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**CONTAINER AND CLOSURE FOR SAME**  
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 5 Claims. (Cl. 215-40)

The present invention relates to improvements in containers and closures for the same.

In many presently commercially used packages, specifically glass bottles and jars, closed by means of metal closure caps, it is possible for insects to crawl into the space between lower portions of the depending attaching skirt or flange and the neck or finish of the bottle. Should the insects die in this area, it is probable that they will be picked up by the contents when poured from the bottle, thus contaminating the product.

An important object of the present invention is the provision of simple, effective means for overcoming the above indicated objectionable conditions.

It is a further object of this invention to provide a closure cap in which the sealing gasket or ring is positioned at the lower margin of the attaching skirt so that it is impossible for insects to enter the space between the skirt and bottle neck.

Another object of the present invention is the provision of a sheet metal closure cap in which screw threads or lugs are formed in the attaching skirt above a sealing gasket within the lower margin of the skirt. Thus, in addition to preventing access of insects as explained above, I also utilize the threads or lugs in application and removal of a side seal closure cap.

It is also an object of the present invention to provide in a closure and container combination of the above character, a glass finish or neck wherein the sealing surface on the bottle is an external upwardly inwardly tapered band-like area well below the container mouth and having screw-threads or lugs immediately above the sealing surface.

Finally, it is an object of the present invention to provide in a combination of the character indicated above, an internally lubricated sealing gasket and a low friction surface film on the glass finish, thereby to minimize torque involved in both cap application and removal.

Other objects will be in part apparent and in part pointed out hereinafter.

In my copending application, Serial Number 493,353, filed October 6, 1965, titled "Container and Closure for Same," I disclose and claim the broad concept of positioning the sealing ring as shown in relation to the remainder of the cap and bosses.

In the accompanying drawings forming a part of my application:

FIG. 1 is a fragmentary side elevational view of a glass container and closure embodying my invention.

FIG. 2 is a fragmentary side elevational view of the neck portion of a glass bottle showing the relationship between the threads and side sealing surface.

FIG. 3 is an enlarged fragmentary sectional view showing the closure cap and container assembled.

In the illustrated embodiment of my invention, it is part of a glass bottle or jar 10 having a reduced cylinder-like neck 11 defining a mouth 12. An annular rim 13 at the top end of the neck 11 connects the inner and outer walls of the latter. Externally, the neck is provided near the rim 13 with threads 14 which may be either continuous or interrupted. These threads have a suitable helix angle to match that of closure cap threads or lugs, as will be brought out hereinafter. Below the threads 14, the

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neck wall thickness is increased and here a frusto-conical band-like sealing surface 15 is formed. This sealing surface encircles the neck and the taper is upwardly and inwardly with its upper margin merging with an annular abutment 16 or stop in the form of a continuous bead. The exterior surface of the neck, including the sealing surface 15, may be lubricated by a conventional silicone treatment, or otherwise.

The closure cap C which is telescoped over the neck 11 to hermetically seal the bottle, preferably is formed of sheet metal and comprises a disk-like panel 18, or top portion, and a depending annular attaching skirt 19. The lower fraction of the skirt 19 is flared providing a back-up wall 20 disposed about parallel to the tapered sealing surface 15, there being a cut sealing gasket 21 or ring, lying against said wall 20 and held against displacement by a hollow bead 22, or curl, at the lower margin of the skirt. A short distance above the flared back-up wall 20, the skirt is provided with a screw-thread 23 which may be interrupted, as shown, or a conventional continuous thread. Such interrupted thread is created by forming a multiplicity of elongated external indentations in the skirt exterior, such being at a helix angle corresponding to that of the threads on the bottle neck 11. The sealing gasket 21 is lubricated in any of various fashions as taught in numerous issued U.S. patents, so as to contribute to torque reduction.

It is believed clear from the foregoing that hermetic sealing of the bottle involves threading of the closure cap C over the neck 11 sufficiently to firmly interengage the sealing ring 21 and sealing surface 15 and position the upper margin of the ring 21 just beneath the abutment 16 or stop. Thus the threads and stop cooperate in securing the closure cap against displacement both during re-torquing and afterward. Removal of the closure cap, however, is relatively easy, compared to other known commercial side-seal closures, in that special prying tools are wholly unnecessary and one need only rotate the closure. This is easily effected, at least in part, due to the contacting lubricated gasket and sealing surface. With counterclockwise rotation of the cap, the threads cam the cap upwardly, thereby forcing the gasket over the abutment at the upper edge of the sealing surface. Thus the vacuum, if any is present, is broken and the cap easily removed.

Modifications may be resorted to within the spirit and scope of the appended claims.

I claim:

1. In combination, a glass container having a cylinder-like neck defining a mouth, an external screw-thread just below said mouth, said neck formed with an annular frusto-conical sealing surface below the screw-thread, there being an annular downwardly facing shoulder at the upper margin of the sealing surface, a sheet metal closure cap telescoped over said neck and comprising a disk-like panel, a depending annular attaching skirt at the periphery of the panel, said skirt having a flared lower portion forming a back-up wall for a sealing gasket, the wall and sealing surface being substantially parallel, a cut ring sealing gasket secured to said wall and of such width that when the cap is in sealing position the upper margin of the gasket is beneath said shoulder, said gasket engaging the container, and holding means on the cap skirt engaging the screw-thread.

2. In a combination as defined in claim 1, the interengaging surfaces of the sealing gasket and container being lubricated to reduce torque.

3. In a combination as defined in claim 1, the means for securing the gasket in the cap comprising a hollow