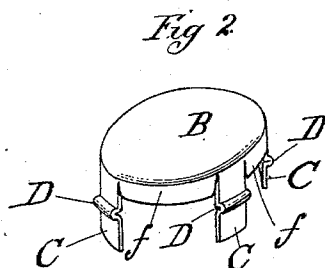
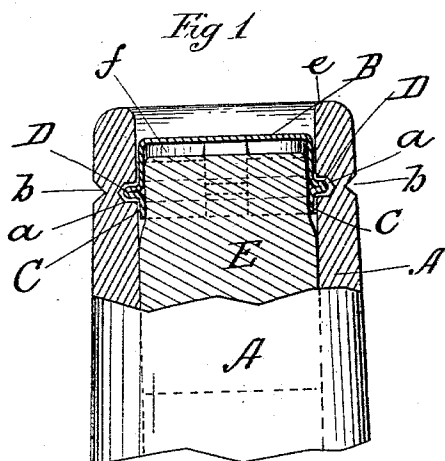


(No Model.)

J. H. BULLARD.
METALLIC BOTTLE SEAL.

No. 569,854.

Patented Oct. 20, 1896.



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES H. BULLARD, OF SPRINGFIELD, MASSACHUSETTS.

METALLIC BOTTLE-SEAL.

SPECIFICATION forming part of Letters Patent No. 569,854, dated October 20, 1896.

Application filed November 9, 1895. Serial No. 568,461. (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 bottle-seals of that class that are permanently attached to the inside of the neck of the bottle above the cork, and which can only be removed by the breaking off of a portion of the neck of said bottle; and the invention consists of a metal disk having depending portions integral therewith which have ribs on the exterior surface thereof adapted to engage with an annular groove in the neck of said bottle. The said depending portions of the disk inclose more or less of the compressed or otherwise reduced upper end of the cork when the latter is in place in the bottle.

In the drawings forming part of this specification, Figure 1 is a view of a portion of the neck of the bottle, partly in section, and showing, also in section, the seal and a part of the cork. Fig. 2 is a perspective view of the metal bottle-seal.

Referring to the drawings, A is the neck portion of the bottle, having a groove *a* in its interior surface near the mouth thereof. On the outside of the bottle-neck is another annular groove *b*, opposite the groove *a*, said grooves being provided one on the inside for the reception of the locking devices on the seal and the other on the outside for the purpose of so weakening the neck of the bottle at the point opposite the groove *a* that the portion of the neck thereof lying above the groove *a* may be broken off at will at that point, permitting the easy removal of the seal and rendering it impossible to replace the said seal a second time.

B is a metal seal embodying my invention.

This is made preferably of steel, spring-tempered, and is formed in the usual manner of manufacturing such articles—viz., by cutting out a suitable circular blank having the several projections thereon for forming the depending legs C and then striking up in dies to the proper shape. On each of the legs C of the seal is formed a rib D, projecting out-

wardly therefrom, the ribs on all of the depending legs being in the same horizontal plane and adapted for engagement within the groove *a* in the neck of the bottle.

The top of the seal B is made, preferably, with the edges thereof bent to form a cup-shaped upper portion, so as to render it practically impossible to insert any instrument between the edge of the upper portion of the seal and the inside wall of the bottle-neck and hooking it onto the under side of the seal for the purpose of removing the same forcibly.

The operation of my invention is as follows: The corks are soaked in water or steam, as usual, to render them soft and elastic, and then their upper ends are compressed or otherwise reduced in size so as to fit in the lower end of the seal without extending to its top. As the top of the seal extends some distance above the rib D and the cork does not entirely fill the seal, an air-space B' is left between the tops of the cork and seal, as shown. The seal having been applied to the top of the cork, it is then inserted into the bottle-neck and forced in by a plunger in the usual manner. The inner edge *e* of the mouth of the bottle is slightly rounded, as shown in the drawings, to the end that when the rounded surface of the ribs D strikes the mouth of the bottle in being forced therein the several depending legs C are forced inwardly into the surface of the cork sufficiently to allow the seal to pass with the cork into the neck of the bottle. When the said ribs D come to a position opposite the groove *a* in the bottle-neck, they spring outwardly, engaging with said groove and securely locking the seal in place. Besides the spring action of the legs C of the seal the cork confined within the several depending legs of the seal helps to force them outward against the inner face of the bottle-neck and thus hold more firmly the ribs thereon in engagement with the groove *a*, and as the cork soon hardens it would be impossible to press the several legs C of the seal far enough into the surface of said cork to disengage the ribs D from the groove *a*, even if there were room enough between the edge of the top of the seal and the inner wall of the bottle-neck to introduce an instrument for that purpose. It follows, therefore, that the only method of removing the contents of the

bottle is to break off the top of the neck thereof above the said grooves *a* and *b*, when the seal can be readily removed, permitting the cork to be withdrawn in the usual manner. This renders it impossible to use the bottle a second time in a form so nearly resembling its original form as to deceive a purchaser as to its contents.

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

In a bottle-seal, a bottle having breaking-

grooves in its neck, combined with a cork or stopper having its upper end reduced in size, and a metallic cup-shaped seal having the cut-away portions *f* and the depending ribbed portions *C*, *D*, which fit over the reduced upper end of the cork or stopper, substantially as shown.

JAMES H. BULLARD.

Witnesses:

H. A. CHAPIN,

K. I. CLEMONS.