Jan. 23, 1945. R. P. SCHERER 2,367,739

CAP CLOSURE

Filed May 19, 1943

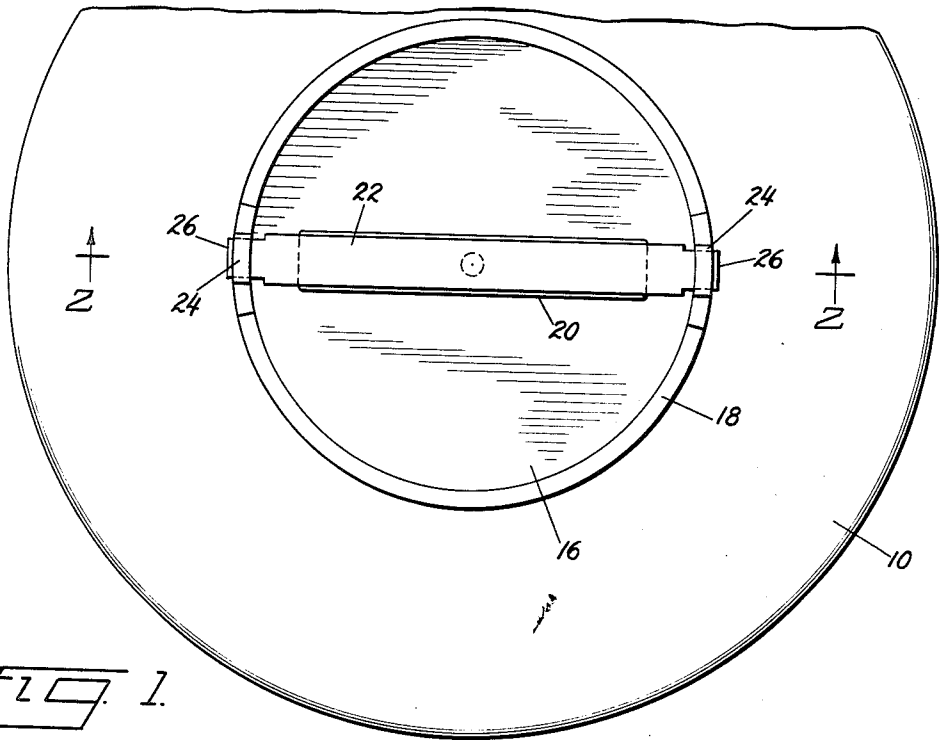



Fig. 1.

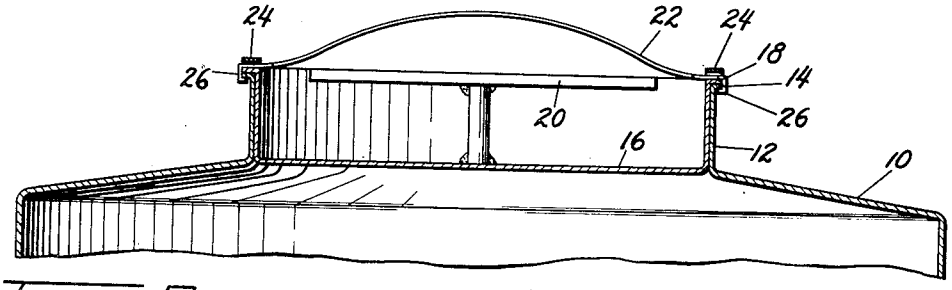



Fig. 2.

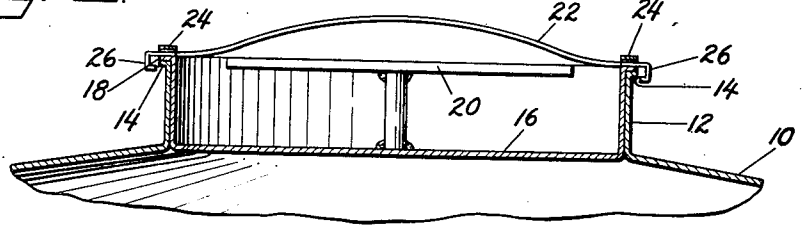



Fig. 3.

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## CAP CLOSURE

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Application May 19, 1943, Serial No. 487,581

1 Claim. (Cl. 220—57)

This invention relates to an improved closure cap for a receptacle or container.

In particular it relates to a closure cap provided with improved means for releasably locking the same to the receptacle with which it is associated.

An object is to provide a closure of the character described with improved mechanism for releasably locking the same in position to cover the closure opening of a receptacle, which mechanism is simple and inexpensive and is readily operable to releasably secure the closure to the receptacle or to detach the same therefrom.

A further object is to provide closure retaining mechanism which may be easily and quickly actuated by the hand of the operator which grips the closure handle to attach or remove the closure. Furthermore, the mechanism is responsive to the natural gripping movement of the hand which grips the handle to attach or release the closure from engagement with the receptacle.

An advantageous feature is that the normal movement of inserting the closure within the opening will serve to actuate the retaining means to lock the closure to the receptacle.

Other objects, advantages, and meritorious features of the invention will more fully appear from the following description, appended claim and accompanying drawing wherein:

Figure 1 is a plan partly broken away of the top showing receptacle having a closure opening provided with my improved closure.

Figure 2 is a cross sectional view taken on the line 2—2 of Figure 1 showing the closure retainer locking the closure to the receptacle.

Figure 3 is a cross sectional view taken on the same line as Figure 2, partly broken away, showing the closure retainer in the released position.

This particular type of closure cap is adapted to be used with many different receptacles or containers. It is here shown as associated with a receptacle having the shape of a cylindrical can or the like. Such receptacles are commonly used to carry liquids. The top of the receptacle is generally indicated by numeral 10 and there is an upright flange 12 which extends about the closure opening. The flange 12 is provided with an outwardly turned ledge 14.

The closure cap indicated as 16 is cup-shaped and the upper margin of its wall is provided with an outwardly turned flange 18. This closure cap is removably receivable within the closure opening as shown in Figures 2 and 3. It is adapted to fit snugly therein. The outwardly turned flange 18 of its side wall seats upon the ledge 14 of the flange which encircles the closure opening. No gasket is shown but it is obvious that suitable gaskets might be provided as desired. The closure cap is provided with a handle 20 which is positioned within its cup shaped interior and the hand grip portion of which extends diametrically of the circular closure.

The closure is also provided with retaining means in the form of a spring retainer member indicated as 22. The mid portion of this spring retainer is bowed upwardly as illustrated in Figure 2. The inherent spring tension of the retainer strap maintains its upward convex form. The closure is provided with guides 24 through which the end portions of the retainer are linearly slidable. These guides hold the retainer in place and upon flattening of its convex portion toward the handle 20, as shown in Figure 3, the end portions of the retainer are resistingly urged outwardly as shown in Figure 3. These end portions are hook-shaped as shown at 26.

The hooked end portions 26 of the retainer are normally held by its inherent spring tension in releasable engagement with the ledge 14 of the receptacle flange 12. Upon flattening the convex portion of the retainer these hooked end portions are projected out of such engagement releasing the closure for removal, or, during insertion of the closure into the opening, permitting complete insertion of the closure into the opening. When the closure cap is initially inserted into the opening, the hooks 26 seat upon ledge 14. Downward pressure on the convex portion of the spring retainer projects such hook ends sufficiently to clear the ledge 14 and permit complete insertion of the closure. When the closure is completely seated within the opening the spring retainer will automatically, upon release of pressure thereupon, draw the hook ends inwardly to grip the receptacle ledge.

When the closure is completely removed from the opening the tension of the spring retainer draws the projecting end portions of the retainer inwardly against the side wall of the closure cup and it is necessary to project said end portions before the closure can be completely seated within the opening. When it is desired to remove the closure from the receptacle gripping of the hand of the operator upon the handle and convex portion or the retainer releases the hook ends of the retainer so that the closure may be removed.

What I claim is:

A receptacle having a closure opening provided with an upright marginal flange having an outwardly turned ledge, a cup-shaped closure removably receivable within said opening and provided with an outwardly turned marginal flange seating upon said ledge, a handle within the interior of the closure, said closure having oppositely disposed guides in line with said handle, a spring retainer extending transversely across said closure above and in line with said handle and having its opposite end portions linearly slidably mounted within said guides, each end portion of the retainer projecting beyond the closure and provided with a downwardly turned hook adapted to releasably engage the ledge of the container, said retainer being bowed and spring tensioned upwardly urging its end portions inwardly into releasable engagement with said ledge, said retainer adapted upon flattening of its upwardly curved portion toward said handle to project its end portions out of engagement with said ledge, said closure and each end portion of the retainer provided with cooperating inter-engaging parts adapted to engage one another following limited slidable movement of each end portion of the retainer to limit the outward movement of said end portion insuring outward movement of both end portions in response to a determined flattening of the retainer.

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