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CLOSURE FOR CONTAINERS
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Fig. 1.

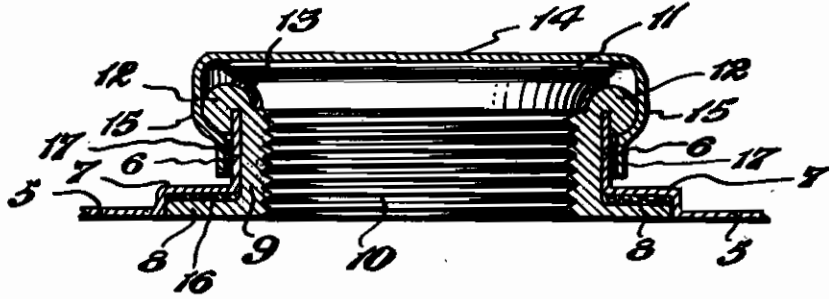


Fig. 2.

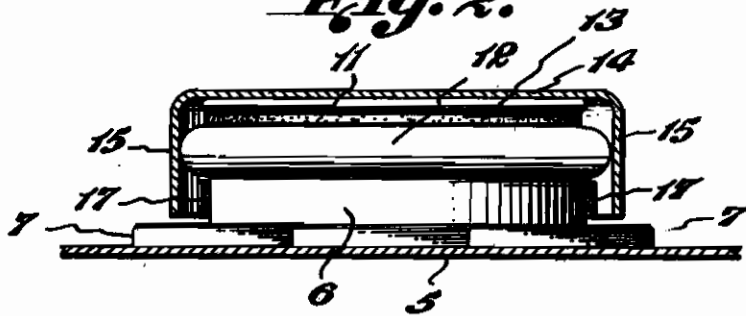
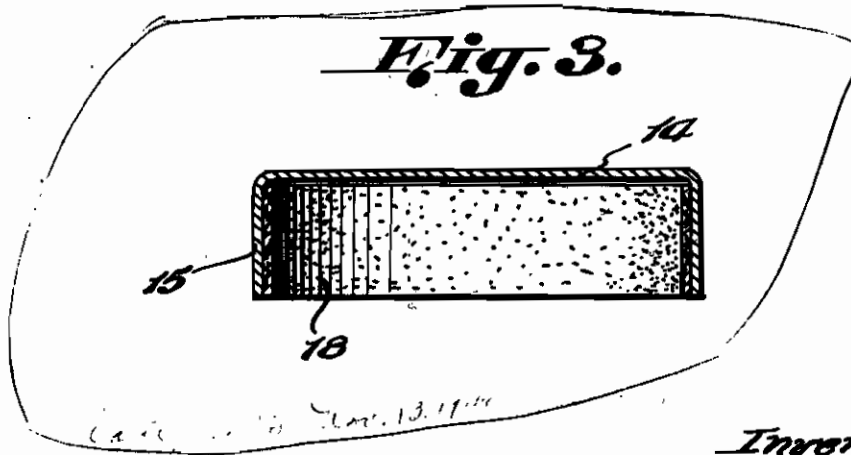


Fig. 3.



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ALIEN PROPERTY CUSTODIAN

CLOSURE FOR CONTAINERS

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This invention relates to improvements in closures for metallic containers of the type commonly employed for the storage and transportation of oil, gasoline and like liquids.

It is a common expedient in the construction of such closures to provide a bushing held in position in a flange at the opening of the container by turning the edge thereof outwardly over the edge of the flange, a screw plug being fitted in the bushing and a seal cap being applied over the closure, but a serious problem arises in providing means for hermetically sealing the bushing with respect to container in an effective and permanent manner.

The object of this invention is to provide an arrangement of gaskets which seals the channel of possible escape of liquid between the container wall and bushing of two separate points and thereby affords double insurance against leakage.

In the accompanying drawing wherein several approved embodiments of the invention are illustrated;

Figure 1 is a sectional view of a closure for containers constructed in accordance with the invention;

Figure 2 is an elevation partly in section showing the seal cap prior to the contraction of the skirt thereof;

Figure 3 is a detailed sectional view illustrating a modification of the invention.

Referring to the drawing in detail, 5 indicates the wall of a metallic drum or container having an opening for filling and discharging the edge of the opening being turned outwardly to form an upstanding flange 6. At the juncture of the flange and container wall a depression is formed in the latter which constitutes a seat 7 for a flange 8 integral with a bushing 9. The bore of the bushing is threaded to receive a correspondingly formed plug 10 provided with an external flange 11.

The body of the bushing 9 is snugly fitted in the flange 8 and the outer end thereof is turned outwardly over the edge of the flange as at 12 thereby firmly drawing the bushing flange 8 within the seat and firmly holding the bushing in position.

In applying and removing the plug 9, the application of substantial turning force is required and therefore, in order to prevent the bushing from rotating in the seat 7, the latter is polygonal in shape and the flange 8 is correspondingly formed.

To prevent escape of the liquid contents of

the container between the plug 10 and bushing 9, a gasket 13 is interposed between the plug flange 11 and the bead 12 formed by turning the edge of the bushing. Containers of the type contemplated by this invention are frequently emptied and refilled and each time the plug 10 is screwed in position, the gasket 13 is again effectively compressed and hence a dependable seal is maintained insuring against escape of liquid between the plug and bushing.

A seal cap 14 is applied over the plug 10 and the skirt portion 15 thereof extends below and, as shown in Figure 1, is adapted to be contracted under the bead 12 so as to secure the cap in position in such manner as to insure against undetectable tampering. When the filled container arrives in the hands of an authorized recipient, the cap 14 is removed by tearing it along score lines provided thereon as is well known in the art.

In addition to the possibility of leakage of liquid from the container between the plug 10 and the bushing which, as above stated is dependably sealed by the gasket 13, a second channel of escape exists between the bushing 9 and the part of the wall of the container constituted by the flange 6.

To seal this passage, a sealing means 16 in the form of a gasket or sealing compound is provided between the bushing flange 9 and its seat 7. Due to the application of force, above referred to, necessary to secure and remove the plug 10 during repeated refilling of the container, the engagement of the bushing flange 9 in its seat 7 may become somewhat loosened. Even though this looseness may not be sufficient to prevent retention of the bushing against turning movement within the container, it may impair the effectiveness of the sealing medium 16 between these parts.

Therefore, in accordance with this invention, an additional seal is provided which prevents the escape of liquid which may leak through the loosened sealing means 16. To this end an additional gasket 17 is interposed between the cap skirt 15 and the upstanding container flange 6. Incident to the operation of contracting this cap skirt, the gasket 17 is compressed and thereby supplements the sealing means 16 in preventing the escape of liquid between the bushing 9 and the container wall. Thus, the contraction of the cap skirt 15 to a degree sufficient to ensure its retention on the bead of the flange 6, likewise ensures compression of the gasket 17 to a degree sufficient to form a fluid-tight joint. Accord-

ingly, at each filling of the container a new seal cap replaces the one previously mutilated and removed and a fresh seal preventing leakage is provided by the contraction of the cap skirt and the consequent compression of the gasket 17.

According to one embodiment of the invention, the gasket 17 may be applied about the container flange 8 under the bead 12 by which it is held in position. Rubber cork asbestos or any other suitable material may be employed for making the gasket and during contraction of the cap skirt from its original shape shown in Figure 2 to that shown in Figure 1, the gasket is compressed. With the gasket in this position, it is not damaged during the forcible removal of the cap and may therefore be used repeatedly during numerous refilling operations.

In the modification shown in Figure 3 the gasket 17 is replaced by a gasket 18 inserted inside of the cap skirt and frictionally held in position therein until such time when the cap is contracted upon the container. The gasket is preferably formed of inexpensive material because during the removal of the seal cap it is frequently destroyed but to improve its sealing quality, the gasket is formed of substantially the same width as the length of the skirt 15. Thus, during the contraction of the skirt, the gasket is compressed at two points on the inner surface of the skirt, first at the place where it contacts the bead 12 and, second, at the place where it contacts the flange 6.

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