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MILK BOTTLE CLOSURE

Filed June 28, 1928

Fig. 1

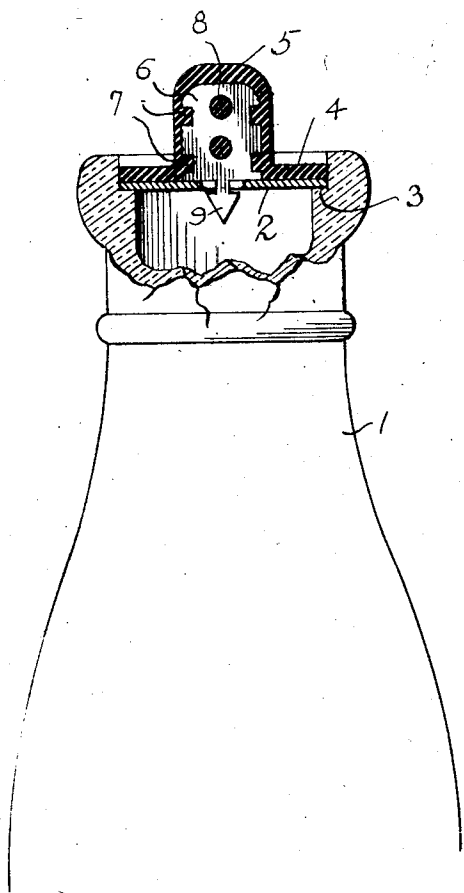


Fig. 2

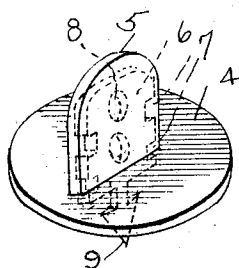


Fig. 3

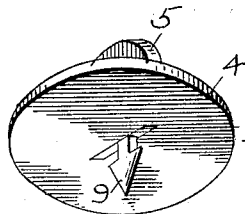
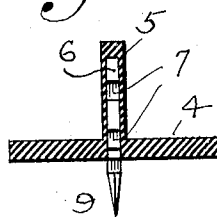


Fig. 4



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MILK-BOTTLE CLOSURE.

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My invention relates to lids and closures, and more particularly to a closure for wide mouthed bottles, such as milk bottles. It is customary to deliver milk and sometimes other commodities in bottles having a stopper disc or closure of cardboard which must be pried out of the bottle mouth. Such cardboard stopper disc is somewhat inconvenient and difficult to remove and is frequently distorted or mutilated during removal, making it undesirable and unfit for temporary use after the bottle has once been opened.

The present invention pertains to a flexible closure disc for engagement within the mouth of a bottle, in which is embedded a metallic insert projecting perpendicularly above the plane of the disc to afford a handle and having an integral dependent barbed spur for engagement with the original cardboard bottle closure to effect its removal for replacement by the present flexible disc. The form of insert relieves the flexible disc of all strain in removing the cardboard closure and obviates the liability of the barbed spur being pulled loose by the strain.

The object of the invention is to simplify the structure, as well as the means and mode of operation of bottle closures, whereby they will not only be cheapened in construction, but will be more efficient in use, capable of being easily and quickly applied and removed, of sturdy and strong construction, and unlikely to get out of repair.

A further object of the invention is to provide a closure disc for replacement of the ordinary cardboard stopper having means permanently attached thereto to facilitate its removal from the bottle, and so anchored and secured as to resist pulling strain.

A further object of the invention is to provide a replacement closure device having embodied as a permanent part thereof means for removing from the bottle mouth the original cardboard closure disc.

With the above primary and other incidental objects in view, as will more fully appear in the specification, the invention consists of the features of construction, the parts and combinations thereof, and the mode of operation, or their equivalents, as hereinafter described and set forth in the claims.

Referring to the accompanying drawing, wherein is shown the preferred, but obviously not necessarily the only form of embodiment of the invention, Fig. 1 is a vertical sectional

view of the assembled bottle closure applied to a bottle for removal of the original cardboard closure. Fig. 2 is a perspective view of the present closure device viewed from above. Fig. 3 is a similar view thereof viewed from below. Fig. 4 is a vertical sectional view on a line at right angles to that shown in Fig. 1.

Like parts are indicated by similar characters of reference throughout the several views.

Referring to the drawings, 1 is an ordinary commercial type of milk bottle having in its mouth the standard cardboard closure disc 2. As ordinarily manufactured, such milk bottles are provided with an interior shoulder or offset 3 upon which the closure disc 2 rests. The cardboard closure disc 2 necessarily fits quite tightly. Such disc must be pried out of the bottle mouth by use of some sharp implement, which is not always conveniently at hand. The present closure or bottle stopper forming the subject matter hereof, not only affords a replacement of the original closure disc, but also embodies a barbed tine for removing such cardboard closure. The present closure device comprises a circular disc 4, preferably formed from flexible rubber, but which may be celluloid, fiber, or other suitable material. The disc 4 is provided with a flat upstanding tab 5 which forms a finger grip or handle. Embedded within the closure member is a flat metallic reinforcement plate extending transversely of the plane of the disc 4. The main body of this reinforcement plate projects perpendicularly above the level of the closure disc 4 and is provided with marginal notches 7 substantially coincident with the disc 4 into which the material of the disc projects forming an interlocking connection. The reinforcement plate 6 is also provided with perforations 8 through which the material of the tab or finger grip 5 extends to afford increased anchorage connection.

The upwardly projecting perforated main body of the metallic insert is rather thinly coated with rubber, or other material, forming a continuation of the material of the disc 4. This surface coating of rubber over the reinforcement member is comparatively thin, but serves to securely anchor the reinforcement member and conceal the same, affording a better appearance and a more tenacious surface to be grasped by the fingers. The lower portion of the reinforcement plate 6 is

formed into an integral barbed spur or tine 9 which depends in perpendicular relation from the lower face of the closure disc 4. This barbed tine is for the purpose of engaging the original cardboard closure disc of the bottle through which it is thrust and relative to which it is subsequently slightly turned, in order that it may be positively engaged therewith to effect the removal of such cardboard closure disc. This enables the original closure to be easily withdrawn by pulling upon the upstanding tab 5. The barbed tine 9 being an integral part of the reinforcement plate 6 and the latter being sufficiently broad to be gripped between the fingers, even though thinly coated with the rubber or other composition, the disc is not subjected to pulling strain and consequently there is no liability of disconnecting the barbed tine from the closure. The original cardboard closure being removed from the bottle mouth is then removed from the extracting tine 9 and the closure disc 4 is returned to the bottle mouth as a replacement of the cardboard closure. This closure may be easily and conveniently removed from time to time by the grasping of the upstanding finger grip or handle tab.

The disc 4, while normally flat, is of slightly larger diameter than the mouth of the bottle within which it is to be received, although not necessarily so. This causes the disc to be slightly distorted or concave as it is pushed into the mouth of the bottle and expelling by displacement a small quantity of air. As the inherent tension of the disc tends to reform it into its normal flat shape it creates a slight vacuum, thereby tending to hold the disc in place by suction. This suction effect is further increased by the pulling action in removing the stopper.

From the above description it will be apparent that there is thus provided a construction of the character described, possessing the particular features of advantage before enumerated as desirable, but which obviously is susceptible of modification in its form, proportions, and arrangement of parts, without

departing from the principle involved or sacrificing any of its advantages.

While in order to comply with the statute the invention is described in language more or less specific as to structural features, it is to be understood that the invention is not limited to the specific details shown, but that the means and construction herein disclosed comprise the preferred form of several modes of putting the invention into effect, and the invention is therefore claimed in any of its forms or modifications within the legitimate and valid scope of the appended claims.

Having thus described my invention, I claim:

1. In a vessel closure, a closure disc engageable with the mouth of a vessel, a vertically disposed handle tab projecting therefrom, a flat metallic insert embedded in said handle tab portion having marginal notches and perforated for anchorage engagement therein, and a dependent barbed spur carried by said insert and projecting centrally from the under side of the disc, substantially as specified.

2. In a vessel closure, a rubber disc, a flat metallic insert extending transversely through the disc, said insert being notched substantially coincident with the disc for engagement of the material of the disc therein, the portion of the insert extending above the plane of the disc serving as a handle, and a barbed tine formed upon the insert and projecting perpendicularly to the under side of the disc.

3. In a vessel closure, a flexible rubber disc engageable with the mouth of the vessel, said disc having a vertically disposed flat tab perpendicularly disposed upon the top side thereof, a flat metallic reinforcement member embedded in the flat tab portion, and an integral barbed tine carried by the reinforcement member and projecting perpendicularly to the disc on the under side thereof.

In testimony whereof, I have hereunto set my hand this 25th day of June A. D. 1928.

DANIEL H. KANE.