Nov. 1, 1938. H. B. SAVAGE 2,134,893

CLOSURE FOR CONTAINERS

Filed Nov. 2, 1937

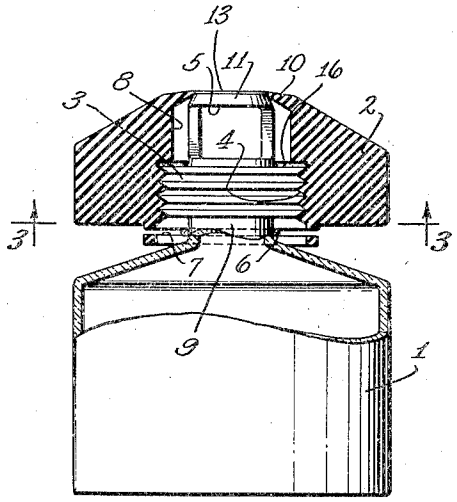


Fig. 1.

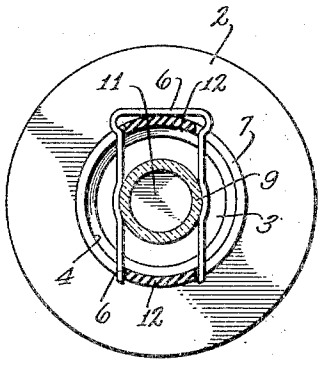


Fig. 3.

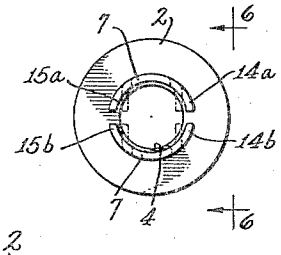


Fig. 5.

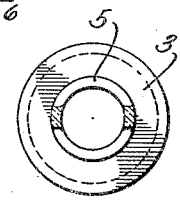


Fig. 4.

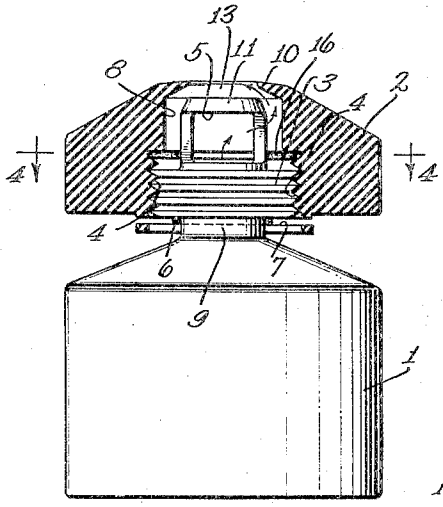


Fig. 2.

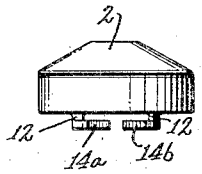


Fig. 6.

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CLOSURE FOR CONTAINERS

Harold Bruce Savage, San Diego, Calif.

Application November 2, 1937, Serial No. 172,389

4 Claims. (Cl. 221—60)

My invention relates to closures for containers, particularly those receptacles known as paste tubes, and its objects are to prevent the loss or impairment of the means for closure, to furnish a simple and effective arrangement of parts for locking the same in operative position, to render the receptacle non-refillable except upon the unlocking of said parts, to regulate the escape of the contents of the container, and in general to simplify and render more effective the operation of the several parts.

In containers now on the market considerable trouble and annoyance is occasioned by the loss of plugs, stoppers, caps or other articles of manufacture commonly used as a means of closure. Particularly is this true in the case of small containers for toilet or cosmetic use such as perfume boxes, tooth-powder cans, bottles, and paste tubes. The covers or caps for such articles are small, are likely to become dislodged or lost and are not readily recovered or replaced. In the device of my invention, these defects have been remedied, in that the closure means is not easily removed, and normally is designed to be locked in such a manner as to permit its ready use as a closure while effectually preventing its separation from the container.

Attention is hereby directed to the drawing in which I have illustrated a preferred form of my invention wherein similar numerals of designation refer to similar parts throughout the several views, and in which,—

Figure 1 is a side elevation, partly in section, of my improved closure, showing the same fully closed;

Figure 2 is a view similar to that of Figure 1 showing the closure open for discharge of the contents of the container;

Figure 3 is a horizontal section on line 3—3 of Figure 1 looking in the direction of the arrows;

Figure 4 is a horizontal section of the upper end of the spout on line 4—4 of Figure 2, looking in the direction of the arrows through which spout the contents of the container are discharged;

Figure 5 is a view in reduced scale of the curved members forming part of the locking device looking at the same from below, and Figure 6 is a view on reduced scale of the cap shown in Figure 1, showing the prongs at the bottom thereof bent inwardly forming a locking device.

Referring to the drawing, to the upper part of the container or receptacle 1, composed of metal, glass, fibre, wood or other suitable material, I affix the discharge spout 9, which is preferably brazed to said receptacle, but which may be attached thereto by screw threads or in any suitable manner, and may if desired be made integral therewith. The spout 9 is preferably made with the annular abutment 3, which is screw threaded around its periphery preferably with course threads. The upper end of the said spout 9 terminates in the bevelled edged top 11, immediately below which are the lateral discharge passageways 5, here shown to be two in number, but may be one or more if desired. Preferably as here shown the said passageways are large in diameter in proportion to the spout 9 in order to permit the ready escape of the contents, in whole or in part, of the container 1.

Surrounding the spout 9, and in threaded contact therewith is the cap 2 which is preferably of hard rubber, but may be of any suitable material. The said cap 2 is provided with the threaded chamber 4 engaging with the threaded abutment 3, and is also provided with the upper unthreaded circular chamber 8, adjacent to the discharge passageways 5. At the upper part of the cap 2 is the opening 13 and the annular rim 10, shaped to contact with the bevelled edge of the top 11, and to close the container when in the position shown in Figure 1; a gasket 16 serving to prevent seepage into the threaded chamber 4.

Integral with the cap 2 through the connectors 12 and located directly below the same, are the curved members 7 forming arcuate slots 15 in which are received and held the lock spring 6, which is made in the form of a yoke shaped to conform with the surface of said spout 9, and closely to fit within said slots. So long as said spring 6 remains in position, it will be impossible to separate said cap 2 from the container 1, for when such cap is turned to the position shown in Figure 2, the said spring will contact with the lower face of the abutment 3, and further turning of the cap is prevented.

If desired the said locking spring may be dispensed with and its office performed through the bending inwardly of the ends 14*a*, 14*b*, 15*a*, and 15*b*, of the horizontally curved members 7 so as to engage the lower face of the abutment 3, and thereby prevent the removal of the cap 2. Such bending is shown in Figures 5 and 6, the inward displacement of the prongs forming said ends being shown in dotted lines in Figure 5.

To operate my improved closure, the cap 2 is turned from the position shown in Figure 1, when the container 1 is closed, to the position shown in Figure 2, at which time the said container is open, whereupon the container is inverted and held perpendicular or inclined to the vertical and its

contents poured or permitted to escape through the discharge passageways **5** in the sides of the spout and thence through the opening **13** in the upper part of the cap. When the container **1** is in the form of a paste tube, pressure on the sides thereof will cause the paste to exude in a similar manner through said passageways and final discharge opening; and, as is obvious, by turning the cap **2** the size of said opening may be so regulated as to control the flow of paste passing therethrough in small or large amounts as may be desired. As will be observed, the cap **2** is enlarged so that it is of substantially the same diameter as that of the container **1**, and as a result when such container is held in one hand the fingers thereof will readily engage with the periphery of said cap and permit the opening and closing of the same without recourse to the other hand.

My invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. My present embodiment of such invention as above set forth and described is, therefore, to be considered in all respects as illustrative and not restrictive, the scope of my invention being indicated by the appended claims rather than by the foregoing description, and all changes which come within the meaning and range of equivalency of the claims are therefore intended to be embraced therein.

What I claim and desire to secure by Letters Patent is:

1. In a closure for containers, the combination of a threaded discharge spout, a cap threaded to engage with said spout and arranged to close the mouth of said spout, said cap having arcuate curved fingers horizontally disposed, the ends of which are bent inwardly and engage with the surface of said cap below its threads, thereby preventing the removal of said cap from said spout.

2. In a closure for containers, the combination of a discharge spout, a threaded annular abutment carried by said spout, said spout having lateral discharge openings above said abutment, a cap threaded to engage with said abutment and to arrest the discharge of the contents of the container, said cap having curved fingers horizontally disposed below and adjacent to said abutment, the ends of said fingers being bent inwardly and preventing the removal of said cap from its threaded engagement with said abutment.

3. In a closure for containers, the combination of a discharge spout, a threaded annular abutment carried by said spout, said spout having a plurality of lateral openings above said abutment, a cap surrounding said spout and abutment and threaded to engage with said abutment and to be turned to regulate and arrest the passage of any material out of said container, said cap having an annular member located below said abutment and being provided with slots, and a yoke spring engaging with said slots and periphery of said spout below said abutment and preventing the removal of said cap from said spout.

4. In a closure for containers, the combination of a discharge spout, a threaded annular abutment carried by said spout, said spout having a lateral opening above said abutment, an enlarged cap, of substantially the same diameter as that of the body of the container, enclosing said spout and abutment and threaded to engage with said abutment and to be turned to regulate and arrest the passage of any material out of said container, said cap having horizontally disposed fingers the ends of which are bent inwardly and extend below said abutment and which prevent the removal of said cap from its threaded engagement with said abutment.

HAROLD BRUCE SAVAGE.