May 19, 1931. T. S. NEWMAN 1,806,364

CLOSURE CAP FOR COLLAPSIBLE AND OTHER CONTAINERS

Filed Sept. 25, 1929

Fig.1.

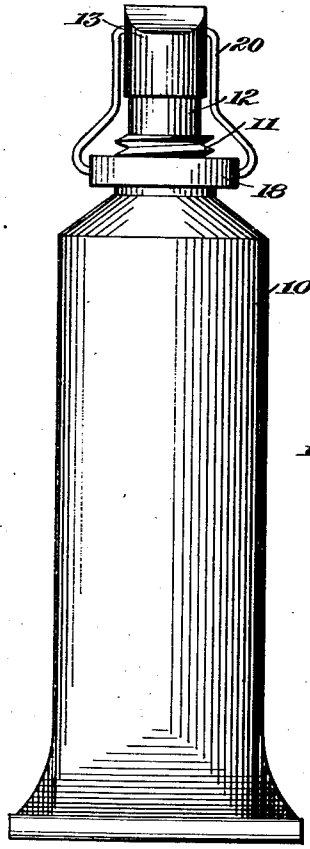


Fig.2.

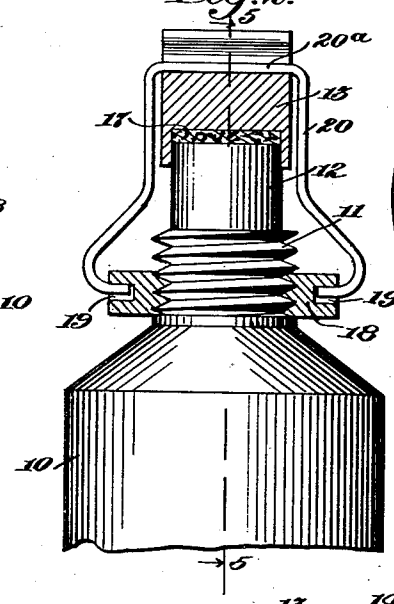


Fig.3.

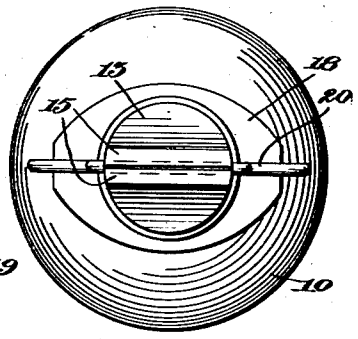


Fig.4.

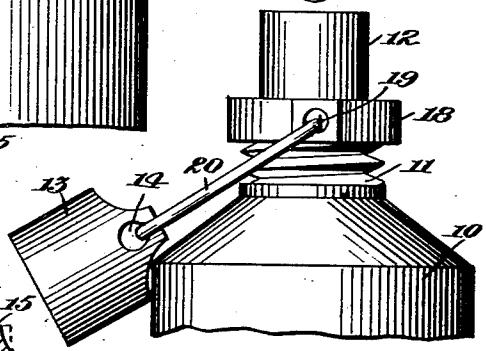
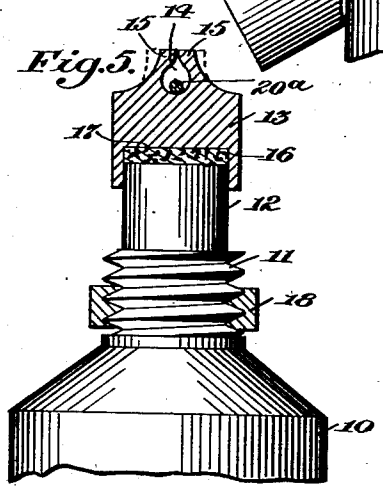


Fig.5.



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UNITED STATES PATENT OFFICE

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CLOSURE CAP FOR COLLAPSIBLE AND OTHER CONTAINERS

Application filed September 25, 1929. Serial No. 395,037.

This invention relates to improvements in closure caps for collapsible and other containers which facilitate the reclosing and opening of the nozzle of the container by a cap which is secured to the container even when the nozzle is uncovered.

According to the present invention a simple and cheap construction is provided for such devices, and a tight closure is provided for the nozzle orifice, competent to withstand the pressures arising from accidental or intentional squeezing of a collapsible container, for example, while the closure member is in position.

An illustrative form of practicing this invention is set forth on the accompanying drawings, in which:

Figure 1 is a side elevation of a collapsible tube having a closure member of the present type attached thereto and in closed position.

Fig. 2 is a similar view, on a larger scale, in diametrical section through the cap and seating nut of the closure member.

Fig. 3 is an end view of the tube and closure member.

Fig. 4 is a side elevation of the tube end and with the cap removed to uncover the nozzle orifice.

Fig. 5 is a view corresponding to Fig. 2 and taken substantially on line 5—5 of Fig. 2.

In the drawings, the collapsible tube 10 may be of any suitable type, and is provided with a nozzle end having a screw-threaded portion 11 and terminating in the preferred form in a reduced cylindrical extension 12.

The closure cap 13, proper, is preferably formed of metal and provided initially with a groove 14 at its top bounded by upstanding walls 15 (Fig. 5). The lower end of the cap 13 has a recess 16 closely fitting the reduced end 12 of the tube, and receiving at its bottom a cork or similar packing 17.

A seating nut 18 is mounted on the threaded portion 11 of the tube and has at diametrically opposite points recesses 19 to receive the inturned ends of a substantially U-shaped bail 20 formed preferably of a single piece of wire and having its rebent central portion extending parallel to the axis formed by the engagement of its inwardly bent ends in the recesses 19. This central portion 20*a* during manufacture is placed in the groove 14 of the cap, and then the walls 15 are squeezed together whereby the portion 20*a* is fixedly associated with the cap, since the removal of the cap is prevented by the angularly bent legs of the U-shaped bail 20 adjacent the central rebent portion 20*a* thereof (Fig. 2).

In service, when a tube of material is purchased, it is in the form and position indicated by Fig. 1. The user seizes the closure member, and in the usual sizes of tubes engages his thumb and fingers over the nut 18 and the cap 13, as well as overlapping onto the bail 20. These parts are then rotated whereby the nut 18 is caused to travel on the screw-threads 11 of the tube in a relatively upward direction in Fig. 2 until the position of the nut 18 illustrated in Fig. 4 is attained, during which time the nut has pressed upwardly, by the action of the bail portion 20*a*, to disengage the cap 13 from its seat around the cylindrical nozzle 12, so that the bail 20 and cap 13 may now be rocked into the open position shown in Fig. 4, in which the contents of the tube may be extended in the usual manner. It will particularly be noted that the cap is not removed from the tube, but is held ready for reengagement.

When it is desired to seal the tube again, the cap 13 is swung back with the bail 20 until it presents its recess 16 opposite the cylindrical portion 12 of the tube, and partially reengages therewith by virtue of looseness of the connections, and then the nut 18 is rotated back again until the cap 13 presents its packing 17 against the end of the tube.

It will be noted in Fig. 3 that the nut 18 is formed of a substantially elliptical, i. e., non-round, shape to facilitate engagement with the fingers, while the formation of the cap with its transverse goove walls 15 likewise assists in producing a rotation of the movable members.

It is obvious that many changes may be made in the form and arrangement of the

parts without departing from the scope of the invention as set forth in the following claim.

What I claim as new and desire to secure by Letters Patent is:

A collapsible tube comprising a body portion and a closure therefor, said body portion terminating in a nozzle having external threads at its base and an upstanding reduced cylindrical unthreaded portion at the outer end thereof, said closure member having a cavity adapted to receive said unthreaded portion, a nut adapted to engage said screw threads, and a U-shaped wire bail connected to both said cap and said nut in loose double pivotal relationship therewith, said cap being disengaged from said unthreaded portion by a slight outward movement of the nut on said screw threads which movement leaves said nut engaged with said threads, and said nut adapted to act through the bail to draw said cap down upon said unthreaded portion when said nut is moved inward on said screw threads.

In testimony whereof, I affix my signature.

THOMAS S. NEWMAN.