Sept. 28, 1937. I. PENN 2,094,021

CLOSURE FOR CONTAINERS

Filed July 14, 1936

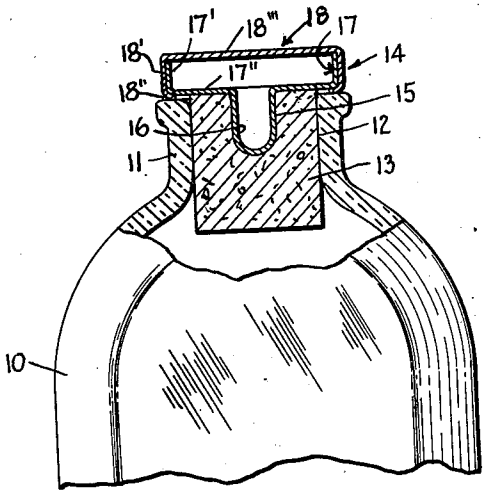


Fig. 1.

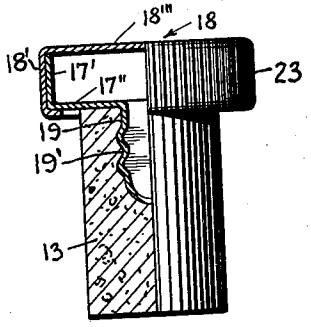


Fig. 2.

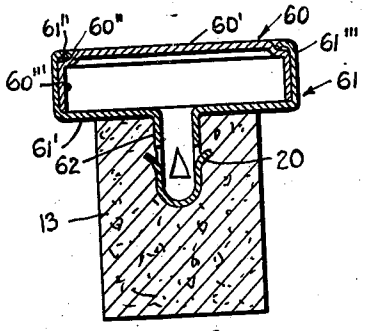


Fig. 3.

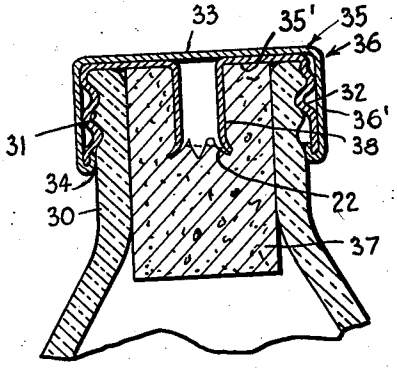


Fig. 5.

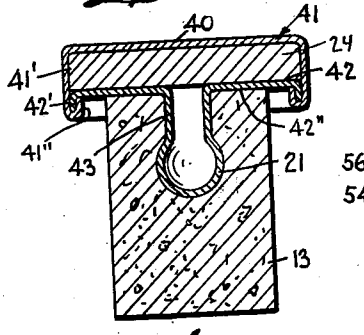


Fig. 4.

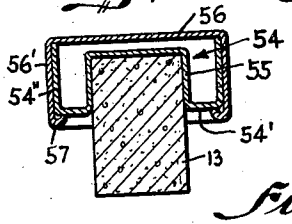


Fig. 7.

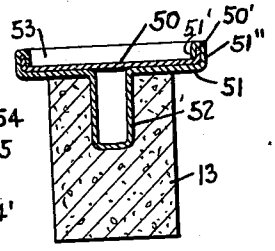


Fig. 6.

INVENTOR.
Isidore Penn.
BY Maxwell E. Sparrow
ATTORNEY.

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UNITED STATES PATENT OFFICE

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CLOSURE FOR CONTAINERS

Isidore Penn, Brooklyn, N. Y., assignor to Carvin Bottlecap Corp., Brooklyn, N. Y.

Application July 14, 1936, Serial No. 90,491

2 Claims. (Cl. 215—48)

This invention relates generally to improvements in closures for containers, and particularly to the type wherein a stopper or cork depends from the cap.

In closures for containers of the type wherein a cap is employed in conjunction with the stopper or cork to facilitate removal or withdrawal of the closure from the container, it has heretofore been customary to utilize an intermediary element or plug made of wood to unite together the cork and cap. In the act of forcing the closure out of the container, the wooden plug oftentimes breaks leaving the cork or stopper within the container, and the cap only in the hand. It is an object of this invention to overcome this disadvantage.

In its essential features, the invention comprises a container cap made up of two interlocking shells, at least one of which being formed out of a one-piece metal stamping and having a depending wall or a projection for tight engagement with a stopper, such as, for example a cork. Making the stopper-engaging element out of a metal stamping insures the closure against breakage during its removal from the container and therefore provides a closure which is far more sturdy than one using the conventional wood plug. This forms another object of the invention.

These and further objects and advantages of the invention will best be understood from a consideration of the following detailed description, taken in connection with the accompanying drawing forming part of this specification, with the further understanding that while the drawing shows some practical forms of the invention, the latter is not confined to any strict conformity with the showing of the drawing, but may be changed and modified so long as such changes and modifications come within the scope of the appended claims.

In the drawing:

Fig. 1 is a view in part section of a bottle showing applied thereto a combined cap and stopper made in accordance with an embodiment of the invention.

Fig. 2 is an enlarged (half sectional) view of the invention in another form.

Figs. 3, 4 and 6 are views of closures showing modified forms of the invention.

Fig. 5 is a sectional view of a portion of a bottle neck showing applied thereto a combined cap and stopper, the cap having a screw thread.

Fig. 7 is a sectional view of a combined cap and stopper in another modified form.

Examples of the application of the invention follow: Referring to Fig. 1, the bottle 10 has the conventional neck 11 with the opening 12 into which the stopper or cork 13 is inserted. For purposes of removing the cork 13 without the use of a cork screw, as for example, by finger hold, a cap 14 made preferably of metal is provided to which is secured by any suitable means, such as for example, cement, the cork 13. The cap is made up of two elements or shells 17 and 18. The shell 17, which is a one-piece metal part has an annular wall 17', a disk-like intermediate portion 17'', and a hollow projection or teat 16 (Fig. 1) or 19 (Fig. 2), depending from the intermediate portion 17'', which hollow projection or teat, although preferably integral with the shell 17, may be separate and rigidly secured thereto. The annular wall 17' of shell 17 is encompassed by the annular wall 18' of shell 18; and the lower end of shell 18 is turned in at 18'' in engagement with portion 17'' of shell 17, thus clamping the latter between 18'' and the disc-shaped top 18''' which is integral with the cylindrical wall 18'. Shell 18 is preferably made of metal.

In Fig. 1, the projection 16 of shell 17 is shown as having a smooth surface 15, whereas in Fig. 2, the projection 19 of said shell has a corrugated surface 19'. The cork or stopper 13 is suitably secured, as by glue or cement, to shell 17, preferably to both the portion 17'' and projection 16 or 19. The corrugation 19' (Fig. 2) further facilitates securement of the cork to shell 17. Shell 18 is preferably knurled or fluted as indicated at 23 for facilitating gripping of the cap with the fingers.

In Fig. 3, the disc-shaped top 60' of shell 60 has an annular marginal recess 60'' from which margin depends the annular wall 60'''.

The other shell 61 has the annular wall 61''' which encompasses annular wall 60''' of shell 60, the intermediate disk-like portion 61' and the hollow projection or teat 62. The upper end of shell 61 has the inturned flange 61'' clampingly engaging shell 60 within annular recess 60'' thereby securing the two shells together. Projection 62 is shown as having the outwardly projecting tongues or prongs 20 engaging the cork or stopper 13. The cork is positioned on projection 62 and these tongues or prongs may be produced by forcing outwardly fragments of the wall of projection 62 with a suitable instrument or tool inserted within the hollow of the projection before the two shells 60 and 61 are assem-

bled. Cork 13 is preferably glued or cemented to shell 61.

In Fig. 4 the cap has the outer element or shell 41 and the element 42. Shell 41 has the top 40 from which downwardly extends ring or skirt portion 41' bent inwardly at 41'', a space being formed for the reception of the downwardly extending annular flange 42' depending from the ring-like flat portion 42'' of insert 42. The portion 42' is clamped between the wall 41' and flange 41''. Depending from flat portion 42'' at its center is the hollow projection or extension 43 having the closed bulbous end 21. The cork 13 is secured to the flat portion 42'' and extension 43 of element 42 by any suitable means, such as, cement. The space between the tops of the elements 41 and 42 may be occupied by a filler or spacer disc 24 made of suitable material, such as, for example, cork, fibre, paper or composition.

In Fig. 5, the inner shell 35 is provided with the threaded depending portion or skirt 32, for engagement with the complementary threads 31 of the neck 30 of a container. The threaded portion 32 and depending hollow central projection 38 are confined within the outer shell 36. The lower edge of the threaded skirt 32 of element 35 is clamped between the cylindrical wall of skirt 36' of shell 36 and its inturned edge 34. The top 33 of the outer shell and the top 35' of the inner shell contact each other. The central projection 38 may be provided with the end prongs 22 extending in an outward direction and formed after the cork 37 is fixed to inner shell 35 and in the manner similar to that hereinbefore stated with reference to prongs 20. Unscrewing the cap forces cork 37 upward sufficiently to overcome the initial tightness between it and the neck of the bottle, thereby permitting easy removal of the cap from the bottle by a lineal pull.

In Fig. 6 the cap has a top recess 53. Shell 50 is cup-shaped having the annular flange 50' which is clamped between the inturned inner annular wall 51' and outer annular wall 51'' of shell 51. Shell 51 has the projection 52 received in the cork 13, and cork 13 is suitably secured to projection 52 and the bottom surface of shell 51, as by cement or glue.

In Fig. 7, the cap comprises the outer shell 56 and inner shell 54. Outer shell 56 is cup-shaped having the depending circular wall 56'. Inner shell 54 has a central annular recessed inward projection 55 for receiving the upper portion of cork or stopper 13 to which it is secured by any suitable means, and further has a ring-like bottom 54' and upstanding circular wall 54'' the upper edge of which rests against the top of outer shell 56. The two shells are firmly fixed together by turning in the lower edge of wall 56' as indicated at 57 so that it engages the ring 54'.

As depicted in the above embodiments of the invention, the closure is a combined cap and stopper which comprises three elements, namely, the two preferably metallic shells in interengagement and a stopper or plug secured to one of the metallic elements, the latter being provided with a projection or depending wall in engagement with the stopper to facilitate said securement.

The interlocking cap members or shells are each formed from a one-piece metal stamping, one of the shells having the projecting wall to which the stopper is secured.

The closure may be suitably embossed, or lithographed or otherwise printed.

In the accompanying drawing I have illustrated the invention embodied in some of its practical commercial forms but as these illustrations are primarily for purposes of disclosure it will be understood that the invention is not limited to these particular forms of structure and that it may be modified in many respects without departure from the true spirit and scope of the invention as herein defined and claimed. I wish it further understood that the terms which I have employed herein are used in a descriptive rather than in a limitating sense, except however, for such limitations that may be imposed by the state of the prior art.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A closure comprising a combined cap and stopper, said cap comprising two interconnected members, one of said members being of sheet material with a peripheral off-set flange secured to the other member, said one member having a depending centrally disposed tubular projection extending into an end of the stopper only partway of the length thereof and securing the cap to the stopper.

2. A closure comprising a combined cap and stopper, said cap comprising two interconnected members, one of said members being of sheet material with a peripheral off-set flange secured to the other member, said one member having a depending centrally disposed tubular projection extending into an end of the stopper only partway of the length thereof and securing the cap to the stopper, said projection having an approximately closed free end to add rigidity to the walls thereof.

ISIDORE PENN.