

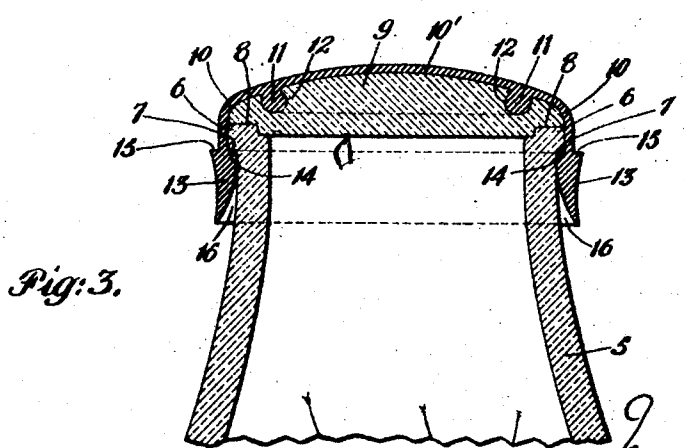
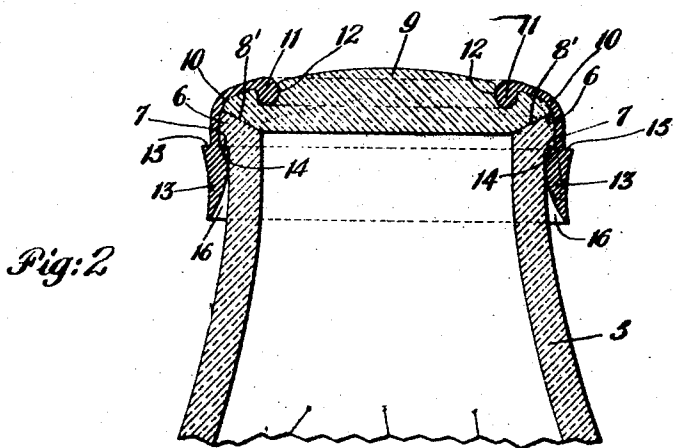
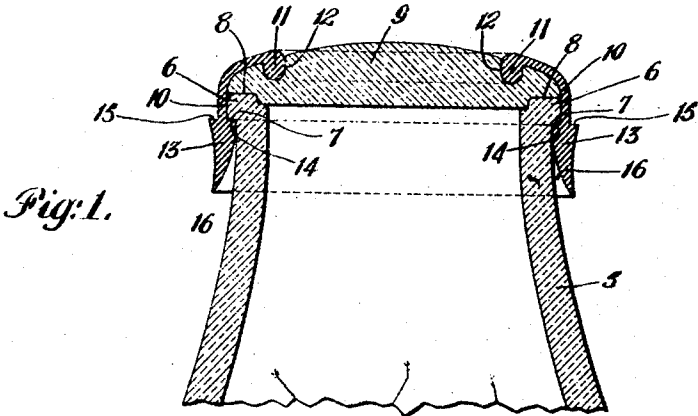
Sept. 22, 1925.

1,554,745

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CLOSURE FOR BOTTLES AND THE LIKE

Filed Oct. 9, 1923



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UNITED STATES PATENT OFFICE.

MARGARET H. McMANN, OF NEW YORK, N. Y.

CLOSURE FOR BOTTLES AND THE LIKE.

Application filed October 9, 1923. Serial No. 667,441.

To all whom it may concern:

Be it known that I, MARGARET H. McMANN, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Closures for Bottles and the like, of which the following is a specification.

This invention relates to closure members for bottles, jars and the like of glass or other material.

The object of the invention is to provide a closure device of simple form and inexpensive in manufacture which will be easy to apply and remove but held securely closed against accidental loosening or displacement.

A further object of the invention is to provide such a device in which the part closing the container may be of any desired material, as for instance glass for a glass bottle, this closing part being held snugly to its seat.

Further objects of the invention particularly in forming the holding means to cover and seal the closure will appear from the following description taken in connection with the accompanying drawings in which

Fig. 1 is a vertical sectional view illustrating a container opening provided with a closure device of this invention and

Figs. 2 and 3 are similar views of modifications.

In the specific embodiment of the invention shown in Fig. 1 a container such as a glass bottle having a neck portion 5 is provided with an outwardly extended bead 6 having an overhanging under surface or shoulder 7. The end surface of the neck 5 has a seat 8 receiving a closure disc or stopper 9, the engaging surfaces of the seat and stopper being preferably ground to an accurate fit.

The closure member 9 is provided with a holding ring 10 of flexible resilient rubber or similar material. The ring 10 is fastened to the stopper 9 in any desired manner as for instance by engagement of a bead 11 of the ring in an open top groove 12 of the stopper; and the ring 10 has a depending grip portion 13 which in the specific example shown comprises an enlargement with a shoulder or ledge 14 engaging under the shoulder 7 of the bead 6. The grip portion 13 is also preferably provided with an outer ledge or ridge 15 for engagement by the fingers of the user in pressing the gripping

portion over the bead 6, and the inner surface of the lower end is preferably carried outward away from the adjacent surface of the neck so as to easily fit over the bead 6 when the closure member is being placed over the opening and leave a space 16 for engagement by the fingers of the user in loosening the gripping portion from under the shoulder 7 during removal of the closure.

The stopper 9 and the holding portion 10 of the closure are attached together to form a unitary device for instance by the fastening of the bead 11 in the groove 12 as by pressing the bead through the narrow neck of the groove so that its expansion within the groove will hold the stopper and the ring securely together. In use the closure will be removed by engagement of the fingers of the user under the lowermost edge of the gripping portion 13 stretching the gripping portion so as to remove a portion of the ledge 14 from under the shoulder 7 and at the same time applying an upward pressure so that this engagement of the enlargement 14 from under the shoulder 7 is carried all around the grip 13 to loosen the latter and permit removal of the closure from the top of the bottle. To position the closure in place the ring grip 13 is simply pressed down over the bead 6, the fingers of the user engaging the outer ridge 15. This downward movement wedges the grip 13 outward to expand it slightly until the enlargement 14 passes under the bead 6 and the elasticity of the grip 13 contracts it to position the enlargement 14 under the shoulder 7.

The gripping ring 13 being relatively thick is fairly stiff so as to tend to retain its shape when pressed downward and pressure at separate parts of the ring will carry the ring as a whole downward over the bead 6. The body of the holding ring 10 between the bead 11 and grip 13 being of relatively thin resilient material is comparatively easily stretched and extended so that if made somewhat short it will readily yield to permit the grip ring 13 to pass under the shoulder 7 and, when this is accomplished and the pressure applied by the user is released, the stretch of this intermediate body portion of the holding ring 10 will snugly hold the stopper 9 in place and pull upwardly on the grip ring 13 so as to hold shoulders 14 and 7 in contact.

The holding ring 10 when in place on the

bottle also surrounds the outer edges of the contacting surfaces between the stopper and bottle so that these edges are protected and sealed by the holding ring.

5 The closure means of this invention permits the stopper member 9 in contact with the contents of the container to be of any desired material preferably relatively stiff to preserve its shape and its fit with the end
10 of the container. The stopper member may be of any desired form and, for instance as shown in Fig. 2, may be fitted to seat against a bevel surface 8' of the end of the container or any other desired fitting between these
15 parts may be adopted. The holding member 10 may be fastened to the stopper part in any desired manner and may, for instance, be formed to extend over and cover the stopper in cap form as shown at 10' in Fig. 3.

20 The grip of the ring 13 under the shoulder 7 holds the closure member secure against accidental displacement. In order to open the container it is necessary to lift the lower edge of the grip 13 outward and disengage
25 shoulders 14 and 7 and draw the closure upward, and this requires effort intentionally directed to this end. At the same time the closure is readily positioned in place by simply pressing it downward to pass the
30 grip 13 over the bead 6. The closure device is simple in form and inexpensive, comprising two parts easily assembled and cooperating together to give a tight and secure seal for the container.

35 I claim:

1. The combination with a bottle having an end with an opening and a downwardly facing shoulder around the outside, of a closure member comprising a unitary stopper
40 portion of rigid material directly fitting against said opening and provided with an open top groove having a peripheral shoulder and adapted to receive and hold a flexible head, and holding means for said stopper
45 per formed by an integral body of flexible resilient material with an enlarged relatively stiff bead held in said groove and an enlarged relatively stiff gripping portion formed with a flared opening adapted to
50 pass over said shoulder by simple downward pressure and engage beneath the same, and

an intermediate thin portion between said bead and said gripping portion adapted to stretch to permit said gripping portion to engage under said shoulder, said groove and
55 downwardly facing shoulder being so spaced that said resilient thin portion remains stretched so as to press said stopper portion snugly against its seat when the positioning pressure is released.

2. A composite cap for a bottle comprising a stopper portion of unitary rigid material adapted to fit a bottle opening and having an open top groove in its upper portion, and a rubber holding ring having a relatively stiff bead seated and held in said
60 groove and a depending thin resilient portion adapted to stretch and carrying at its lower end an enlarged relatively stiff gripping portion formed with a flared opening
70 adapted to pass over the end of a bottle by simple downward pressure and having a shouldered edge adapted to engage under a shoulder on the bottle and to hold said thin portion stretched so as to press said stopper
75 portion snugly against its seat when the positioning pressure is released.

3. The combination with a bottle having an end with an opening and a downwardly facing shoulder around the outside, of a closure member comprising a unitary stopper portion of rigid material directly fitting against said opening, and holding means for said stopper formed by an integral body of flexible resilient material fastened to the stopper near the periphery thereof, and having an enlarged relatively stiff gripping portion formed with a flared opening adapted to pass over said shoulder by a simple downward pressure on the stopper and engage beneath said shoulder, and an intermediate thin portion between said periphery and said gripping portion adapted to stretch to permit said gripping portion to engage under said shoulder, said periphery and downwardly facing shoulder being so spaced that said resilient thin portion remains stretched so as to press said stopper portion snugly against its seat when the positioning pressure is released.

MARGARET H. McMANN.