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P. J. HAAS

BOTTLE COVER AND DECAPPER

Filed April 7, 1924

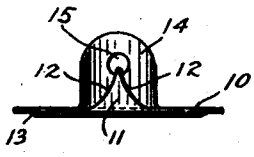


Fig. 4.

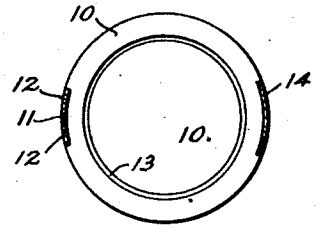


Fig. 3.

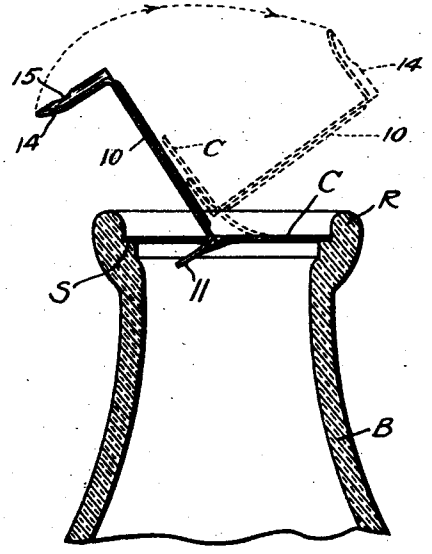


Fig. 1.

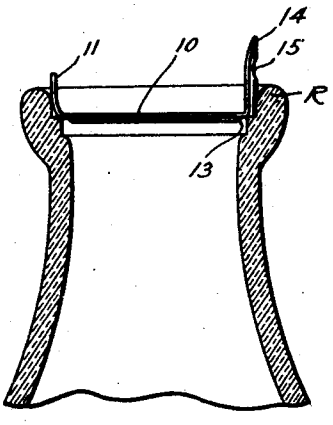


Fig. 2.

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UNITED STATES PATENT OFFICE.

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BOTTLE COVER AND DECAPPER.

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My invention relates to removable covers for bottles of the class commonly used for dispensing milk, cream and the like, and to devices for removing the cardboard caps with which such bottles are sealed. It is the object of my invention to provide a simple, inexpensive and sanitary device, providing in combination a convenient means for removing the cardboard caps, and for then forming a cover or closure for the bottle, enabling portions of its contents to be conveniently removed for use from time to time as required. A further object of my invention is to provide a milk-bottle decapper having a pointed member for penetrating the cap, and a body and handle so associated with the pointed member as to inhibit the insertion of the latter except in an oblique or diagonal direction with respect to the surface of the cap.

A device embodying my invention is illustrated in the accompanying drawings, in which Fig. 1 is a vertical section of a bottle and cap, showing the device in use for removing the cap, Fig. 2 is a similar view showing the device in use as a cover for the bottle, Fig. 3 is a plan view of the decapper and cover, and Fig. 4 is a side view thereof.

In Figs. 1 and 2 there is represented the top or neck portion of a common milk-bottle B having at the mouth thereof an inner shoulder S upon which is received the cardboard cap C by which the mouth is closed or sealed until the milk is desired for use. The cardboard caps usually become somewhat soft or spongy after they have been in place for some time, and they are then difficult to remove from the bottle, being liable to collapse inwardly and cause a spurt of milk from the bottle when an attempt is made to penetrate the central portion of the cap with a sharp instrument pressed down perpendicularly thereon, which is the method usually employed for so engaging the caps as to enable lifting thereof from the seat or shoulder on which they rest. Regardless of softening of the caps, however, they may be readily punctured without inward collapse if the penetrating instrument be directed diagonally of the surface and toward one side, so that the greater portion of the pressure exerted in effecting the penetration of the point is toward the edge of the cap where the same is supported by the shoulder S. After the cap has been removed from the bottle, it frequently happens that only a portion of the contents is used immediately, and it is desirable that a cover be provided for use until the remainder of the contents is needed. The paper cap, having been perforated by its removal, is unsuitable for use again, and is also frequently unsanitary by reason of having been in contact with un-sterile objects while removed from the bottle. My invention provides simple and effective means by which the desirable effects above mentioned may be attained.

In carrying out my invention I provide a circular disk 10 of sheet metal, the diameter of the disk being such that it will fit within the rim R and rest upon the shoulder S of a bottle of the class with which the device is to be used. At one edge of the disk 10, and formed integrally therewith, is a pointed tongue 11 which is turned up perpendicularly to the disk. Preferably, the convergent edges 12 of the tongue are slightly concave, as best shown in Fig. 4, and the tongue is transversely curved so that the outer side thereof conforms with the arc of the outer edge of the disk or body-plate 10. The central portion of the body-plate is depressed or downwardly offset from the plane of the outer portion thereof, there being an annular shoulder 13 surrounding the central depressed or offset portion, as shown. At the edge opposite the tongue 11 there is an upturned lug 14 having a rounded or semicircular upper end portion, and parallel edges adjoining the lower or attached end. Said lug 14 is also curved transversely to conform with the outer edge of the body-plate 10, and in the upper portion of the lug is formed a circular opening 15.

The device may be made of sheet iron or steel, but if a ferrous material is employed the same should have a protective coating of non-corrosible metal, such as nickel or tin, to prevent rusting. I have found it preferable to employ hard-rolled sheet aluminum, as such material does not require nickel-plating or other protective coating to prevent corrosion. While the hardest commercial grade of sheet aluminum is softer than most ferrous sheet metals, the stiffening of the body-plate effected by the offsetting thereof at the shoulder 13, and the stiffening of the tongue 11 and lug 14 due

to the transverse bending thereof, are such that the sheet aluminum is sufficiently rigid to be entirely satisfactory.

In the use of the described device for removing the cap C from a bottle, the body-plate 10 is grasped between the thumb and forefinger, with the thumb adjoining the inner side of the lug 14, and the point of the tongue 11 is inserted in the cap substantially as represented in Fig. 1, although it is preferable that the point be entered somewhat closer to the edge of the cap than is represented in said figure. During the insertion of the point, the direction of pressure thereon is diagonal to the surface of the cap, and toward the shoulder S where the edge of the cap is supported, and the point of the tongue will thus readily penetrate the material without causing inward collapse of the cap. When the tongue has been fully inserted, the cap is lifted out of the bottle by a rolling motion, during which the device is moved in the direction of the arrow in Fig. 1, to a position such as indicated by dotted lines in the same figure. The cap is thus pried out gently, beginning at one edge and being gradually withdrawn, so as not to cause throwing or spattering of any liquid which may adhere to the inner side of the cap. It will be seen that the body-plate 10 and lug 14 form together a handle for the tongue or cap-penetrating member, the body 10 having a broad surface against which may be exerted the pressure needed to force the point through the cap, and the lug 14 forming an abutment for the thumb, to receive the lifting pressure required to withdraw the cap. It will be noted particularly that the direction of the point or tongue, with respect to the handle-forming parts of the device, is such that the tongue cannot conveniently be pressed down perpendicularly against the surface of the cap, so as to cause its inward collapse, but can only conveniently be pressed in a diagonal or slanting direction, toward the shoulder-supported edge of the cap, whereby the penetration is effected without causing collapse.

After the cap has been lifted out of the bottle, it is removed from the tongue and discarded. By then placing the body-plate 10 upon the shoulder S as represented in Fig. 2, the device forms a convenient and sanitary cover for the bottle, and the cover thus formed may be readily removed by grasping the upstanding lug 14. The opening 15 in said lug is for convenience in hanging the article upon a hook or the like, after it has been cleansed and sterilized.

Now, having described my invention, what I claim and desire to secure by Letters Patent is:—

1. A device of the class described, comprising a circular metal plate having at one edge thereof a pointed tongue, and at the opposite edge having a handle-lug, said tongue and lug being integral with the plate and extending substantially perpendicular thereto and being transversely curved to conform with the curvature of the edges of the plate, whereby the latter may rest upon a shoulder within a bottle-neck and the lug and tongue extend outwardly thereof.

2. A device of the class described, comprising a circular body-plate of sheet metal having a central portion offset from the plane of the peripheral edge, a pointed tongue integral with said plate and extending upwardly from one edge thereof, and a handle-lug integral with the body-plate and extending upwardly therefrom at the edge diametrically opposite said pointed tongue, said tongue and handle-lug being transversely curved to conform with the arcuate peripheral edge of the body-plate and adapting the latter for insertion within the neck to rest upon the cap-receiving shoulder of a milk bottle.

PHILIP J. HAAS.