Jan. 12, 1943. H. G. EVITT 2,307,832

RECEPTACLE CLOSURE MEMBER

Filed Dec. 2, 1939

FIG. 1.

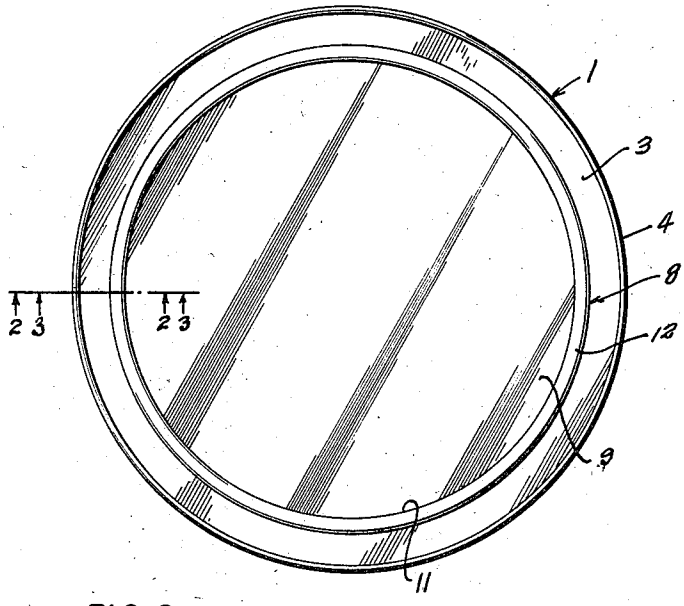


FIG. 2.

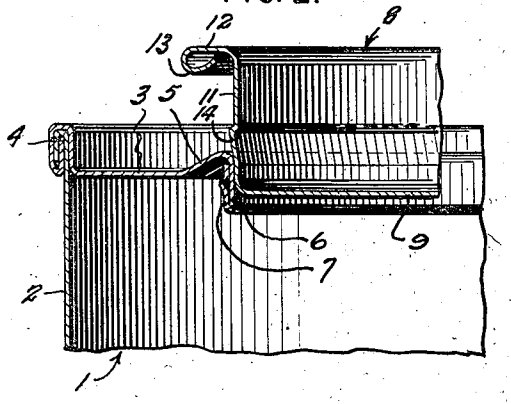


FIG. 4.

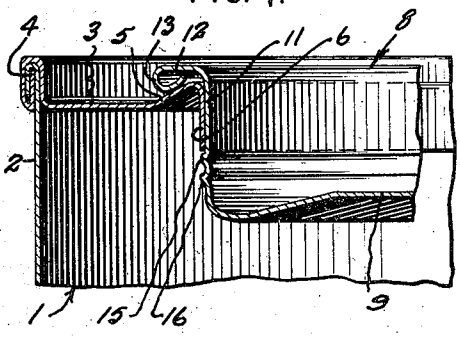
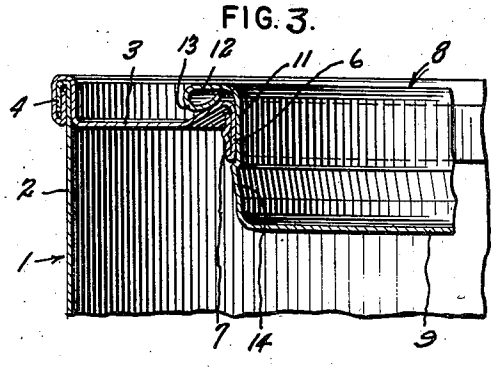


FIG. 3.



Inventor

HARRY G. EVITT

By Semmes Keegin & Semmes

Attorneys

Patented Jan. 12, 1943

2,307,832

UNITED STATES PATENT OFFICE

2,307,832

RECEPTACLE CLOSURE MEMBER

Harry G. Evitt, Baltimore, Md.

Application December 2, 1939, Serial No. 307,309

1 Claim. (Cl. 220—60)

This invention relates to receptacles, and more particularly has reference to a closure member for a metallic can. It is particularly directed to the provision of a closure that effects a tight and effective sealing of the container, and yet at the same time permitting of the ready insertion and removal of the plug member of such closure. Other advantages of my invention reside in the simplicity of construction and economy of manufacture.

In the accompanying drawing, I have shown two specific embodiments of my inventive concept, which at the present time appear to be the preferable forms of construction, but it is to be understood that other embodiments of the invention may be made without exceeding the scope of the appended claim, by which alone my invention is to be limited.

In the drawing:

Figure 1 is a top plan view of a can provided with the closure member in closed position.

Figure 2 is a view along the line 2—2 of Figure 1, looking in the direction of the arrows, and showing the initial step in inserting the plug member in the opening.

Figure 3 is a view of the plug fully seated in the opening.

Figure 4 is a sectional view along the line 4—4 showing one modified form of closure member with the plug in seated position.

Referring more specifically to the drawing, I have disclosed a conventional form of can in which the body portion, designated generally 1, is composed of a cylindrical side wall 2 and a base member or bottom (not shown). It will be appreciated of course that my invention, however, is not restricted to the conventional form of can.

At the top of the can I provide a radial inwardly extending flange 3 which may be suitably crimped to the side wall, as at 4, to form an effective seal. It will be noted that the flange 3 is generally horizontal or parallel to the base member throughout its major extent, but toward its inner edge it is pressed to form an upwardly slanting surface 5, and then further pressed into a substantially vertical depending flange 6. The flange 6 may terminate in a raw edge, as shown in Figure 4, or it may bent upon itself, as at 7 in Figures 2 and 3, for purposes of reenforcement. In either event it will be noted that the inner surface of the flange 6 presents a smooth face for a close frictional fit with the plug to be inserted. It will also be observed that the depending flange 6 defines the opening of the receptacle.

The plug, generally designated 8 in the drawing, is formed with a base section 9, a substantially vertical flange 11 extending upwardly from the perimeter of the base section 9, and the upper end of said flange 11 being turned outwardly to form an overhanging lip 12, such lip preferably being bent upon itself as at 13. The flange 11 is so formed that there is provided a protuberance 14 or bead which extends around the flange. The protuberance or bead 14 is so positioned that it lies immediately beneath the depending flange 11 and engages the under surface of that flange to prevent unintentional or accidental removal of the closure from the receptacle opening. The lip 12, or more particularly the turned-back portion 13 of the lip 12, is so positioned with respect to the protuberance or bead 14 that when the plug is in seated position, with the bead 14 immediately beneath the free end of flange 11, it rests against the inclined surface 5 of flange 3. It will be noted that the lip 12 and bead 14 therefore hold the plug in a fixed position within the opening. It will be appreciated that the closure members possess sufficient flexibility, particularly when made of such a metal as tin that in inserting the plug in the opening there is sufficient flexing, particularly of flanges 3 and 11, to permit the bead 14 to ride along the smooth face of flange 6 and then to snap beneath the free end of flange 11.

It will be appreciated that the bead 14, in addition to serving as a locking means for the plug, also adds strength to the vertical flange 11. However, if additional strength is desired, two beads 15 and 16 may be turned outwardly on flange 11, and it will be noted that such second bead also provides an additional safeguard against the unseating of the plug.

As indicated above, the plug, and particularly the flange 11 and its bead or beads, can ride inwardly on the face of flange 6 until bead 14, or the upper bead 15, snaps beneath flange 6. Furthermore, when it is desired to remove the plug from the opening, a suitable instrument such as a knife blade, screw driver, etc., may be inserted between the turned-back portion 13 of flange 12 and the inclined surface 5 and the plug thereby removed. The pressure so exerted effects a sufficient flexing of the closure members so that the bead or beads on flange 11 are worked over the free edge of depending flange 6 and ride upwardly to a point where the plug is free of such flange.

The effective manner in which the plug is locked in the receptacle is believed to be ap-

parent, as well as the ease with which the plug is inserted, or removed. Furthermore, the simplicity of construction is at no sacrifice to the strength and general utility of the receptacle, and it will be appreciated that the device is economical to manufacture.

I claim:

In a receptacle, a substantially cylindrical body portion provided with a bottom and a closure therefor, said closure comprising a radial flange extending inwardly throughout its major extent in a horizontal plane from the top of the body portion, the inner end of said flange being turned upwardly and then downwardly, the said down turned portion extending vertically downward and defining a circular centrally located opening for the receptacle, said down turned portion being bent outwardly and upwardly upon itself to form a reenforcing flange, an annular bead on said flange, a plug insertable in said opening provided with a bottom portion and an upwardly extending annular side wall to engage and form a tight fit with the down turned member, an annular radial flange formed on the upward edge of the annular side wall of the plug, said side wall of the plug comprising a portion which extends vertically upward from the said bottom portion, said portion of the side wall having a diameter equal to the diameter of the opening, and a flared portion extending outwardly to a diameter substantially equal to the expansible limits of the opening and then inwardly at a substantial right angle to a diameter equal to the diameter of the opening and then vertically upwardly to the said radially flanged portion, the external dimension of the said second vertical portion being substantially equal to the depth of the down turned portion which forms the opening whereby the plug may be securely locked within the opening.

HARRY G. EVITT.