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C. M. MORTON

CLOSURE FOR CONTAINERS

Filed Feb. 9, 1923

Fig. 1.

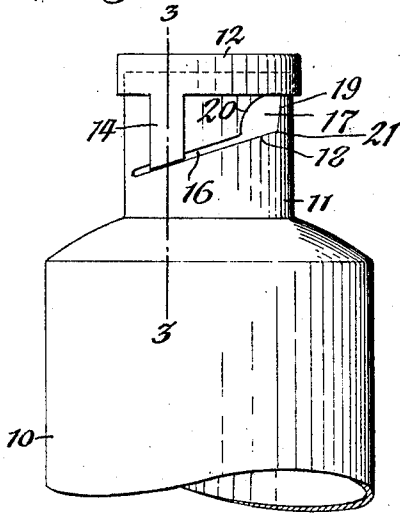


Fig. 2.

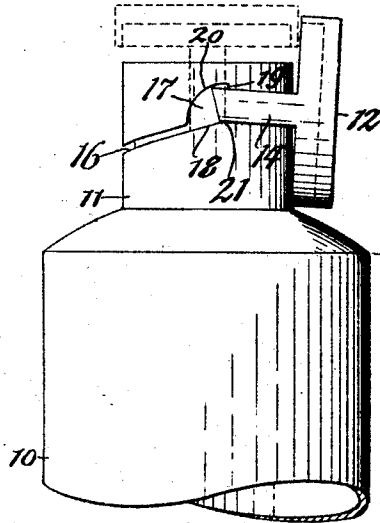


Fig. 3.

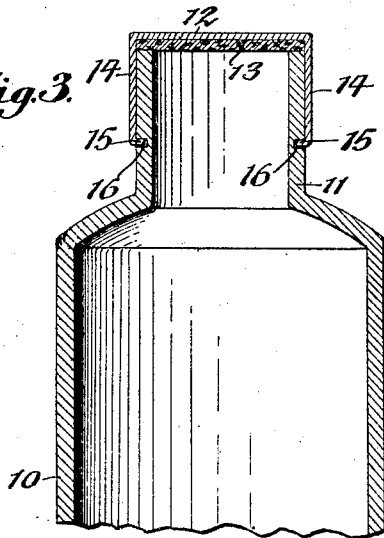
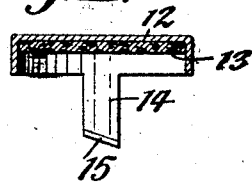


Fig. 4.



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UNITED STATES PATENT OFFICE.

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CLOSURE FOR CONTAINERS.

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To all whom it may concern:

Be it known that I, CHARLES M. MORTON, 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 Closures for Containers, of which the following is a specification.

This invention relates to a closure for a container which is more particularly designed for packing for the trade such preparations as tooth paste, shaving soap, toilet creams &c., and has for its object the provision of a cap or cover for the body or receptacle of such containers which will remain permanently connected therewith, so that the same will not become lost or misplaced, and to so construct these parts that the same are simple, easily operable, effective in closing the receptacle and capable of being manufactured economically, so that there will be no appreciable increase in the cost of the container.

In the accompanying drawings: Figure 1 is a side elevation of a container embodying my invention and showing the cover or cap of the body closed. Figure 2 is a similar view showing the cap open. Figure 3 is a vertical section on line 3—3, Fig. 1. Figure 4 is a detached sectional elevation of the cap.

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

The body or receptacle 10 and its neck 11 may be of any suitable form and material best adapted for holding the material to be packed therein, such for instance as the soft metal now commonly used for making the collapsible tubes in which tooth paste, shaving soap and toilet creams are dispensed.

The mouth or outlet at the upper end of the neck is normally closed by a cap or cover 12 which is stamped or formed out of suitable sheet metal having the requisite stiffness. On its under or inner side this cap is provided with a packing 13 preferably consisting of a disk of cork which is clamped or pressed against the upper end of the neck for sealing the mouth of the same and preventing drying out or leaking of the contents.

My invention is designed to clamp the cap against the upper end of the neck so as to effectually seal the container and also to permit of readily opening the container to

permit of removing its contents but maintaining a permanent connection between the body and cap, so that the same will be constantly coupled and permit of readily closing the container to preserve its contents against loss by spilling or evaporation.

In the preferred form of my invention the same is constructed as follows:

Extending downwardly from diametrically opposite sides of the cap are two coupling arms or bars 14 which are normally arranged vertically on opposite sides of the neck and each provided at its lower end with an anchoring lug 15 which projects radially inward from the respective arm. The two coupling arms and anchoring lugs are made integrally of sheet metal with the cap whereby these lugs have a considerable width in a direction circumferentially of the neck. On opposite sides of its exterior the neck is provided with two circumferentially extending coupling grooves 16 which are inclined so that they in effect form sections of two screw threads. Each of these grooves receives the anchoring lug of one of the cap arms, which lug is inclined at the same angle as the companion groove and engages its upper and lower inclined sides with the correspondingly inclined upper and lower sides of the respective groove.

At its outer or upper end each of the grooves is provided with an enlargement 17, the boundaries or walls of which are sector-shaped, one radial wall 18 of the same being arranged low and in line or flush with the bottom of the companion inclined groove, the other radial wall 19 extending upwardly in a substantially upright position from the upper end of the lower radial wall 18, and the arc wall 20 of the enlargement connecting the upper end of the upper side of the respective coupling groove with the upper end of the upper or upright wall 19 of the enlargement, the radius of this sector shaped enlargement being substantially of the same length, though preferably slightly longer, as the width of the lug engaging with the corresponding coupling grooves.

For closing the container, the cap is swung upwardly, while the lugs of its arms are arranged in the enlargements of the grooves, so that the cap is arranged above the neck, as shown by dotted lines in Fig. 2. The cap is now twisted in a forward direction about its axis so that the lugs enter

the reduced parts of the grooves and the upper sides of these lugs bear against the upper sides of the grooves. Upon thus twisting the cover or cap the latter will be drawn with its packing down against the upper end of the neck and tightly close the same.

In order to open the container, the cap together with its arms and lugs is turned about the axis of the cap and neck in a rearward direction, whereby the lugs upon engaging the lower sides of the grooves raise the cap from the neck. At the end of this movement, as shown by dotted lines in Fig. 2, the lugs enter the enlargements of the grooves and engage their advancing ends with the corners 21 at the junction of the two radial walls of each sector shaped enlargement. These corners 21 serve as horizontal fulcrums or axes about which the lugs, arms and cap turn downwardly in a vertical plane from the position shown by dotted lines in Fig. 2, to the position shown by full lines in the same figure, thereby uncovering the outlet or mouth of the neck and permitting its contents to be removed in the usual manner.

By thus constructing the cap, arms and lugs integrally of sheet metal, the cost of the same is materially reduced inasmuch as much less material is used than would be the case if the same were made separate and connected with each other. Furthermore, the forming of the grooves directly in the neck of the container and the making of the cap, arms and lugs in one piece, reduces the number of parts which have to be handled, and permits of producing a very simple,

compact and neat appearing container, and thus well suited for dispensing toilet preparations.

I claim as my invention:

A container comprising a body having its neck provided on opposite sides with integral grooves the upper and lower sides of which are inclined, and a cap engaging with the top of said neck and provided on opposite sides of its periphery with downwardly extending arms arranged on opposite sides of the neck and provided at their lower ends with inwardly projecting lugs which engage with the inclined sides of said grooves, said cap, arms and lugs being formed integrally of the same material and the upper and lower sides of said lugs being inclined at the same angle as the upper and lower sides of said grooves, and the upper end of each of said grooves having an enlargement of sector-shape, one radial side of said enlargement being in line with the bottom of the respective groove and forming a continuation thereof, the other radial side being upright, and the arc of said enlargement connecting the top of said groove and the top of said upright side and curved about an axis which is arranged at the junction between the lower end of said upright radial side and the radial side which forms the extension of the bottom of the respective groove; and said enlargement having a radius substantially equal to the width of the respective lug arranged therein and said lugs being adapted to fulcrum at the junctions between said radial sides of said enlargements.

CHARLES M. MORTON.