June 14, 1932. E. S. BELLOWS 1,863,081

BOTTLE CAP

Filed Aug. 4, 1930

Fig. II.

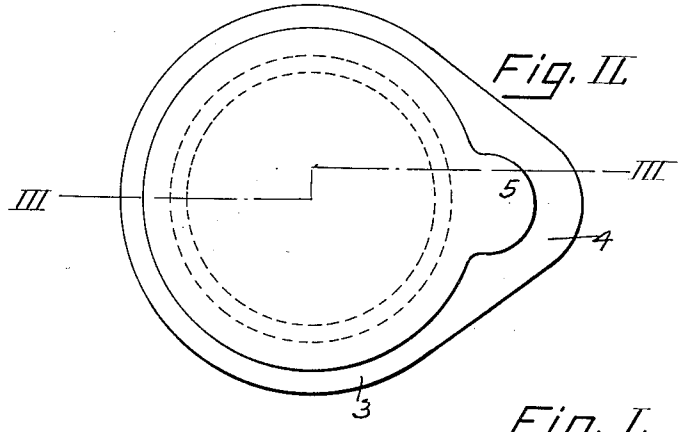


Fig. I.

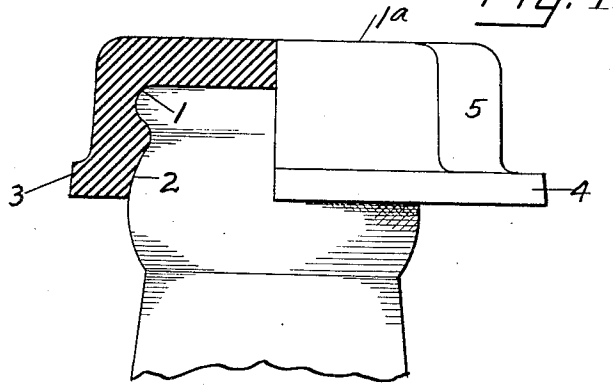
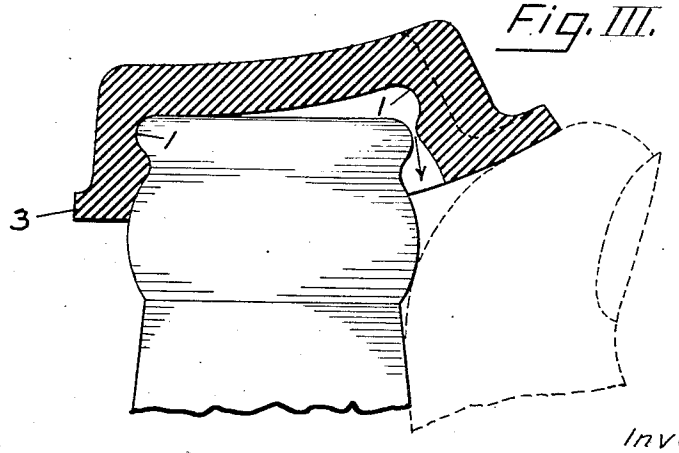


Fig. III.



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UNITED STATES PATENT OFFICE

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BOTTLE CAP

Application filed August 4, 1930. Serial No. 472,957.

My invention relates to closures for glass bottles designed to contain effervescent fluid producing a pressure in the container; and it is also useful for inert fluids or for use in bottling processes resultant in a partial vacuum in the top of the bottle after the contents have been placed therein.

The particular feature of my new bottle cap is its capability of being re-used many times and the provision made for removing it without the use of tools or implements which will tend to destroy it.

The following drawing accompanies and forms a part of this specification, in which Fig. I is a side view partly in section of the cap in place on a bottle;

Fig. II is a top or plan view of Fig. I; and Fig. III is a section on the line III—III, Fig. II.

The bottle cap will be made of a rubber composition or similar synthetic resilient material and will be vulcanized or otherwise made up in composition so that while it is substantially rigid it will have enough resiliency to be placed in position.

The cap consists essentially of a molded structure having an internally formed annular recess, 1, adapted to fit an external bead on the mouth of a bottle, with a shaped portion, 2, adapted to conform to the bilge usually found below the bead at the neck of the bottle, and a surrunding bottom flange, 3, having an outside diameter somewhat in excess of the main structure which is provided to give a little additional strength and prevent the cap from expanding under the influence of internal pressure in the bottle.

The essential feature of my new bottle cap which distinguishes it from all others is the thumb tab 4, and the reinforcement, 5, which allows the cap to be removed from the bottle in the manner shown by thumb pressure in Fig. III.

A substantial pressure exerted as shown at this point will cause a stretching of the resilient cap and allow contained gas pressure to escape gradually as indicated by the arrow in Fig. III, or will break a vacuum within the bottle by allowing atmospheric air to enter in the opposite direction.

It is essential in constructing this cap that the reinforcement, 5, shall be provided in order that the proper stretching as shown in Fig. III may be the resultant of pressure applied as shown in that figure.

It has been found by experiment that the best form for the reinforcement, 5, is that shown, a substantially half cylindrical buttress extending from the upper portion of the thumb tab, 4, to the top of the surface of the cap 1*a*. This has also been found to be a convenient form of construction for the molds in which the bottle cap is vulcanized, lending itself to symmetry of outline and providing the requisite stiffness at this point of the cap.

Having thus fully disclosed my invention, in a manner that would permit anyone familiar with the art to which it appertains to make and use it, what I claim as new and desire to secure by Letters Patent, is—

1. In a bottle cap of resilient material, a closure cap portion, an internally formed annular recess adapted to fit an external bead on the mouth of a bottle, a shaped portion adapted to conform to a bilge therebelow, a surrounding bottom flange having an outside diameter in excess of the main structure, and an enlarged thumb tab portion formed thereon with a semi-circular reinforcement buttress for the thumb tab formed integral with the structure.

2. In a bottle cap of resilient material, a closure cap portion, an internally formed annular recess within the cap adapted to fit an external bead on the mouth of a bottle, a shaped portion adapted to conform to a bilge therebelow, a surrounding bottom flange having an outside diameter in excess of the main structure, and a larger thumb tab portion formed thereon and a reinforcement above the thumb tab portion molded integral with the cap for the purpose specified.

EARL S. BELLOWS.