

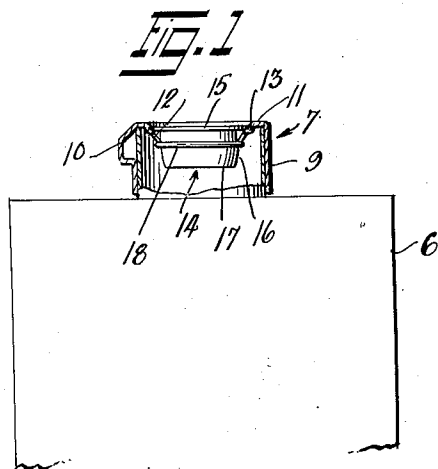
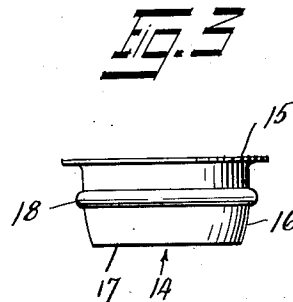
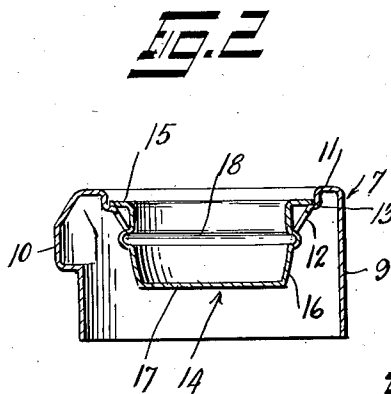
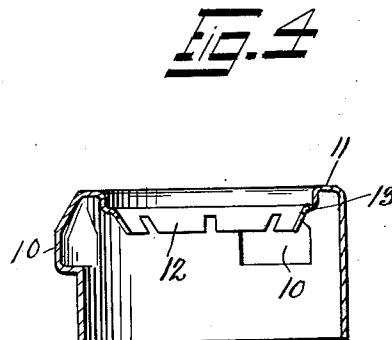
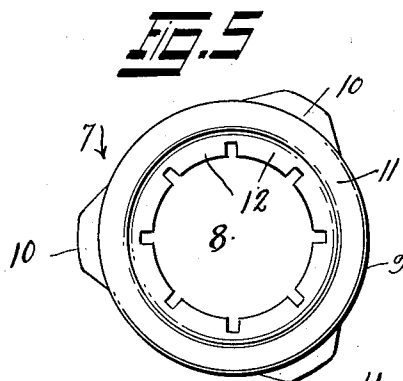
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CLOSURE

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UNITED STATES PATENT OFFICE

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CLOSURE

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My invention relates to closures used for sealing the openings in containers, jars, cans or bottles, in which the closure tightly seals the container orifice when affixed and locked in sealing position, and more particularly relates to an improved closure locked within the contour of the nozzle of the container through which the contents, usually in liquid form, are poured.

The objects of my invention are, among other things, to provide an improved closure construction of this type to fit within the neck of the container nozzle whereby a secure and perfect sealing is attained; to provide a closure with an inclined circular side portion having means to engage a plurality of resilient and inwardly projecting lips extending from the neck of the nozzle and preferably integral therewith.

With the above and other objects in view, my invention comprises the novel construction, combination and arrangement of parts hereinafter described and then particularly pointed out in the appended claims.

In the accompanying drawings, Fig. 1 is an elevation view partly in section, showing a preferred form of my closure in locked position within the container nozzle;

Fig. 2 is an enlarged vertical section of the nozzle and closure in sealing and locked position;

Fig. 3 is a front elevation of the closure;

Fig. 4 is an enlarged vertical section of the nozzle with the closure removed; and

Fig. 5 is a top plan view of the nozzle. Similar numerals refer to similar parts throughout the several figures.

Referring to the drawings, the container 6 has affixed thereto the circular nozzle 7 formed of sheet metal having the opening 8 through which the container 6 is filled or emptied. The outer cylindrical wall 9 of the nozzle 7 is provided with a plurality of projecting lugs 10 (three being shown in Fig. 5), which are adapted to be engaged by an outer removable cap (not shown). Projecting radially and inwardly from the rim 11 of the nozzle 7 are a plurality of spaced-apart resilient lips 12 which are obliquely and downwardly inclined relatively to the axis of the

nozzle 7 as shown in Figs. 1, 2 and 4. Outside the base of the lips 12, but inside the rim 11, is the annular shoulder 13 formed beneath the rim 11 (Figs. 2 and 4). All these parts are preferably integral with one another as shown.

The closure 14 is also formed integrally of sheet-metal and is cup-shaped with the flat, outwardly extending rim 15 and the depending circular sides 16 and bottom 17. Midway in the sides 16 is the outwardly projecting annular bead 18 (Fig. 3), which surrounds the closure 14 and is mutually parallel with the closure rim 15.

The operation is as follows: The closure 14 is placed in the nozzle 7 so that the closure bottom 17 projects downwardly in the nozzle opening 8, and then the closure is pressed inwardly so that the bead 18 snaps over the inner edges of the resilient lips 12 to its Fig. 2 position in braced relationship with the lips 12 and with the rim 15 bearing snugly against the shoulder 13 of the nozzle 7, thereby forming a tight inner seal entirely contained within the body of the nozzle 7 with the resilient lips 12 clamping the closure 14 in locked position, as shown in Figs. 1 and 2. To remove the closure 14 from the nozzle 7 a suitable prying tool is inserted between the rim 15 and shoulder 13 to bend down the lips 12 and thereafter pry out the closure 14, or the contents of the container 6 may be reached by puncturing a suitable hole in the bottom 17.

I have embodied in my improved closure certain structural features which afford an effective and simplified seal within the body or contour of the container, which closure can be economically made, and furthermore such closure provides a tight seal under all conditions of use no matter what may be the size of the closure and irrespective of the thickness and resiliency of the sheet metal used in its construction.

I claim as my invention:—

1. In combination, a container nozzle having an inturned rim provided with a plurality of spaced-apart and concentrically projecting resilient members and a closure frictionally clamped by said members.

2. In combination, a container nozzle having an inturned rim provided with a plurality of spaced-apart and concentrically projecting resilient members and a cup-shaped closure having its sides frictionally clamped by said members.

3. In combination, a container nozzle having inturned a plurality of spaced-apart and concentrically projecting resilient members, and a cup-shaped closure having an annular bead formed in its sides engaging said members in braced relationship to hold the closure in locked position.

4. In combination, a container nozzle having inturned a plurality of spaced-apart and concentrically connected resilient members, and a cup-shaped closure having an annular bead projecting from its sides to engage said members in braced relationship to hold the closure in locked position.

5. In combination, a container nozzle having an annular shoulder formed inside its rim and a plurality of spaced-apart and concentrically projecting resilient members inside said shoulder, and a cup-shaped closure having an annular rim to engage said shoulder and an annular bead projecting from its sides to engage said members whereby the closure is held in locked position within the body of the nozzle.

6. In combination, a container nozzle having an annular shoulder formed inside its rim and radially resilient members extending inwardly from said shoulder, and a cup-shaped closure having an annular rim to engage said shoulder and an annular bead projecting from its sides to engage said members in braced relationship when snapped below the projecting edges of said members, whereby the closure is held in locked position within the body of the nozzle.

7. In combination, a container nozzle having within its rim an annular flat shoulder and also a plurality of spaced-apart and concentrically projecting disposed resilient members extending inwardly and downwardly from said shoulder, and a cup-shaped closure having an outwardly extending rim and an annular bead projecting from its sides in parallelism with said rim to engage said resilient members in braced relationship when said closure is forced within the nozzle to bring said closure rim and nozzle shoulder into surface-to-surface contact.

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