

W. M. DECKER.
MILK BOTTLE AND SIMILAR RECEPTACLE.
APPLICATION FILED DEC. 27, 1915.

1,225,017.

Patented May 8, 1917.

Fig. 1.

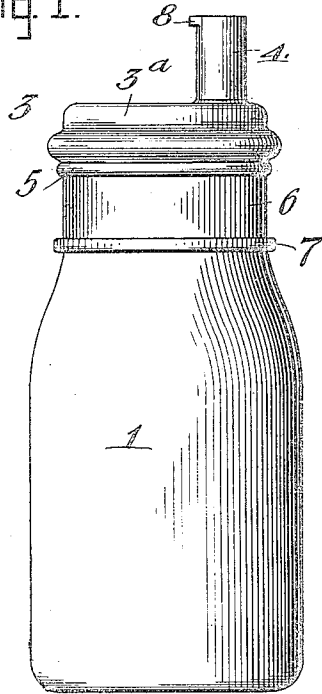


Fig. 2.

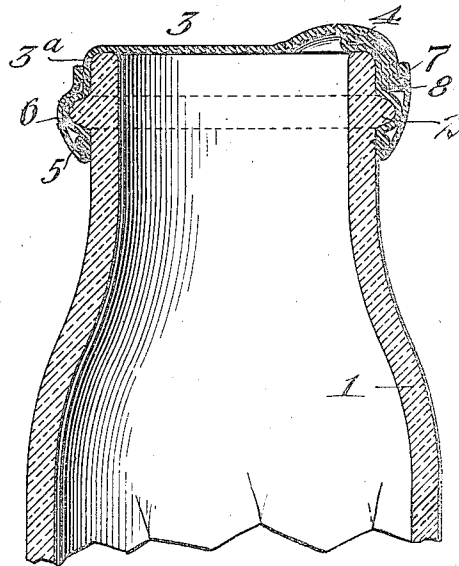


Fig. 3.

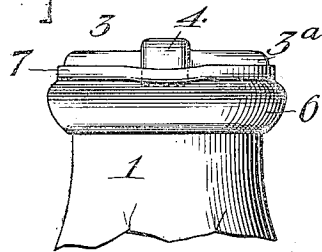


Fig. 4.

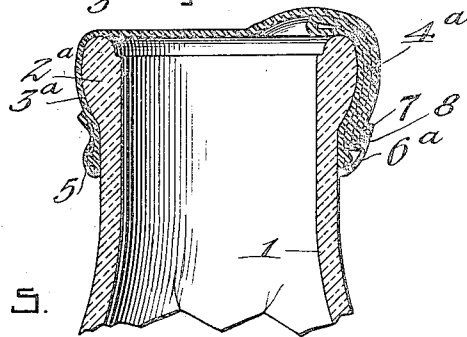


Fig. 5.

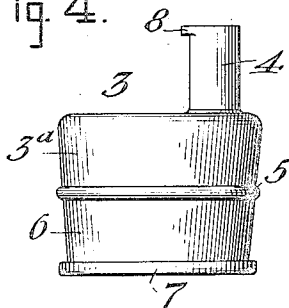
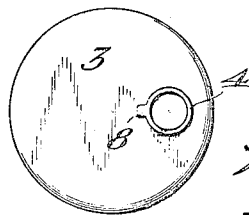


Fig. 6.



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MILK-BOTTLE AND SIMILAR RECEPTACLE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM MORE DECKER, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Milk-Bottles and Similar Receptacles, of which the following is a specification.

This invention relates to a cap or closure designed more particularly for milk bottles, although it may also be used in connection with similar receptacles from which a portion of the contents is discharged from time to time and which for sanitary reasons require to be closed after each use of the receptacle.

The object of my invention is the provision of a reliable and inexpensive closure of this character which shall be air and liquid-tight as well as dust-proof, and which, while permitting ready discharge of the contents of the receptacle remains upon it until empty, obviating the necessity and inconvenience of repeatedly removing and replacing the cap.

In the accompanying drawings:

Figure 1 is a side elevation of a milk-bottle provided with the improved cap, showing the flexible spout unfolded for use. Fig. 2 is a fragmentary vertical section thereon, on an enlarged scale, showing the spout folded and sealed. Fig. 3 is a side elevation of the upper portion of the bottle at right angles to Fig. 2, with the spout in the corresponding position. Fig. 4 is a side elevation of the cap removed from the bottle. Fig. 5 is a top plan view of the cap. Fig. 6 is a section similar to Fig. 2, showing the cap applied to a milk bottle of ordinary construction.

Similar characters of reference indicate corresponding parts throughout the several views.

Referring to Figs. 1 to 5, 1 indicates a milk-bottle or similar receptacle of glass or other suitable material preferably having a smooth, unshouldered interior and provided a short distance below its top with an external, annular rib or flange 2.

Removably applied to the mouth of the bottle is an elastic cap or closure 3, preferably of soft rubber, having in its top a

flexible discharge spout or tube 4. In the preferred construction shown in the drawings, this spout is molded integral with the cap and located near one side thereof. The cap is imperforate except at the lower end of the spout.

Immediately below the bottle-flange 2, the depending rim 3^a of the cap is provided with an annular bead, rib or reinforcement which increases the resistance of the rim at this point and engages under said flange, securely retaining the cap upon the bottle. Below this bead, the cap-rim is provided with a downward extension or skirt 6 adapted to be reversed or folded over the main upper portion 3^a, so as to overlap the outer portion of the flexible spout when it is folded down against the side of the cap, as shown in Figs. 2 and 3. By thus bending and confining the spout, it is compressed and constricted by the tension of the resilient rim-extension sufficiently to render it air and liquid-tight, practically sealing the bottle as hermetically as if the cap were spoutless and imperforate.

In order to reinforce the free edge of the extension and increase its grip upon the end of the spout, said edge is preferably provided with an annular bead or enlargement 7. This bead supplements the gripping action of the other cap-bead 5 in holding the cap upon the bottle, producing a practically double-grip which is exerted above and below the bottle flange 2, reliably retaining the cap in place under all ordinary conditions of usage and forming an air and liquid-tight joint between the parts. The supplemental bead 7 also serves as a buffer which protects the mouth of the bottle from chipping and fracture.

To facilitate the application of the cap and the reversal of its extension or lower rim-portion 6, the latter is preferably made somewhat thinner than the top and the upper rim-portion of the cap, as shown in Fig. 2, and yet thick enough to afford the required gripping capacity to securely confine and seal the spout when folded.

If desired, means may be provided for interlocking the beaded extension with the folded spout. For example, the spout may be provided on the side facing the extension

with a locking lug or projection 8 over which the bead 7 of the extension engages, as shown in Fig. 2.

In its detached unstretched condition, the cap is preferably tapered from its top to the lower edge of its extension, as illustrated in Fig. 4, to cause it to embrace the bottle-mouth and neck more tightly.

After being filled at the dairy, the bottle is closed by stretching the elastic cap 1 over it to the position shown in Fig. 1, after which the spout is folded down and the extension 6 folded up over it, collapsing and closing the spout and rendering it air, dust and liquid-tight. The security of the closure is such that the impact and pressure of the contents against the cap incident to handling and shipment, will neither loosen the cap nor disengage the folded spout from the cap-extension.

To pour out a part of the contents, the consumer simply pulls the folded extension away from the spout sufficiently to release it, whereupon the spout springs to its normal, unfolded position and expands, as shown in Fig. 1, allowing the milk or other liquid to flow through it. After discharging the desired quantity, the spout is again folded and tucked under the extension to re-seal the bottle. The cap itself thus remains undisturbed until the bottle is empty, avoiding the inconvenience of repeatedly removing and restoring it, like an ordinary spoutless cap, and saving considerable time.

When the bottle is emptied, the cap is removed and the parts are cleaned and sterilized. The cap together with its spout can be readily reversed, affording access to all portions thereof for thorough cleansing. As the cap fits over the bottle, the latter requires no internal shoulder or seat of any kind on which impurities are liable to lodge, rendering the receptacle more sanitary.

In addition to these advantages, the cap is inexpensive and will last a comparatively long time, and as the spout requires no cork or other stopper, the closure is convenient in use and its parts are reduced to a minimum.

Although specially desirable in connection with the bottle shown in Figs. 1 to 3, the improved spout-cap is also applicable to ordinary milk bottles adapted to receive the customary paper disks. As shown in Fig. 6, such a bottle has a relatively wide or deep enlargement 2^a at its mouth. In this case, the spout 4^a of the improved cap may be lengthened to extend slightly below said enlargement, when folded, and the extension 6^a which is folded up over the spout is correspondingly shortened.

If desired, the spout of the first-described construction may in like manner be extended below the bottle-flange 2, instead of terminated above said flange,

I claim as my invention:

1. A bottle-closure, comprising an elastic cap having a depending rim and a flexible spout adapted to be folded against the rim, said rim having a reversible extension constructed to overlap and compress the folded spout.

2. A bottle-closure, comprising an elastic cap having a depending rim and a flexible spout adapted to be folded against the rim, said rim having a reversible extension of greater elasticity than the remainder of the cap, constructed to overlap the folded spout.

3. A bottle-closure, comprising an elastic cap having a depending rim and a flexible spout adapted to be folded against the rim, said rim being provided with an annular bead and below said bead with a reversible extension constructed to extend above said bead when reversed to engage the folded spout.

4. A bottle-closure, comprising an elastic cap having a depending rim and a flexible spout adapted to be folded against the rim, said rim being provided with an annular bead and below said bead with a reversible extension terminating in an annular bead, the beaded edge of the extension being arranged to overlap the folded spout in the reversed position of the extension.

5. A bottle-closure, comprising an elastic cap having a depending rim and a flexible spout adapted to be folded against the rim and provided with a locking projection, said rim having a reversible extension constructed to overlap the folded spout and provided with a bead arranged to interlock with the projection of the spout.

6. A bottle-closure, comprising an elastic cap having a depending rim and a flexible spout adapted to be folded against the rim, the lower portion of said rim being foldable upon its upper portion to overlap the folded spout and having an annular bead at its lower edge and a similar bead adjacent to its folding-point, said beads being arranged to embrace the mouth of a flanged bottle on opposite sides of its flange.

7. A bottle-closure, comprising an elastic cap having a depending rim and a flexible spout adapted to be folded against the rim, said rim having a reversible extension constructed to overlap the folded spout, and said cap-rim being tapered toward its lower edge.

8. In a milk-receptacle or the like, the combination of a bottle provided below its mouth with a flange, and an elastic cap having a depending rim and a flexible spout adapted to be folded against the rim, the lower portion of the rim being foldable upon its upper portion to overlap the folded spout and having an annular bead at its lower edge and a similar bead adjacent to its fold-

ing-point, said beads embracing the mouth of the bottle on opposite sides of its flange.

9. In a milk-receptacle or the like, the combination of a bottle provided below its mouth with a flange, and an elastic cap having a depending rim and a flexible spout adapted to be folded against the rim, said

rim having a reversible extension constructed to overlap the folded spout, the rim having a bead at its junction with the extension 10 and the extension having a bead at its lower edge, which beads embrace the bottle-mouth on opposite sides of its flange.

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