June 19, 1928. 1,674,616

L. R. N. CARVALHO

BOTTLE CLOSURE

Filed Jan. 30, 1926

Fig. 1.

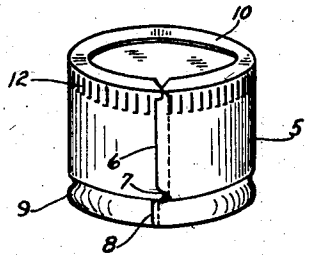


Fig 4



Fig. 2.

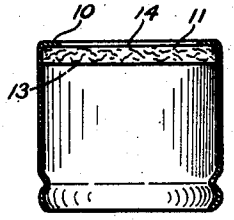
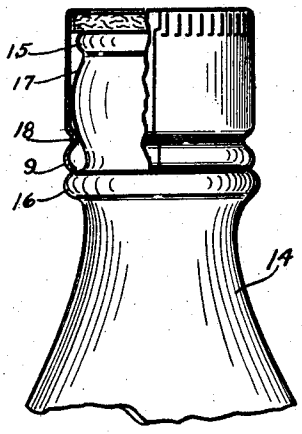


Fig. 3.



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UNITED STATES PATENT OFFICE.

LESLIE R. N. CARVALHO, OF TOLEDO, OHIO, ASSIGNOR TO THE CLOSURE SERVICE COMPANY, OF TOLEDO, OHIO, A CORPORATION OF OHIO.

BOTTLE CLOSURE.

Application filed January 30, 1926. Serial No. 84,856.

My invention relates to caps or closure devices adapted for use with bottles or other containers.

An object of my invention is to provide an improved form of bottle cap which may, if desired, be applied to the bottle after the latter has been sealed by an inner cap or seal and which may later be used as a temporary closure for the bottle after the inner seal is removed and discarded, and until the contents of the bottle have been used up.

Other objects of the invention and the precise nature thereof will appear more fully hereinafter.

In the accompanying drawings:

Figure 1 is a perspective view of a cap constructed in accordance with my invention.

Figure 2 is a sectional elevation of the same.

Figure 3 is an elevation view showing the upper end of a bottle with the cap applied thereto, a portion of the cap being broken away.

Figure 4 is a detail showing the interfolded seam formed in the body of the cap.

The body 5 of the cap is formed from a strip of sheet metal having its ends brought together and connected by an interfolded seam 6, the lower end of which terminates at the point 7. Below the point 7, the ends 8 may overlap more or less without being interfolded, thereby adding to the elasticity of the lower portion 9 of the cap. The upper edge of the cap is inturned to form a flange 10.

A top piece 11 fits within the body portion 5 and bears against the flange 10. This top piece is preferably a disk made of heavy paper, cardboard, or other suitable fibrous material, of sufficient thickness and stiffness to retain its shape and position within the cap under all ordinary conditions. The top piece 11 fits closely within the body portion and is securely held in position by a ring of corrugations 12. The top piece is preferably varnished or coated with some suitable waterproofing material which may be applied to both the upper and lower surfaces thereof. The coating may comprise layers 13 and 14 of varnished, waterproof paper, or the like, which may be applied to either or both the inner and outer faces of the top piece.

In the manufacture of the cap, the body piece 5 after being stamped from sheet metal is curved to cylindrical form, the ends united by the interfolded seam 6 and the upper edge turned to form the flange 10. The top piece 11 is inserted and the cap is then put on a beading machine and the bead 9 rolled thereon. Simultaneously with the rolling of the bead 9, the corrugations 12 are formed and dig firmly into the walls of the disk 11, so that the latter is securely held in place thereby.

The cap is adapted for use with a bottle or container 14. The bottle may be provided with a lip or finish 15 at its upper edge, a ring or bead 16 spaced therefrom, and a rounded or bulging portion 17 between the parts 15 and 16. The cap is formed with a constricted portion 18 providing an internal annular rib uniting the bead 9 with the body of the cap. When the cap is applied to the bottle, the rib 18 slips over the bulge 17 and snaps into position with the lower edge of the bead 9, resting on the shoulder of the bottle formed by the ring 16.

The cap may serve as an overcap or cover to fit over the bottle neck and crown cap or other closure with which the bottle is originally sealed. When it is desired to use the contents of the bottle, the overcap is removed. The original sealing cap is then removed and ordinarily discarded, as it is usually mutilated and destroyed in opening the bottle. The overcap may then be used as a temporary closure, which is readily removed from time to time as required for dispensing the contents of the bottle.

The inside walls of the cylinder or body portion of the cap are preferably coated with an enamel or lacquer finish, and as such finish is not mutilated by threading or other operations required in the formation of the cap, it retains its natural smoothness and is proof against rust, corrosion, or blackening, which frequently result from the use of the usual metal caps with containers for catsup and various other materials. The inner surface of the top portion 11 being provided

with a coating of paper or the like which is waterproof and rust proof, is also free from the usual corroding, blackening or other objectionable action thereon by the contents of the container.

Modifications may be resorted to within the spirit and scope of my invention.

What I claim is:

1. A cap for bottles or other containers comprising a cylindrical body portion formed of sheet metal, and a top portion comprising a disk of fibrous material, said body portion being formed to securely hold the top portion in position within the body portion prior to and after attachment to a bottle, and a holding rib at the end of the body opposite the top portion, said rib being transversely divided and circumferentially expansible.

2. A cap comprising a body portion formed from a piece of sheet metal rolled into the form of a cylinder and having its ends joined by an interfolded seam, and a top portion, means for securing said top portion to the body portion at one end thereof, the opposite end of the body portion being formed with a circumferential bead, said seam terminating at a point spaced above said bead, whereby circumferential expansibility is given that portion of the body below the seam.

3. The combination of a bottle and a cap therefor, said cap comprising a top portion to fit the top of the bottle and a depending cylindrical portion to surround the bottle neck, said cylindrical portion comprising a sheet metal piece having its ends united by an interfolded seam extending downward from the top of the bottle cap and terminating at a point spaced above the lower edge of the cap providing a circumferentially expansible strip around said lower edge, a rib formed in said expansible strip, the neck of the bottle being formed with an annular bead providing a shoulder against which the lower edge of the cap rests, and with an annular groove above said bead into which the rib contracts when the cap is in position on the bottle.

4. A cap for bottles or other containers comprising a body portion formed from a piece of sheet metal rolled into the form of a cylinder and having its ends joined by an interfolded seam, a top portion fixed to one end of the body, said seam terminating at a point spaced above the other end of said body permitting lateral expansion of the body below said point, and an inwardly directed annular rib formed on the body in said other end.

5. A cap for bottles or other containers comprising a body portion formed from a piece of sheet metal rolled into the form of a cylinder and having its ends joined by an interfolded seam, a top portion fixed to one end of the body, said seam terminating at a point spaced above the other end of said body permitting lateral expansion of the body below said point, an inwardly directed annular rib formed on the body in said other end, and an annular bead formed below the rib.

6. A cap for bottles or other containers comprising a cylindrical body portion formed of sheet metal, a top portion comprising a disk of fibrous material, said body portion being formed to securely hold the top portion in position within the body, and a holding rib at the end of the body portion opposite the top, said rib being transversely divided and circumferentially expansible.

7. A cap for bottles or other containers comprising a cylindrical body portion formed of sheet metal, a top portion comprising a disk of fibrous material, said body portion being formed with an annular flange at one end thereof against which the top portion rests, means extending circumferentially of the body portion to engage the edge of the disk and hold it in position, and a holding rib at the end of the body portion opposite said top, said rib being transversely divided and circumferentially expansible.

Signed at Toledo, in the county of Lucas and State of Ohio, this 22 day of January, 1926.

LESLIE R. N. CARVALHO.