

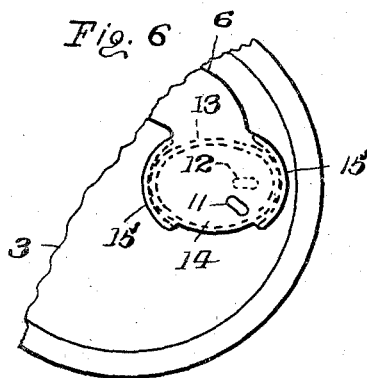
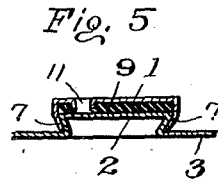
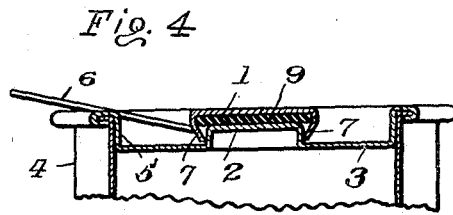
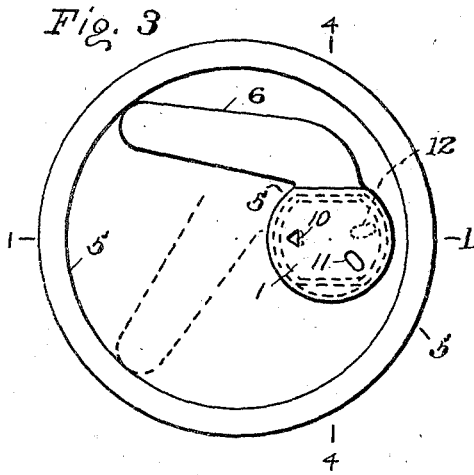
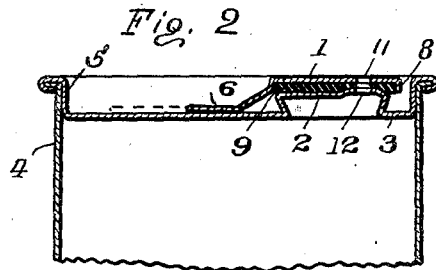
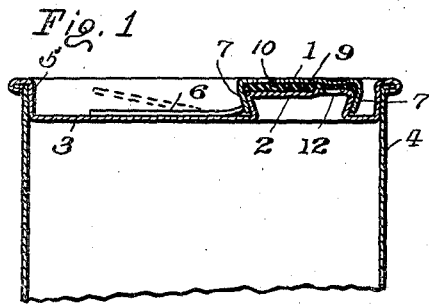
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CAN CLOSURE

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CAN CLOSURE

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9 Claims. (Cl. 221-19)

My invention relates to can closures and has particular reference to closure of cans containing liquids under pressure, such as beer or charged beverages.

5 The object of my invention is to provide a can closure which can be easily and quickly opened or closed again without damaging the closure in any way and without the use of any tools or fixtures.

10 Another object of my invention is to provide a can closure which in the closed position will provide a gas-tight joint which can withstand high pressures without any leakage.

15 Another object of my invention is to provide a can closure which can be made separately from the can itself and placed in the operative position without employing any special tools or fixtures.

20 Still another object of my invention is to provide a can closure suitable for cylindrical cans with flat end covers, the closure being concealed in the depression in a top cover, so that the cans can be placed one on top of the other, thereby saving storage and packing space.

25 Still another object of my invention is to provide a can closure with a relatively long handle for turning the closure into the open or closed positions, the handle forming a strong leverage sufficient to overcome frictional resistance of the closure itself.

30 My invention is more fully described in the accompanying specification and drawing in which—

Fig. 1 is a sectional view of the upper portion of a can with my closure in a closed position.

35 Fig. 2 is a similar view showing the closure in an open position.

Fig. 3 is a top view of a can with my closure on a closed position.

40 Fig. 4 is a section taken on the line 4-4 of Fig. 3 but with the closure in an open position.

Fig. 5 is a fractional sectional view taken on the line 5-5 of Fig. 3.

Fig. 6 is a top view of a modified construction.

45 My can closure consists of a cap or closure 1 preferably made of sheet metal by stamping and forming operations. It fits over a boss 2 formed in a top cover 3 of a can 4. The cover is preferably of a recessed type with a raised flange 5 crimped over the upper edge of the can, the flange being slightly higher than the closure so that cans with my closure can be placed one on top of the other for storing or packing.

50 Opposite sides of the boss 2 are of a circular shape as shown in Fig. 3 with tapering sides expanding outwardly. Other two sides, at right

angles to the circular sides, are substantially straight in vertical and horizontal directions, as may be seen on Figs. 3 and 4. Each round and each flat side occupy approximately one quarter of a circle or about 90° of a circle.

5 The cap 1 has also round or circular portions corresponding in shape to the circular sides of the boss 2 and slidably fitted thereon. These portions also occupy about one quarter of a circle each, the boss 2 dovetailing by its circular portions in the circular portions of the cap. A flat handle 6 extends from one side of the cap between the tapering portions 7 of the cap. The handle is bent down so as to reach the top surface of the cover 3. The opposite side of the cap has a low flange 8 corresponding to the thickness of a resilient washer 9. The latter may be made of rubber, elastic composition, or cork. It is securely held against the under side of the cap 1 by one or more lips 10 stamped out of the cap and bent down so as to pierce the washer as shown in Fig. 1. The cap has an oblong aperture 11 extending through the washer. The edges of the metal of the cap are turned into the aperture thereby also serving to prevent the washer from sliding on the cap and to retain the alignment of the holes in the washer and the cap. The boss 2 has a corresponding aperture 12 registering with the aperture 11 when the cap is turned into the open position.

30 The handle 6 is curved so as to extend to the opposite portion of the cover as shown in Fig. 3, the boss 2 being placed off center of the can and near its edge in order to provide sufficient room for the handle. The handle in the fully closed position rests with its end against the inner flange of the cover 3, this position automatically limiting the handle movement for the closed position. In a fully open position the handle also rests against the inner flange as shown in dotted lines in Fig. 3, so that the handle movement is also automatically limited for the open position.

45 The top portion of the boss 2 is slightly raised around the aperture 12, and the cap is depressed in a place opposite the aperture 12 when the cap is turned into the closed position. The two mutually converging portions tightly wedge the washer 9 between them when the cap is turned into the closed position, being thereby adapted to withstand a high pressure of a liquid inside the can.

50 The handle is fitted flat against the cover 3 and can be covered by a label pasted over the cover 3.

55 In order to remove the cap entirely, the handle is bent so as to raise it above the flange of the cover 3 as shown in Fig. 4. The cap can then be

turned so as to bring its dovetailing portions 7 against the straight portions of the boss, permitting the latter to be easily lifted. The cap is assembled on the can in the same manner, by placing the tapering dovetailing portions over the flat sides of the boss, in which position the cap can be fitted over the boss. By turning the cap sidewise, it is drawn tightly on the boss by its dovetailing portions. The handle may not be bent in this case but merely deflected resiliently above the cover flange.

A modified construction is shown in Fig. 6. The boss 13 in this case is of an oval shape with inwardly tapering sides all around. The cap 14 also has oval portions 15, but of somewhat larger radius. The operation of this closure is the same as with the described arrangement, but the oval ends of the boss and cap permit of a greater tightening between these parts, the cap being drawn against the boss when approaching the closed position of the cap on the boss.

With my closure it is possible to open and close the container without damaging the closure or weakening its tightness in the closed position. The cap, being assembled in a finished condition, can be made of a heavier metal than ordinary bottle caps, and therefore it can be made to withstand greater pressures without leakage.

My can closure, it is understood, may be further modified without departing from the spirit of my invention as set forth in the appended claims.

I claim as my invention:

1. A can closure comprising a boss on the cover of a can, the boss having an eccentrically located aperture, a cap rotatively fitted on the boss, a sealing washer between the cap and the boss, means on the cap to retain the washer, the cap and the washer having an aperture adapted to register with the boss aperture when the cap is in its closed position, the boss having a raised portion around its aperture, the cap having a depression corresponding to the boss raised portion in the closed position for compressing the washer.

2. A can closure comprising a boss on the cover of a can, the boss having an eccentrically located aperture, a cap rotatively fitted on the boss and provided with an aperture adapted to register with the boss aperture when the cap is turned into its open position, a handle extending from the cap over the cover, and means on the cover for limiting the movement of the handle between the open and closed positions for the cap.

3. A can closure comprising a boss on the cover of a can, the boss having an eccentrically located aperture, a cap rotatively fitted on the boss and provided with an aperture adapted to register with the boss aperture when the cap is turned into the open position, the cover being recessed inwardly from its sealing flange, and a handle on the cap extending over the cover and adapted to rest against the flange in its limiting open and closed positions.

4. A can closure comprising a boss on the cover of a can, the boss being eccentrically located near the side of the can, the cover being inwardly recessed from its sealing flange, the boss being provided with an eccentrically located aperture, a cap rotatively fitted on the boss, the cap being provided with an aperture adapted to register with the boss aperture when the cap is in the open position, and a handle extending from the cap toward the side of the can opposite the boss, the handle movements being limited between the

open and closed positions of the cap by the end of the handle resting against the inner sides of the cover flange.

5. A can closure comprising a boss on the cover of a can, the boss being located near the edge of the cover, the cover being inwardly recessed from its sealing flange, the boss having an aperture, a cap rotatively fitted on the boss and provided with an aperture adapted to register with the boss aperture when the cap is turned into the open position, and a handle extending from the cap toward the opposite portion of the cover, the rotation of the cap being limited between the open and closed positions by the end of the handle resting against the inner sides of the cover flange, the cap being adapted to be entirely removed from the boss by deflecting the handle above the cover flange and continuing its turning.

6. A can closure comprising a boss formed on the cover of a can and provided with an eccentrically located aperture, the boss being of an elongated rounded shape, a cap rotatively fitted on the boss and provided with an aperture adapted to register with the boss aperture when the cap is turned into the open position, the cap having diametrically opposite portions adapted to engage outer portions of the boss on its longer diameter, the cap being adapted to be removed from the boss when turned so that its engaging portions extend along the shorter diameter of the boss.

7. A can closure comprising a boss formed on the cover of a can and being of a rounded elongated shape, outwardly extending projections formed on diametrically opposite sides of the boss on its longer diameter, a cap rotatively fitted on the boss, the boss and the cap having mutually registering apertures when the cap is turned into the open position, diametrically opposite portions of the cap being bent so as to converge over the projections on the boss, the cap being adapted to be removed from the boss when turned at right angles to its operative position.

8. A can closure comprising a boss formed on the cover of a can and being of a rounded elongated shape, the boss having outwardly diverging sides on diametrically opposite portions on its longer diameter, a cap rotatively fitted on the boss, the boss and the cap having apertures adapted to register when the cap is turned into the open position, the cap having diametrically opposite portions converging over diverging portions of the boss thereby retaining the cap in its operative positions, the sides of the cap being cut out between its converging portions to allow the cap to be removed when turned by its converging portions at right angles to the diverging portions of the boss.

9. A can closure comprising a round boss formed on the cover of a can, diametrically opposite portions of the boss diverging outwardly, and portions at right angles to the diverging portions being straight, the boss being provided with an eccentrically located aperture, a cap rotatively fitted on the boss and provided with an aperture adapted to register with the boss aperture when the cap is turned into the open position, the cap having diametrically opposite portions bent so as to converge over the diverging sides of the boss thereby forming a dovetail joint therewith, the converging sides of the cap being adapted to be disengaged from the boss when the cap is turned so as to bring the converging sides against the straight sides of the boss.

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