the same and top, the anchoring portion being of sheet metal of curved transverse contour radially of the cap to fit corresponding interior formations of the cap and present downwardly directed edge portions.

3. A bottle cap and release therefor comprising a sheet metal cap having a top and crimped securing flange, combined with a release device comprising a pull member, an elongated flexible shank extending therefrom adapted to extend downwardly around and up into the cap adjacent to the flange therefor and an anchoring portion at the end of said flexible member elongated transversely relative to the latter beneath the top, and a cork seal, for fastening the anchoring portion between the same and top, the anchoring portion being of sheet metal of curved transverse contour to fit corresponding interior formations of the cap, the cap having a raised circular bead and the pull member being a ring adapted to surround said bead.

4. A release for a bottle cap comprising a sheet metal pull portion having an elongated shank, and an integral anchoring portion at the upper end of said shank offset therefrom to lie substantially flat within and against the under surface of the cap, said anchoring portion constituting with the shank a T-head of narrow width with reference to the longitudinal axis of the shank and substantially elongated laterally thereof.

5. A bottle cap and release therefor comprising a sheet metal cap having a clamping flange and inner seal, combined with a release device comprising a sheet metal pull portion and an elongated flexible shank extended outwardly beyond the exterior of the cap and an anchoring portion at the inner end of the shank lying substantially flat under the cap and over the seal, said anchoring portion being of substantially T-formation with its narrow width disposed radially of the cap and its elongation at an angle thereto laterally of the shank.

6. A bottle cap and release therefor comprising a sheet metal cap having a top with an angularly disposed clamping flange and inner seal, combined with a release device comprising a sheet metal pull portion and an elongated flexible shank extended outwardly beyond the exterior of the cap, and an anchoring portion at the inner end of the shank lying substantially flat under the cap and over the seal, said anchoring portion being of substantially T-formation with its narrow width disposed radially of the cap and its elongation at an angle thereto laterally of the shank, within the angle of the cap constituted by the juncture of its top and flange.

7. A bottle cap and release therefor comprising a sheet metal cap having a clamping flange and inner seal, combined with a release device comprising a sheet metal pull portion and an elongated flexible shank extended outwardly beyond the exterior of the cap, and an anchoring

portion at the inner end of the shank lying substantially flat under the cap and over the seal, said anchoring portion being of substantially T-formation with its narrow width disposed radially of the cap and its elongation at an angle thereto laterally of the shank, the said anchoring portion being dished on its under surface radially of the cap.

8. A bottle cap and release therefor comprising a sheet metal cap having a clamping flange and inner seal, combined with a release device comprising a sheet metal pull portion and an elongated flexible shank extended outwardly beyond the exterior of the cap, and an anchoring portion at the inner end of the shank lying substantially flat under the cap and over the seal, said anchoring portion being of substantially T-formation with its narrow width disposed radially of the cap and its elongation at an angle thereto laterally of the shank, the cap having an inwardly opened beaded portion below which said anchoring portion is located.

GEORGE H. HUTAFF, JR.