(No Model.)

J. H. BULLARD.

BOTTLE SEAL.

No. 572,330. Patented Dec. 1, 1896.

Fig 1

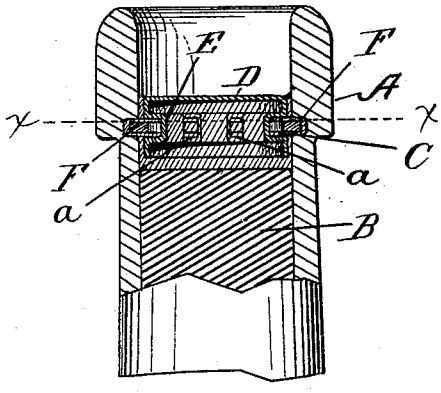


Fig 2

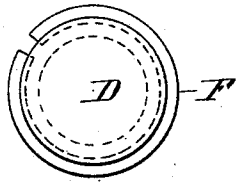


Fig 3

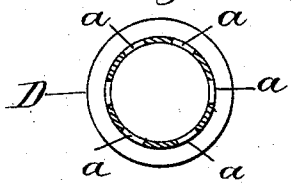
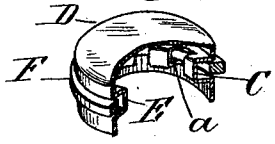


Fig 4



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BOTTLE-SEAL.

SPECIFICATION forming part of Letters Patent No. 572,330, dated December 1, 1896.

Application filed November 9, 1895. Renewed August 11, 1896. Serial No. 602,460. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. BULLARD, a citizen of the United States of America, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Metallic Bottle-Seals, of which the following is a specification.

This invention relates to metal seals for bottles of that class which are designed to be permanently inserted in the bottle-neck and which necessitate the breaking of that part of the bottle inclosing the seal before the latter can be removed and the cork withdrawn from the bottle.

The invention consists of a metal cup having a groove in the side thereof projecting inwardly, with portions of the metal forming the said groove cut away and a metal cut ring fitting loosely in said groove, and a bottle having a groove on the interior of the neck thereof, with which the metal ring in the groove of the cup engages, and the cup being practically embedded in a hardened plastic material.

In the drawings, Figure 1 is a view of the neck of a bottle, partly in section, showing the cork therein and showing the metal seal and cut ring thereof engaging in the groove in the bottle-neck. Fig. 2 is a top plan view of the metal seal with the cut ring therein. Fig. 3 is a sectional plan view of the metal cup on the line *x x*, Fig. 1, showing the openings through the metal forming the annular groove in said cup. Fig. 4 is a perspective view, partly in section, showing exterior and interior portions of said metal seal and cut ring and the openings through the metal forming the groove in said cup.

Referring to the drawings, A is a portion of a bottle-neck having the cork B therein and provided with the groove C on the interior of said bottle-neck. The said neck of the bottle is made with the portion near the mouth thereof somewhat thicker than the parts below and having the said thick portion terminating on a line substantially in the same plane as the bottom of the groove on the inside of the neck, forming a square shoulder or offset around the neck, for the purpose described further on.

D is a metal cup made of steel or brass having formed in its side wall a groove E, in which is fitted a metal cut ring F, the relative diameters of the said ring and bottom of said groove being such that said ring may be compressed inwardly to equal the outside diameters of said metal cup without coming in contact with the bottom of the groove, and when said ring is extended to its normal position, as seen in Fig. 2, its interior diameter will be smaller than that of the outside of the cup, the ring being thus loosely retained in the groove. Said ring is made of a wire rectangular in cross-section for the purpose of affording a more secure engagement with said grooves in the bottle-neck and metal cup than would be obtained by the use of a round wire.

Portions of the back of the groove E are cut away, leaving openings *a* in the wall of the cup back of the cut ring F. The openings are provided for the purpose of permitting the plastic material, which fills the cup D when the latter is inserted in the bottle on top of the cork, to be forced through the openings into the space between the cup and the wall of the bottle, completely filling said space and the space in the groove in the bottle-neck around the cut ring, completely embedding the latter. An additional means of securing said seal in the bottle-neck is afforded by the annular space above the groove C becoming filled with the plastic material, which also fills the grooves in the bottle, thus locking the sealing-cup more firmly to the bottle-neck.

In operating this invention, after the cork has been inserted to a position in the bottle a short distance below the groove C a sufficient amount of plastic material, such as plaster-of-paris or other hard cement, is applied to the top of the cork and the seal is then forced down into the neck of the bottle until the cut ring springs outward, engaging with the groove C in the neck of the bottle. As the seal is forced down to position for effecting said engagement of the cut ring with the groove the plastic is forced through the openings *a*, completely filling all of the space in the groove not occupied by the said ring and all of the space between the cup and the inner wall of the bottle, as well as all of the interior of the metal cup. By the hardening of the plastic material the ring is immovably

fixed in its expanded position within the groove in the bottle-neck. The square shoulder on the outside of the bottle-neck made by the greater thickness of the glass mouth of the bottle is provided for the purpose of easily breaking off all of the thickened end of the bottle-neck (shown in the drawings) by striking sharply against the under side of said shoulder with any suitable tool, the breaking-line being along the thinned portion of the wall of the bottle-neck lying between the groove C and the corner formed by the meeting of the thick and thinner portions of the bottle-neck. When the top of the bottle-neck is broken off, the plastic is broken at the same time and the top of the cork left exposed, and it then can be withdrawn in the usual way. The seal being filled with hard plastic is unfit for use a second time.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A glass bottle having a groove on the inside of the neck thereof, combined with a cup having an annular groove in the wall thereof, with perforations through the wall of said groove, and a metal cut ring in said groove for engagement with the groove in the bottle-neck, and a plastic material filling said cup and inclosing said cut ring, substantially as described.

2. A glass bottle having a thickened portion at the mouth thereof terminating in a shoulder on the outside of the neck, and a groove on the inside thereof located substantially opposite said shoulder, combined with a cup having a cut ring in a perforated groove in the wall of said cup, and a plastic material filling said cup, and said groove therein, back of said cut ring, substantially as set forth.

JAMES H. BULLARD.

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