June 8, 1943. G. H. HUTAFF, JR 2,321,297

BOTTLE CAP

Filed Jan. 21, 1941

Fig. 1.

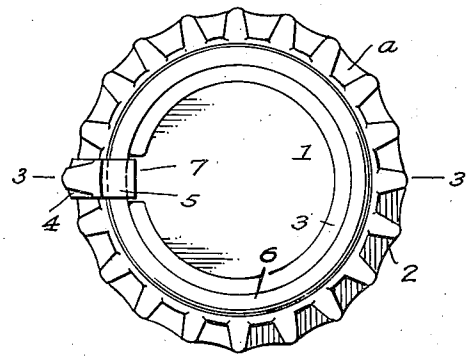


Fig. 2.

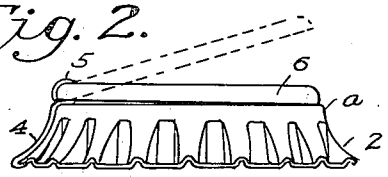


Fig. 3.

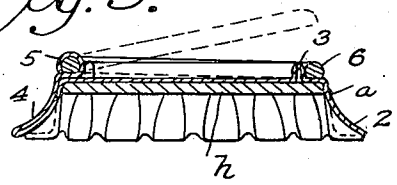


Fig. 4.

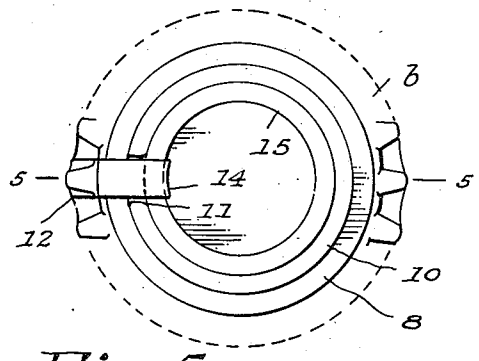


Fig. 5.

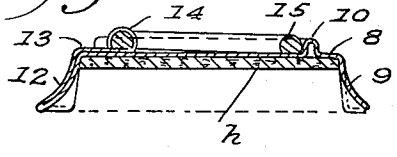


Fig. 6.

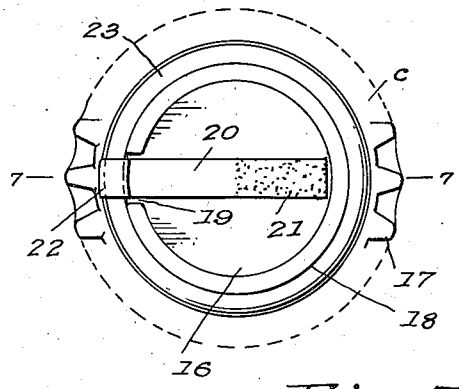


Fig. 7.

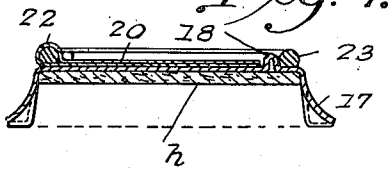


Fig. 8.

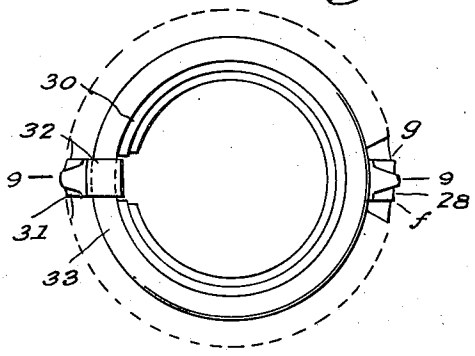
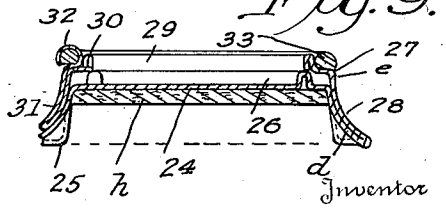


Fig. 9.



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2,321,297

BOTTLE CAP

George H. Hutaff, Jr., Wilmington, N. C.

Application January 21, 1941, Serial No. 375,349

4 Claims. (Cl. 215—46)

My invention relates to new and useful improvements in bottle caps of the well-known crown type and has for its principal object the provision of a cap of the character described which may be readily removed from the bottle or other container without the use of the usual well-known form of bottle cap remover.

Another object of the invention resides in the provision of a cap of the character described in which a ring is connected to the cap for swinging movement, the ring normally lying parallel with the top of the cap but adapted to be raised for removing the cap by a pulling action.

Still another object of the invention resides in the formation of a cap of the character described with an upwardly directed circular rim or bead, and the provision of a ring connected to the cap for swinging movement, the ring normally lying parallel with the upper surface of the cap in frictional engagement with the rim or bead thereof but adapted to be raised for pulling or removing the cap from the mouth of the receptacle.

With the above and other objects in view, which will appear as the description proceeds, my invention consists in the novel details of construction, and arrangement of parts, described in the following specification and illustrated in the accompanying drawing, and while I have illustrated and described the preferred embodiments of the invention, as they now appear to me, it will be understood that such changes may be made as will fall within the scope of the appended claims.

In the drawing—

Fig. 1 is a top plan.

Fig. 2 is a side elevation.

Fig. 3 is a transverse vertical section on the line 3—3 of Fig. 1.

Fig. 4 is a top plan of a slightly modified form of the invention.

Fig. 5 is a transverse vertical section on the line 5—5 of Fig. 4.

Fig. 6 is a top plan of a further modified form of the invention.

Fig. 7 is a transverse vertical section on the line 7—7 of Fig. 6.

Fig. 8 is a top plan of another modified form of the invention; and

Fig. 9 is a transverse vertical section on the line 9—9 of Fig. 8.

In that form of my invention disclosed in Figs. 1 to 3 inclusive of the drawing the bottle cap proper is indicated generally at *a* and includes the top portion 1 and depending corrugated flange 2, of usual formation, adapted to engage the mouth of the bottle or other receptacle to which the cap is to be attached. Struck upwardly from the top portion 1 is a circular rim or bead 3 spaced inwardly from the marginal edge of the top, as shown more clearly in Fig. 3 of the drawing, and formed integrally with the flange 2 is a tongue or projection 4 which is bent upwardly to extend parallel with the outer face of the flange, as shown more particularly in Fig. 3 of the drawing, with its upper end formed into an eye 5 which overlies the top portion 1.

A ring 6, formed of wire or other suitable material, extends through the eye 5 and will normally lie parallel with the top portion 1 of the cap exteriorly of the rim or bead 3 and in frictional engagement therewith. The frictional engagement between the ring 6 and rim or bead 3 will normally hold the ring in its lowered position parallel with the top portion 1 of the cap and adapt the cap to be applied to the bottle mouth by means of the usual well-known form of capping mechanism. As shown more particularly in Fig. 1 of the drawing the rim or bead 3 is broken to form the space 7 into which a portion of the eye 5 may project. When it is desired to remove the cap the ring will be swung upwardly, as shown by dotted lines in Figs. 2 and 3 of the drawing, it being understood that in raising the ring sufficient force will be required to overcome the friction between the ring and rim or bead 3. When in raised position the ring 6 will be engaged by the finger and on pulling thereon the cap will be removed from the bottle mouth.

In Figs. 4 and 5 of the drawing I have shown a slightly modified form of the invention in which the pulling ring is positioned interiorly of the rim or bead projecting upwardly from the top of the cap. In this modified form of the invention the cap is shown generally at *b* and includes the top portion 8 and depending corrugated flange 9. Struck upwardly from the top portion 8 is the rim or bead 10 broken to provide the space 11, corresponding to the space 7 in that form of the invention disclosed in Figs. 1 to 3 inclusive of the drawing. A tongue or projection 12 is formed integral with the flange 9 and is bent upwardly to extend parallel with the outer face thereof and is then bent inwardly to provide the portion 13, as shown more particularly in Fig. 5 of the drawing, with the end rolled into the eye 14. The horizontal portion 13 projects through the space 11, as shown more particularly in Fig. 4 of the drawing, and the ring 15 carried by the eye 14 is

normally received within the upwardly struck rim or bead 10 and in frictional engagement therewith. The frictional engagement between the ring 15 and the rim or bead 10 normally holds the ring in its lowered horizontal position, but the ring may be raised, when desired, for removing the cap from the bottle mouth by a pulling action.

In Figs. 6 and 7 of the drawing I have illustrated a still further modified form of the invention in which the cap is indicated generally at *c* and includes the top portion 16 and depending corrugated flange 17 of usual well-known construction. Struck upwardly from the top portion 16, is the rim or bead 18 which is broken away to provide the space 19, as shown more particularly in Fig. 6 of the drawing. A strip 20 is secured to the upper surface of the top portion 16, by solder or other suitable means indicated at 21, it being noted that the securing means only attaches one end of the strip to the top of the cap while leaving the opposite end free. The free end is formed with the eye 22, through which extends the ring 23 adapted for swinging movement. As shown the free end of the strip 20 projects through the space 19 and normally the ring 23 is lowered into horizontal position in frictional engagement with the rim or bead 18 and resting upon the top portion 16, adjacent the marginal edge thereof, it being understood that the rim or bead 18 is spaced inwardly from the marginal edge of the top portion of the cap, as is also true of the rim or bead 3 of the construction shown in Figs. 1 to 3 inclusive and the rim or bead 10 of the construction shown in Figs. 4 and 5. As stated the ring 23 is normally lowered into horizontal position, but when it is desired to remove the cap it is swung into raised position. In pulling on the ring the free end of the strip 20 will be bent upwardly and a further pulling action will remove the cap from the bottle mouth.

In Figs. 8 and 9 of the drawing I have shown a still further modified form of my invention and in this form I provide what might be termed nested cap portions. In this form of the invention the bottom cap portion is indicated at *d* while the upper or outer cap portion is indicated generally at *e*. The bottom cap portion includes the top part 24 and the depending corrugated flange 25 adapted to engage the mouth of the bottle or other receptacle. Struck upwardly from the top part 24 is the circular rim or bead 26 which, as shown, is spaced inwardly from the marginal edge of the top 24. The top cap portion *e* includes the top overlying portion 27 and depending corrugated flange 28, this corrugated depending flange 28 being connected to or formed integral with the flange 25 of the lower cap portion between the points *f* and *g* shown more particularly in Fig. 8 of the drawing. The overhanging top portion 27, of the top cap, is formed with the opening 29 and the edge of the opening normally rests upon the upwardly projecting bead or rim 26, as shown more particularly in Fig. 9 of the drawing, the edge portion extending upwardly to provide the circular rim or bead 30 spaced inwardly from the marginal edge of the portion 27. A tongue or projection 31 is formed integral with the edge of the depending flange 28, at a point opposite to that where the upper cap portion is connected to the lower cap portion and is bent upwardly to lie parallel with the flange with an eye 32 formed at its upper end and overlying the top portion 27, as shown more particularly in Fig. 9. A ring 33 extends through the eye 32 and in its normal lowered horizontal position engages the top overhanging portion 27 of the upper cap *e* exteriorly of the rim or bead 30. The ring 33 is also in frictional engagement with the rim or bead 30 and held against accidental displacement. When it is desired to remove the cap from the bottle mouth the ring 33 will be engaged and raised to a position where the finger may be engaged therethrough and on pulling on the ring the outer cap portion *e* will be raised from the lower cap portion *d*. A further pull on the ring 33 will cause the upper cap portion to pull on the flange of the lower cap portion between the points *f* and *g* and in said pulling action remove the lower cap portion from the mouth of the bottle.

In each of the forms of the invention illustrated a disc *h* of cork or similar material is placed within the cap to form a tight seal between the cap and bottle mouth.

From the above detailed description it is thought that the construction and operation, as well as the advantages, of my invention will be clearly understood. Where it is necessary to remove a bottle cap by some form of implement or bottle cap remover very often the implement becomes lost or misplaced causing considerable inconvenience. With my improved form or forms of bottle cap no cap remover or other implement is necessary. A ring is provided for engagement to remove the cap from the bottle mouth. This ring normally lies parallel with the top of the cap and in frictional engagement with a bead or rim projecting upwardly from the cap. This frictional engagement prevents accidental displacement of the ring and adapts the cap or caps to be applied to the bottle mouth by the usual form of capping mechanism. The ring may lie exteriorly or interiorly of the upwardly directed bead or rim and rests on the top of the cap. To remove the cap the ring will be swung into suitable raised position to be engaged by a finger and on pulling on the ring the cap will be readily removed.

Having fully described my invention what I claim as new and desire to secure by Letters Patent is:

1. A bottle cap including top and flange portions, a circumferentially extending rim projecting upwardly from the top portion and positioned within the marginal edge thereof, said rim being broken away to provide a passage therethrough, a ring adapted to normally frictionally engage the rim within the margin of the top portion, and means including an eye for connecting the ring to the cap, a portion of said eye extending into the passage formed through the rim for positioning the ring to engage the rim.

2. A bottle cap including top and flange portions, a circumferentially extending rim projecting upwardly from the top portion and positioned within the marginal edge thereof, said rim being broken away to provide a passage therethrough, a tab formed on the flange and extending upwardly over the top portion and through the passage in the rim with an eye formed on the end thereof and positioned partially within the passage, and a ring carried by the eye of the tab and adapted to frictionally engage the rim within the margin of the top portion.

3. A bottle cap including top and flange portions, a circumferentially extending rim pro-

jecting upwardly from the top portion and positioned within the marginal edge thereof, said rim being broken away to provide a passage therethrough, a flexible strip connected to the top portion and extending through the passage in the rim, an eye formed on the end of the flexible strip and partially positioned within the passage, and a ring carried by the eye, said ring being adapted to normally frictionally engage the rim within the margin of the top portion.

4. A bottle cap including connected nested members, each of said members including top and flange portions, the outer member having a circumferentially extending rim extending upwardly from the top portion and positioned within the marginal edge thereof, said rim being broken away to provide a passage therethrough, a ring adapted to normally frictionally engage the rim within the margin of the top portion, and means including an eye for connecting the ring to the cap, a portion of said eye extending into the passage formed through the rim for positioning the ring to engage the rim.

GEORGE H. HUTAFF, JR.