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CAN AND CLOSURE THEREFOR
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Fig. 1.

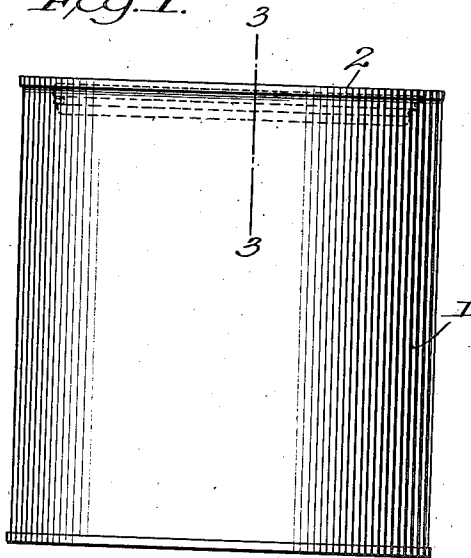


Fig. 3.

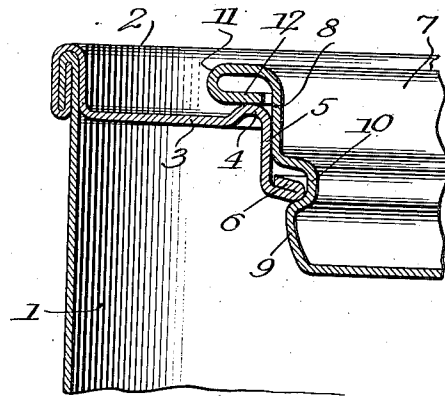


Fig. 2.

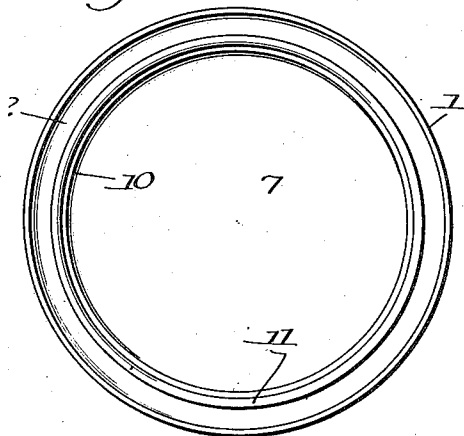


Fig. 4.

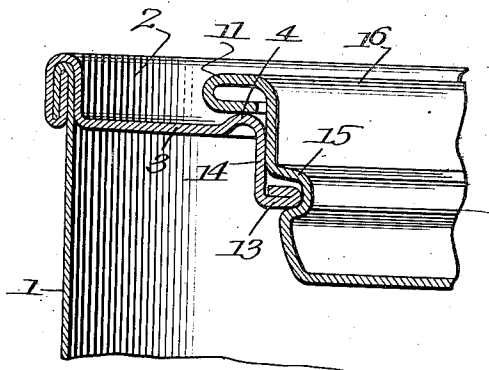
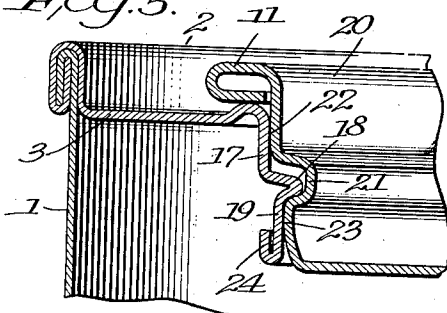


Fig. 5.



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CAN AND CLOSURE THEREFOR

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4 Claims. (Cl. 220—60)

This invention relates to containers and closures therefor.

As shown and described it is applied to metal containers of the can type.

It has for its purpose to provide a container and closure therefor which will be sealed and interlocked and brought together so as to provide a sealed closure which will not, in ordinary handling, be accidentally opened, but which, nevertheless, can readily be opened for the purpose of filling or removal of the contents.

In the drawing herewith I have illustrated one embodiment of my invention, but such changes as involve only mechanical skill it will be understood can be made without departing from the range of my invention, and the disclosure is merely illustrative and in no sense restrictive.

In the drawing:

Figure 1 is a side elevation of a container, the closure being conventionally shown in dotted lines.

Figure 2 is a plan view of the container shown in Figure 1.

Figure 3 is a sectional view of a portion of the can on substantially the line 3—3 of Figure 1 to illustrate the relation of the can head and the closure.

Figure 4 is a sectional view similar to Figure 3 showing a modified form of my invention, and

Figure 5 is a sectional view similar to Figures 3 and 4 showing a modified form.

Referring to the drawing by numbers, like numbers indicating like parts in the several views, the numeral 1 designates a container which may be of any suitable size or form.

The top 2 of the container is preferably of the sunken type and is seamed to the upper edge of the container 1 in any suitable manner, the usual lapped seamed joint being here shown as one manner of securing the top and the container 1 together.

Extending integrally from the top 1 is the flange 3 which is dropped or sunken so as to give a recess or well below the upper edge of the top 2, in which the other parts of the closure will lie and there will be no projecting portions above the top of the container. The flange 3 is provided near its inner edge with an upstanding rib 4 for a purpose, presently to be described, and the inner edge of the flange 3 is turned downwardly to provide a vertical depending flange 5, the lower end of which terminates in a relatively rigid rib 6, preferably formed as shown by turning over or rolling back the lower edge of the flange. The folding back of the edge not only

gives relative rigidity to the rib 6, but provides also a smoothly finished edge and prevents injury to the handler.

The depending flange 5 and the rib 6 form the sealing and interlocking portions to cooperate with the closure, the flange 5 being sufficiently resilient to yield somewhat when the closure is forced into the can to close the opening.

The closure 7, commonly called the "plug" is preferably formed as shown of a single piece of metal shaped to dish-like form and having the frictional surfaces 8 and 9 between which is a circumferential groove 10. The upper end of the closure is flanged as shown at 11, this flange being formed by turning the edge of the sheet inwardly beneath the flange so as to form a resilient portion 12 which, as shown in the drawing, will seat resiliently against the rib 4.

As thus constructed the closure or plug 7 will be forced into the aperture in the top, friction section 9 being forced past the rib 6, the frictional portion 9 being preferably rounded or inclined inwardly toward the bottom of the plug so that as the resilient flange 5 yields the lower end of the plug will slip past the rib 6 and the rib will snap into place into the circumferential groove 10. The rib will take the position shown in Figures 3, 4, and 5 with its end in snug engagement with the lower wall or angle of the groove. The action of the resilient portion 12 of the flange 11 against the rib 4 of the top tends, of course, always to keep the rib 6 in its interlocked position in the groove 10 and a very complete seal as well as an interlocking engagement which will prevent accidental displacement of the closure or plug is provided. Further, the frictional engagement of the depending flange 5 of the container and the surface 8 of the closure or plug further seals the parts against leakage.

In Figure 4 there is shown a construction identical in all respects to that found in Figure 3 except that instead of inclining the rib 13 downwardly as shown in Figure 3, the rib 13 projects inwardly from the resilient flange 14 in a substantially horizontal direction, engaging the circumferential groove 15 in the plug 16 in a manner similar to the inclined rib shown in Figure 3.

In Figure 5 the construction is the same as that just described except that instead of the resilient flange 17 terminating at the point where the rib 18 is extended inwardly, the vertical depending flange is extended downwardly at 19 and the plug 20 with its circumferential groove 21 engages rib 18 in exactly the same manner as heretofore described in connection with the con-

struction shown in Figures 3 and 4. The plug 20 is forced into the opening in the container past the rib 18 which interlocks with the groove and the frictional surface 22 on the plug will en-

5 gage the inner face of the resilient rib 18 and the frictional surface 23 below the circumferential groove 21 and frictionally engage and seal against the inner face of the extended portion 19 of the depending flange.

10 This gives a very complete seal between the parts while retaining the same interlocking action of the rib 6 and groove 10, heretofore described. Preferably, the lower end of the portion 19 of the depending flange will be bent back or rolled

15 as shown at 24 so as to provide a smooth edge and permit the container to be handled by taking hold of the depending flange without danger of injury to the user. It will be observed that the depending flange of the top in each of Figures 2,

20 3, and 5 is of such length, that the interlocking rib engages the lower wall of the circumferential groove in the closure when the parts are set up, thereby transmitting an upward tension on the depending flange which causes the pro-

25 jection on the top to pinch or bear against the horizontal resilient flange of the closure top so as to further assist in maintaining a positive sealing contact and a firm interlocking connection of the parts.

30 In assembling the container and closure, the closure plug is forced into the container top so as to bring the interlocking groove into engagement with the rib on the resilient depending flange, with the resilient flange of the plug engaging the raised or upstanding rib on the container top. In this relation the parts are inter-

35 locked and sealed under tension, due to the fact that the rib is in snug engagement with the groove, and the resilient flange at the top of the plug is exerting stress on the plug. This action

40 sets up tension in the depending flange carrying the rib and in the resilient flange of the plug so as to maintain a tensioned interlocked relation and intimate frictional contact of the parts.

45 The friction surfaces on either side of the groove will be in sealing contact with the friction surfaces on the depending flange, and a very complete sealed and interlocked condition results.

50 While the parts are securely held against any accidental displacement, the closure may, by the use of any suitable tool, be sprung from its sealed and interlocked condition for access to the container. Since the parts are not permanently distorted by closing or unclosing the container, the container and its closure plug may be used

55 repeatedly.

Such changes in construction as involve merely the skill of a mechanic may be made and still be within the purview of the invention.

I claim:

60 1. The combination with a container having an inwardly turned substantially horizontal flange provided at its inner edge with an upstanding

projection terminating in a substantially vertical depending flange, said vertical flange having an interlocking rib extending inwardly therefrom, of a removable and insertable closure for the container, said closure having a substantially horizontal resilient flange to engage said upstanding projection and a depending frictional flange for engaging the vertical flange of the container, said frictional flange having a circumferential groove for receiving said rib, the vertical flange on the container being of such length as to cause the rib to engage the lower wall of the groove and the projection to engage said horizontal resilient flange when the parts are set up, the engagement of the interlocking rib with the lower wall of the groove moving the projection on the container into sealing engagement with said horizontal flange.

2. The combination with a container having an inwardly turned substantially horizontal flange provided at its inner edge with an upstanding projection terminating in a substantially vertical depending flange, said vertical flange having an interlocking rib extending inwardly therefrom and provided with a downwardly extending flange, of a closure member having a substantially horizontal resilient flange to engage said upstanding projection and a depending frictional flange provided with a circumferential groove to receive said rib, said vertical flange being of such length as to cause the rib to engage the lower wall of the groove and the projection to engage said horizontal resilient flange on the closure when the parts are set up.

3. The combination with a container having an inwardly turned substantially horizontal flange provided at its inner edge with an upstanding projection terminating in a substantially vertical depending flange, said vertical flange having a portion bent upon itself to form a relatively rigid interlocking rib extending inwardly from the vertical flange, said rib having a flange extending downwardly therefrom, of a closure member having a horizontal resilient flange to engage the upstanding portion of the container, a depending plug portion having a circumferential groove and frictional surfaces above and below the groove, said rib arranged to fit into said groove and engage the lower wall thereof and said frictional surfaces arranged to engage the adjacent flanges on the container when the parts are set up.

4. A container of the class described having an inwardly turned substantially horizontal flange at its top, a portion projecting upwardly above the plane of said flange, a substantially vertical resilient flange depending from the inner edge of said horizontal flange, said vertical flange being bent upon itself to form a relatively rigid inwardly extending rib, said rib terminating in a depending vertical flange bent at its lower end to provide a smooth edge.

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