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G. T. RIEKE
BAIL HANDLED CLOSURE CAP
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2,895,654

FIG. 1

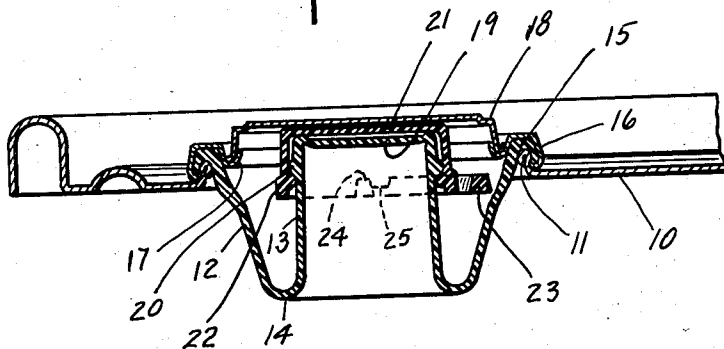


FIG. 2

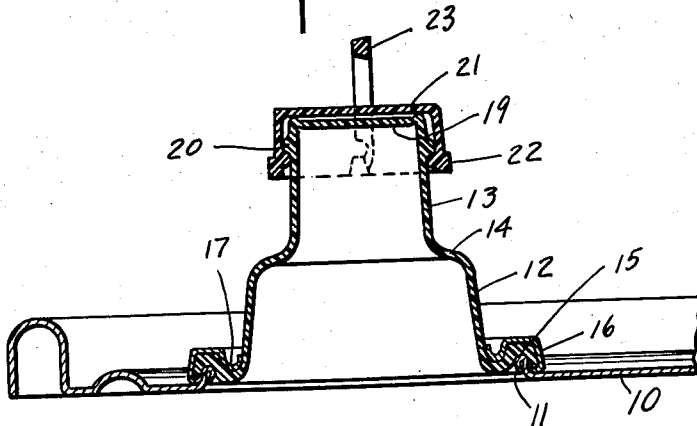


FIG. 3

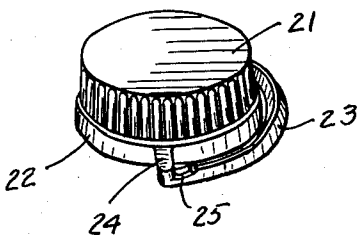
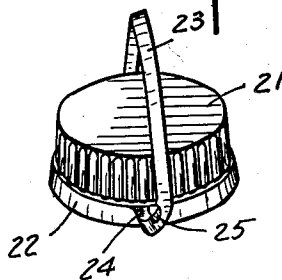


FIG. 4



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BAIL HANDLED CLOSURE CAP

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7 Claims. (Cl. 222—529)

This invention relates to a bail handled closure cap of a character to be internally threaded for screw threading into closing position upon an externally threaded member, such as a container neck, spout or the like.

Said invention is particularly applicable for use in manipulating and extending a flexible pouring spout, as shown and described in my Letters Patent No. 2,661,128, granted December 1, 1953 entitled "Tamper and Seal Proof Flexible Pouring Spout."

One object of the invention is to provide a screw cap for closing or sealing a container, pouring spout or the like wherein said cap is integrally formed, preferably of plastic material, with a bail or handle by means of which it may be conveniently finger gripped for exerting an axial pull thereon. In instances of various usages, such as hereinafter described, it is desirable to exert an axial pull on the cap as well as screwing or unscrewing it by gripping and rotating. It is in such usages that a bail becomes useful if not essential. It is further important in some usages that such a bail normally lie to one side of the cap in concentric relation with approximately one-half of its periphery to thereby be out of the way and not exposed, but wherein it may be raised to an upper exposed position beyond the top of the cap for finger gripping to exert a pull thereon.

The particular feature of this invention resides in providing such a cap and bail preferably out of a semi-resilient material such as a plastic, rubber, synthetic rubber and the like, whereby the bail may be formed integrally with the base rim of the cap to normally lie in spaced concentric relation therewith, but when placed in use may be bent or twisted approximately ninety degrees to an outer finger gripping position under such inherent tension as to return it to its normal position upon being released. By means of this arrangement the cap and bail may be cast and formed in one integral piece in an economical manner without the use of connecting elements.

One particular advantageous use of the invention is in combination with a flexible pouring spout of the character disclosed in the above letters patent, and as further illustrated herein.

The full nature of the invention will be understood from the accompanying drawings and the following description and claims:

Fig. 1 is a section through a flexible pouring spout for a container with the handled cap in its nested and sealed position.

Fig. 2 is the same as Fig. 1 showing the pouring spout extended by the pull exerted thereon by the handled cap with the bail in operating position.

Fig. 3 is a perspective view of the cap with the bail in normal nesting position.

Fig. 4 is the same as Fig. 3 showing the bail in its extended operative position.

In the drawings there is shown a flexible pouring spout closure for a container indicated at 10, said container having an opening provided therein surrounded by an upturned flange 11. The flexible pouring spout is pref-

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erably formed of a semi-resilient material, such as polyethylene plastic or rubber composition to include a somewhat frusto-conical body portion 12 terminating in a tubular neck portion 13 with which it is joined by a shoulder portion 14. This formation is such that when the pouring spout is not in use or in closed position, it may be nested within the container, as shown in Fig. 1. This may be accomplished by forcefully pushing the neck portion inwardly, so displacing the shoulder portion 14 that the neck portion will nest within the body portion and with the body portion flexed about its periphery to extend inwardly of the container. By pulling out on the neck portion the body portion will be caused to flex about its periphery to an extended position, as shown in Fig. 2 with the body and shoulder portions being reversed. In the nested position the pouring spout will be embraced within the body portion while in the extended position it will extend therefrom for dispensing fluid or the like from the container.

The periphery of the body portion 12 terminates in a sealing ring 15 formed to seat over and embrace the flange 11 of the container and be secured thereabout by a suitable clamping ring 16. Said clamping ring not only clamps the resilient material of the sealing ring 15 to the container, but is provided with an inner recessed portion 17 to receive a metal tamper-proof sealing member 18.

The mouth of the neck portion 13 may be initially sealed by an internally formed diaphragm 19 adapted to be cut out about its periphery by a cutting implement when the spout is first conditioned for pouring. Thereafter the spout is closed by the bail handled cap of this invention. For that purpose the periphery of the mouth of said neck portion is formed with external threads indicated at 20 to threadedly receive the internally threaded closure cap 21, said cap being preferably formed of the same semi-resilient or plastic material as the spout and knurled about its periphery for convenience in gripping and rotating it to or from the closing position with the spout. About the inner or open edge of the cap there is formed a rim portion 22 with which the bail 23 is integrally formed. For this purpose the bail is connected with the cap through opposed and substantially diametrically-extending or horizontal fingers or bosses 24. Each finger terminates with a circumferentially extending reduced and flattened neck or hinge portion 25 in turn joining the ends of the bail with the respective fingers or bosses.

The formation and structure above described is such that the normal untwisted position of the fingers, neck portions and bail retain the bail substantially in the plane of the rim portion 22, which plane is parallel to the plane in which the top of the cap lies, or in lateral offset concentric relation with the periphery of the cap. In this position, and as shown in Figs. 1 and 2, the bail will lie within the fold of the spout or otherwise out of the way of any top sealing member, such as member 18.

When the spout is to be put into use with the member 18 removed, the cap 20, as shown in Fig. 1 may be shifted to one side for raising the bail from its nested position to an exposed position for finger gripping. The bail may then be brought into the position of Fig. 4. In this position it will provide a convenient finger grip to exert a pull on the cap, which is useful, for example, in pulling the spout from its nested position in Fig. 1 to its extended position in Fig. 2. Thereupon the cap may be unscrewed and the spout ready for use. In moving the bail to its outer operating position it will be readily bent at the flattened neck portions 25 which in turn will slightly twist the fingers 24. However, said fingers and neck portions 25 will be under sufficient ten-

sion to return the bail to its initial concentric position upon being released.

While the invention has been shown and described in some detail in the drawings and foregoing description, they are to be considered as illustrative and not restrictive in character, as other modifications may readily suggest themselves to persons skilled in this art and within the broad scope of the invention, reference being had to the appended claims.

The invention claimed is:

1. In a normally nesting extensible plastic closure for containers having a body portion peripherally secured to the container for flexing between a nesting position within the container and an extended position exteriorly therefor, a spout portion of less diameter integrally joined therewith through a flexible reversible offset shoulder and adapted to nest within said body portion in spaced relation therewith when in its nesting position and be extended from said body portion through the reverse flexing of said shoulder portion, a bail handled closure cap of flexible plastic material in screw threaded engagement with the pouring end of said spout to provide a removable closure therefor, said cap including a skirt portion, and a bail having its terminal ends fixedly secured to diametrically opposite sides of said skirt portions for normally supporting said bail in the transverse plane thereof and in substantially spaced relation therewith to normally nest in the space between said spout and body portion when in their nesting position, the portions of said bail adjacent the terminal ends thereof being flexible for permitting said bail to be forcibly moved from its nested position to an exposed position over the top portion of said cap for finger gripping thereof in pulling said body and spout portions from nested to extended position.

2. In a flexible plastic extensible pouring spout for containers adapted to be pulled axially from a nested to an extended position, a bail handled closure cap threadedly received over the pouring end of said spout to provide a removable closure therefor, and a bail having its terminal ends integrally connected to opposite sides of said cap to normally lie on one side thereof embraced within said pouring spout when in its nested position, the portions in said bail adjacent the terminal ends thereof being flexible for permitting said bail to be forcibly moved under tension from its nested position to an exposed position over the top portion of said cap for finger gripping thereof in pulling said spout from nested to extended position.

3. In a flexible plastic extensible pouring spout for containers adapted to be pulled axially from a nested to an extended position, a bail handled closure cap threadedly received over the pouring end of said spout to provide a removable closure therefor, and a bail having its terminal ends integrally connected to opposite sides of said cap to normally lie on one side thereof embraced within said pouring spout when in its nested position, the terminal ends of said bail including diametrically opposed fingers extending radially from said cap adapted to flex and twist for permitting said bail to be forcibly moved

under tension from its nested position to an exposed position over the top portion of said cap for finger gripping for pulling said spout from its nested to extended position.

4. In a flexible plastic extensible pouring spout for containers adapted to be pulled axially from a nested to an extended position, a bail handled closure cap threadedly received over the pouring end of said spout to provide a removable closure therefor, and a bail having its terminal ends integrally connected to opposite sides of said cap to normally lie on one side thereof embraced within said pouring spout in its nested position, said terminal ends including opposed finger portions extending radially outward from said cap connected to the bail proper through reduced neck portions, said fingers and neck portions being formed of flexible material to permit flexing and twisting under tension upon said bail being forcibly moved from its nested to exposed position for finger gripping thereof in pulling said spout from its nested to extended position.

5. A bail handled closure cap of flexible and resilient plastic having a top portion, a depending skirt portion, said skirt portion having bosses extending from diametrically opposite sides thereof, flexible hinge members connected to said bosses and extending therefrom circumferentially with respect to said skirt portion, and a bail connected at its ends to said hinge members, said skirt, bosses, hinge members and bail being formed in a single integral structure normally to position said bail in a plane substantially parallel to the plane of the top of said cap.

6. A bail handled closure cap having a top portion, a depending skirt portion, said skirt portion having bosses fixed thereto and extending from diametrically opposite sides thereof, flexible hinge members connected to said bosses and extending laterally therefrom in a plane parallel to the plane of said top portion, and a bail connected at its ends to said hinge members, said bosses, hinge members and bail being formed in a single integral structure of flexible and resilient material normally to position said bail in a plane substantially parallel to the plane of the top of said cap.

7. A bail handled closure cap having a top portion, a depending skirt portion, said skirt portion having bosses fixed to and extending from diametrically opposite sides thereof, flexible and resilient hinge members connected to said bosses and extending laterally therefrom in a plane parallel to the plane of said top portion, and a bail connected at its ends to said hinge members, said hinge members being fixed to said bosses and to said bail normally to position said bail in a plane substantially parallel to the plane of the top of said cap.

References Cited in the file of this patent

UNITED STATES PATENTS

1,806,364	Newman	May 19, 1931
2,044,837	Davis	June 23, 1936

FOREIGN PATENTS

426,658	Great Britain	Apr. 8, 1935
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