May 1, 1934. W. E. RICHTER 1,956,747

REPLACEABLE CLOSURE

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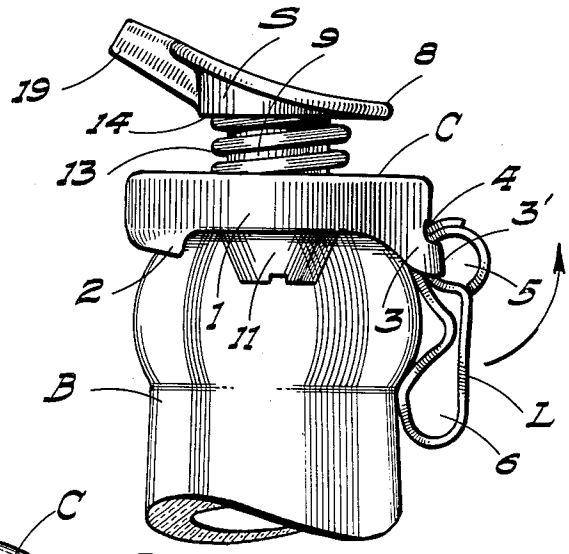
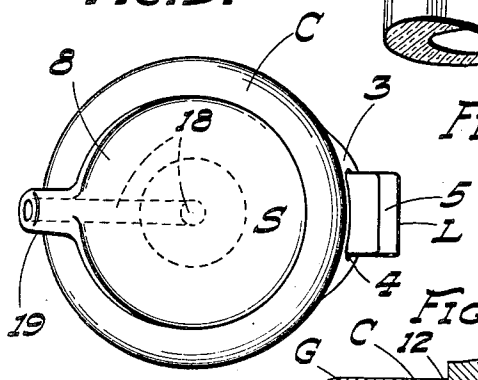


FIG. 3.

FIG. 1.



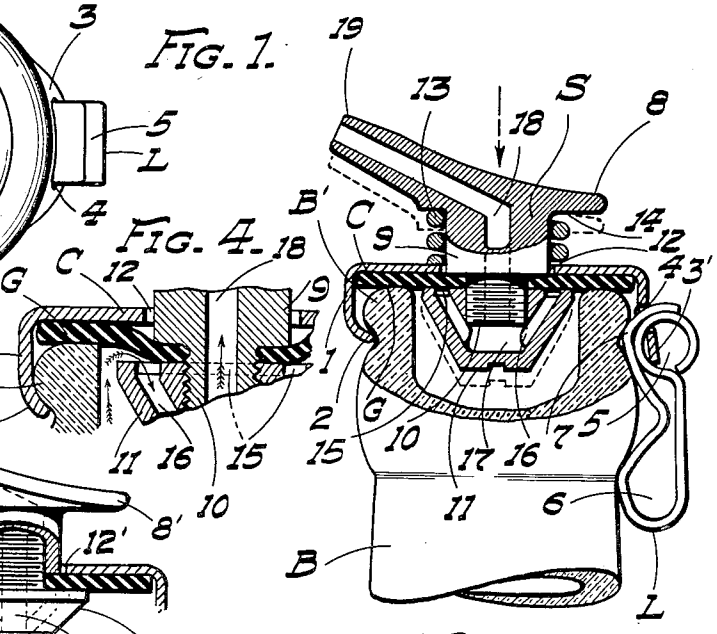


FIG. 2.

FIG. 4.

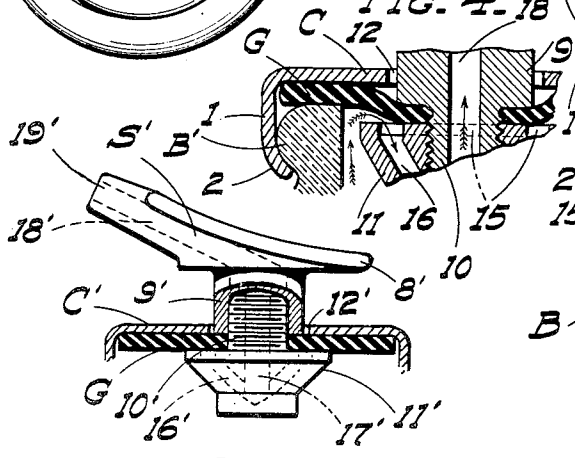


FIG. 5.

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REPLACEABLE CLOSURE

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7 Claims. (Cl. 215—78)

This invention relates to temporary closures or caps for bottles and like containers, and particularly applies to that class having valve and nozzle features arranged for producing a fizz stream under the pressure of an effervescent beverage.

One of the primary objects of the invention is to provide a replaceable cap for bottles, which is inexpensive to construct and which will effectively seal the contents of the bottle despite small variations in the size and shape of the bottle neck to which it is attached.

Another primary object of the invention is to produce a replaceable bottle cap having a nozzle provided with a self closing valve which may be conveniently operated and which is simple and inexpensive to construct.

Other detailed objects of the invention will be apparent from the following description and the drawing which form this application.

Referring now to the drawing:

Figure 1 is a general view of the invention as applied in practice.

Figure 2 is a view similar to Fig. 1 shown in section.

Figure 3 is a plan view of Fig. 1.

Figure 4 is an enlarged fragmentary section.

Figure 5 is a modification.

Similar characters of reference apply to like parts throughout the several views.

Referring to the drawing, B is a bottle or like container having the customary bead B' to which the commercial caps are secured. The closure member forming the subject matter of this invention comprises a pressed metal cap C provided with a depending annular flange 1 within which is secured an elastic or compressible sealing gasket G. The said flange has an inwardly directed lip 2 disposed oppositely to a further depended portion 3 wherein occurs an aperture 4. The portion 3, below said aperture, is outwardly offset at 3' to offer a pivoting fulcrum for a cam lever L, the latter being constructed of ribbon stock, continuously bent to form an eyelet 5, a finger hold 6 beyond which the said stock is shaped to form a nose 7, that, in the sealing position, fits under the bead B' before terminating upon said eyelet outside the aperture 4. The inner face of the nose 7 forms a cam surface which engages the under surface of the bead B' when the cap is in position on the bottle.

For removing the cap from its position on the bottle the lever L is moved in the direction of the arrow in Fig. 1. This movement causes the nose 7 to disengage the bead which loosens the cap and permits the same to be removed.

For sealing the cap, the lever is moved in the opposite direction. If during this movement excessive clamping pressure is applied by the lever due to an abnormal size or shape of the bottle neck, the resilient character of the nose 7 will permit the same to be compressed outwardly and thus prevent the breaking of the bottle neck.

Centrally located on the cap C is a spout S having a flat upper plate 8 for the application of thumb pressure, and a downwardly extending shank 9 which extends through a suitable opening 12 in the cap C. Extending downwardly from the base of the shank is a threaded stud 10 which extends through a central aperture in the gasket G and to which a nut 11 is secured, the gasket G being clamped between the nut and the base of the shank as is clearly shown in Fig. 3.

Surrounding the shank and confined between the shoulder 14 on the spout and the cap C is a compression spring 13 normally tending to close the valve about to be described.

The upper face of the nut 11 is provided with an annular groove 15 connecting with ducts 16 opening into a central bore 17 which in turn connects with the bore 18 of the spout. The spout has a nozzle 19 for discharging the contents of the bottle.

From the above construction, it will be clear that by applying thumb pressure to the face of the plate 8, the inner rim of the gasket G will be depressed as shown in Fig. 4, thus breaking the seal between the gasket and the upper face of the nut 10, and permitting the gas from the bottle to pass out through the central bore 18 of the spout. Upon release of the thumb pressure, the compression in the spring 13 will cause the gasket to return to its original sealing position.

In the modification shown in Fig. 5, the spring 13 is omitted and the valve is closed by the resiliency of gasket G. In addition, the nut 11' is provided with a threaded stud 10' which extends into a threaded opening in the shank 9'. In other respects, the construction is that shown in the form shown in the first figures.

Having described the invention what is claimed and desired to protect by United States Letters Patent, is:—

1. A replaceable bottle cap comprising a metallic cup member adapted to extend over the mouth of the bottle, a gasket disposed between said cap and the mouth of the bottle, an inwardly extending projection on the side wall of said cup member adapted to engage the neck

of the bottle below the bead, compressible cam means secured to said cup member and oppositely disposed from said projection, and means for operating said cam means to cause the same to removably engage the neck of said bottle to permit the insertion and removal of said cap.

2. A replaceable cap for bottles having a bead at the mouth comprising a metallic cup member adapted to be inserted over the neck of the bottle, a sealing member disposed between said cap and bottle, an inwardly extending projection on the side wall of said cup member functioning to engage the neck of the bottle immediately below the bead, a lever having a return bend portion pivotally secured to said cup member opposite said projection, and a cam surface forming a part of said return bend portion adapted to compressibly engage and to disengage the neck of the bottle upon rocking movement of said lever.

3. A faucet closure for bottles comprising a cap adapted to be inserted over the mouth of the bottle, means securing said cap to the bottle, a flat annular gasket disposed between the base of said cap and the neck of the bottle forming a fluid seal for said cap, a spout member extending through said cap and clamped to the inner marginal edges of said annular gasket, said spout member having passages leading to the interior of the bottle, means cooperating with said annular gasket for normally sealing said passage from the interior of said bottle, and means for deflecting the inner marginal portion of the gasket to thereby open said passages to the interior of the bottle.

4. A valved closure for bottles comprising a cap adapted to be inserted over the neck of the bottle, means for removably securing said cap to the neck of the bottle, a flat annular gasket disposed between said cap and the mouth of the bottle forming a fluid seal for the cap, a spout having a shank portion extending through said cap and abutting the inner marginal edges of said gasket, means for clamping said gasket to said shank, said last named means having upwardly extending passages connected to the bore of said spout, the outlets of said passages being normally sealed by said gasket from the interior of the bottle, and means for deflecting said gasket to open said passages to the interior of the bottle.

5. A valved closure for bottles comprising a cap adapted to be inserted over the neck of the bottles, means for removably securing said cap to the bottle, a spout member associated with said cap and having passages leading to the interior of the bottle, a flat annular gasket normally sealing said cap and the passages in said spout, and means operable upon deflection of the inner marginal edges of said gasket to open said passages to the interior of the bottle.

6. A valved closure for bottles comprising a cup member adapted to extend over the mouth of the bottle, inwardly extending projections on the side walls of said cup member for engaging the neck of the bottle below the bead, cam means secured to said cup member and oppositely disposed from said projection, means for operating said cam means to cause the same to removably engage the neck of the bottle to permit the insertion and removal of the cap, a spout associated with said cap and having passages normally leading to the interior of the bottle, a flat annular gasket disposed in said cap and normally sealing said cap and the passages in the spout, and means operable upon deflection of the inner marginal portions of the gasket to open said passages to the interior of the bottle.

7. A valved closure for bottles comprising a cap member adapted to extend over the mouth of the bottle, inwardly extending projections on the side walls of said cap member for engaging the neck of a bottle below the bead, a lever pivotally secured to said cap member opposite said projection, a cam surface forming a part of said lever adapted to engage and disengage the neck of the bottle upon rocking movement of said lever, a spout associated with said cap having passages normally leading to the interior of the bottle, a flat annular gasket disposed between said cap and the top of said bottle and normally sealing said cap and the passages in the spout, and means operable upon deflection of the inner marginal portions of the gasket to open the passages in the spout to the interior of the bottle.

WALTER E. RICHTER.