

No. 657,067.

A. N. HOUGHTON.

Patented Aug. 28, 1900.

BOTTLE SEAL.

(Application filed Oct. 23, 1899.)

(No Model.)

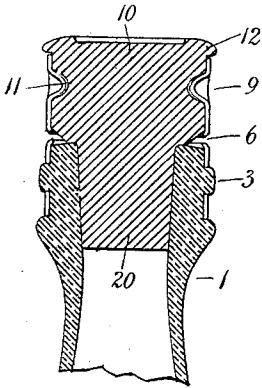


Fig. 4.

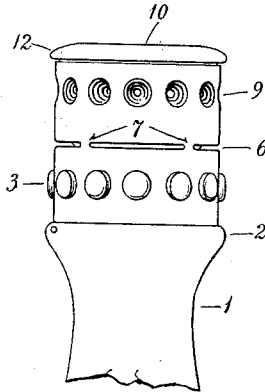


Fig. 1.

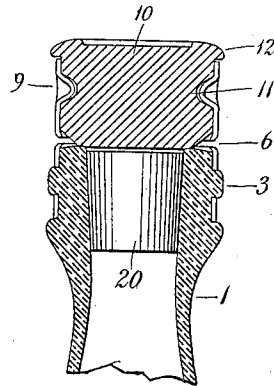


Fig. 2.

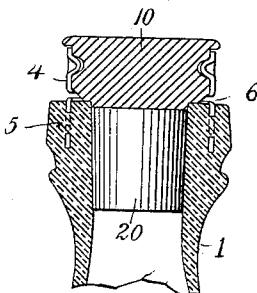


Fig. 6.

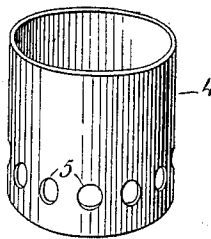


Fig. 3.

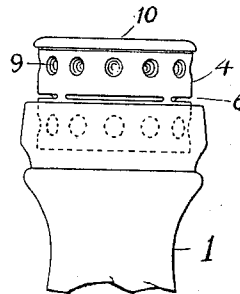


Fig. 5.

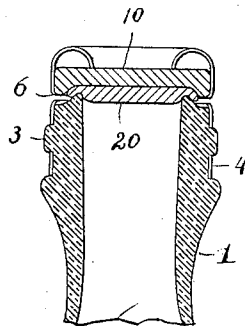


Fig. 7.

Witnesses.

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UNITED STATES PATENT OFFICE.

ALFRED N. HOUGHTON, OF BOSTON, MASSACHUSETTS.

BOTTLE-SEAL.

SPECIFICATION forming part of Letters Patent No. 657,067, dated August 28, 1900.

Application filed October 23, 1899. Serial No. 734,477. (No model.)

To all whom it may concern:

Be it known that I, ALFRED N. HOUGHTON, a citizen of the United States, residing at No. 1 Westcott street, Dorchester district, Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Bottle-Seals, of which the following is a full, clear, and exact description.

The object of this invention is the construction of an improved means whereby it will be impossible for a bottle to be unsealed and emptied of its contents without rendering such bottle a permanent witness thereof, in such manner preventing any unauthorized parties from resealing and palming off as genuine the refilled contents of the same bottle.

Referring to the drawings forming part of this specification, Figure 1 is a side elevation of my improved bottle-seal. Fig. 2 is a central vertical section of the same. Fig. 3 is a perspective view of the metal collar forming the principal part of the device. Fig. 4 is a central vertical section of a slightly-modified form of the invention. Fig. 5 is a side elevation of another modified form. Fig. 6 is a central vertical section of said last modification, and Fig. 7 is a central vertical section of still another modification.

In said drawings, 1 indicates the upper extremity of a bottle, jug, or similar receptacle to which I may wish to apply my invention.

20 is the stopper.

2 is a shoulder formed a short distance below the mouth of the bottle, and 3 represents slight projections integral with the bottle-neck.

4 is a collar or band, preferably of metal and formed near its lower edge with the series of openings 5, as shown more clearly in Fig. 3. The object of said openings is to receive the projections 3, and thereby retain said collar in place about the mouth of the bottle. I prefer to form the bottle originally without said projections, inserting the bottle-neck into the collar when the glass is still hot or plastic, or in the case of earthenware before the same is baked. Immediately after the collar has been thus applied and before the glass can have time to harden a suitable tool is inserted within the bottle-neck and the

plastic material composing the same forced outward and through said openings until the projections 3 are formed, as shown. The bottle-neck being now suitably finished with the forming-tool adapted for such purpose, the bottle is allowed to harden and is ready to be passed on to the filler.

When the bottle has been filled with the contents for which it is designed, a cork 20 is inserted and the cap 10 introduced within the projecting portion of the collar 4, as shown. Instead of a cork the stopper may be formed of the same material as the cap and integral therewith, as shown in Fig. 4, the cork stopper being illustrated in Fig. 2. Said cap 10 has formed in its periphery an annular groove 11, the purpose of which is to receive the indentations 9, which are formed and impressed therein after the said cap has been inserted within the collar. Said indentations are formed by pressing a conical-pointed tool against the collar at a series of points immediately over the groove 11 or in any other suitable manner, the object of said indentations being to prevent the withdrawal of said cap from said collar.

When the collar 4 is formed with quite thin walls, it is easy for the recipient of the bottle to run a knife-edge through and about the collar along a line indicating the proper place on its surface, thereby severing the collar and permitting its upper section and the cap contained therein to be removed and the stopper and contents to be withdrawn. I prefer, however, to have the collar formed from heavier and stronger material and to cut several slits or openings 6 in its walls near the mouth of the bottle, as shown in Fig. 2, said slits or openings being made near enough to each other to leave slender junctures 7, uniting the upper and lower portions of the collar. In order to open the bottle when the collar is thus arranged, all that is necessary to be done is to insert a knife-blade, screw-driver, or other suitable instrument into the slits or openings 6 and by either a prying or cutting action to sever the junctures 7, and so permit the removal of the collar section and cap. This latter construction of the collar is preferable over that previously described, because of its more convenient and easier method of opening, and, further,

the more fragile nature of the collar—made so by the slenderness of the junctures—renders tampering with the bottle thus sealed a much more difficult thing to do without detection.

Although I have shown the openings 5 in the collar 4 as circular in form, they can equally well be made in the shape of alphabetic characters, numerals, or in any ornamental outline.

The modification illustrated in Fig. 4 differs from that above described simply in having the cap 10 and the stopper 20 made integral one with the other. In such case glass, porcelain, metal, or other hard material can be used for said parts; but the harder materials are preferable, because rendering it far more difficult to bore through the cap and stopper, and thereby remove the contents and refill and reseal it without detection.

In Figs. 5 and 6 the collar 4 is shown introduced into the material of the bottle-neck instead of being encircled about the exterior of the bottle-neck. It is otherwise substantially like the constructions previously described, except that the cap 10 is somewhat lower and the collar shorter. In this construction the openings 5 receive the glass or other material composing the bottle and serve to prevent the withdrawal of the collar in the same manner as previously set forth.

A further modification is that illustrated in Fig. 7, in which the cap 10 is not grooved and the collar indented therein; but the said cap is made comparatively thin and the upper edge of the collar turned inward and down against the top of the said cap. I still further modify the device by substituting for the cork a stopper comprising a comparatively-thin disk of rubber or similar compressible suitable material.

The advantage in having the openings 5 cut entirely through the walls of the collar 4 instead of being a series of internal cavities or an annular internal groove is as follows: With the groove it would be comparatively easy after the original collar and contents had been removed to refill the bottle and fasten the cap back in place by means of some other collar forced over the bottle-mouth in such a manner as not to reveal its fraudulent character. So, also, if the collar were formed with simple internal recesses designed to be entered by nodular projections on the bottle-neck. Further, such annular or nodular projections would appear as simple ornaments about the neck which the customer would hardly observe were the bottle corked in the customary fashion and so fail to suspect its fraudulent character. In my construction, on the other hand, it would be practically impossible to pry the collar entirely away from about the bottle-neck without mutilation and distortion of the collar and fracturing more or less the material within the collar or the sharp edges of the projections tightly fitted in the openings 5. These frac-

tures or mutilations would indicate a tampering with the bottle, and hence suggest the suspicious or fraudulent nature of the bottle's contents. If the attempt were made to secure some form of metal collar over the projections, the height and shape of the outer surface would effectually prevent any such collar from being fitted thereon or replacing any similar collar.

The object of the shoulder 12 at the upper edge of the cap 10 is to better prevent the entrance of a sharp edge between said cap and the collar and a possible pressing outward of the indentations 11 of the collar. Were it possible to do this, the cap 10 could then be easily removed, and after the bottle had been emptied and refilled such cap could then be returned and the collar-walls again impressed into the groove of the cap. The shoulder 2 serves a similar purpose, but in addition supports the collar while it is being secured in place.

As shown in Figs. 2, 4, 6, and 7, I usually so form the cap 10 or the extreme edge of the bottle-mouth as to leave a space in line with the slits or openings 6 for the reception of the knife-edge, screw-driver, or other instrument used in prying the collar in two, as previously described.

Although I have described the collar 4 as being made to securely hold the cap 10 by means of the indentations 9, I do not restrict myself thereto, as such indentations can be made to overlap each other, and thereby form a groove conforming to the groove 11 in the cap.

What I claim as my invention, and desire to secure by Letters Patent, is as follows, to wit:

1. The combination with a container adapted to be made partially soft or ductile, of the annular metallic band applied about the neck of the same with its upper section extended above the mouth thereof; and a stopper closing said mouth; said band being adapted to be suitably bent at certain parts and to thereby lock said stopper in place; and said container-neck being intimately secured to said band by being forcibly expanded when in its temporary soft condition into permanent engagement with said band, substantially as described.

2. The combination with the container, of the annular metallic band having the openings therein whereby the material composing the container can be made when plastic to permanently secure the band in place, said band having its upper section extended above the mouth of the container; a stopper closing said mouth; and means for enabling said extended upper section of the band to lock said stopper in place, substantially as described.

3. The combination with a bottle, of a metallic band having openings whereby the material composing the bottle-neck can be made when plastic to permanently secure the

band in place, said band having its upper edge extended above the bottle-mouth; a stopper introduced through said upper part of the band and adapted to close the bottle-mouth; and means for enabling said extended band edge to lock said stopper in place, said band being partially severed above said mouth, substantially as described.

4. The combination with a bottle, of an annular metal band firmly secured to the bottle when the latter is plastic, and having a portion thereof projecting above the bottle-mouth and partially severed near such point; a stopper introduced through the upper end of said band and closing the bottle-mouth; and means for locking said stopper in place by an inward bend of said band, substantially as described.

5. In a bottle-seal, the combination with the bottle, of a thin metal annular collar or band having a portion thereof projecting above the mouth of said bottle and permanently secured to the latter, said collar or band being partially severed immediately above said bottle-mouth, a stopper inserted into the bottle-mouth through said collar or band, a cap covering said stopper and means whereby the projecting upper part of said collar or band is adapted to lock said cap in place, substantially as set forth.

6. In a bottle-seal, the combination with the bottle, of a thin metal annular collar or band having a portion thereof projecting above the mouth of said bottle and permanently secured to the latter, said collar or band being partially severed immediately above the bottle-mouth, a stopper inserted into the bot-

tle-mouth through said collar or band, a cap covering said stopper and having the annular groove, and means for enabling the said projecting portion of said collar or band to engage said groove and lock said cap in place, substantially as set forth.

7. In a bottle-seal, the combination with the bottle, of a thin metal annular collar or band having a portion thereof projecting above the mouth of said bottle and permanently secured to the latter, said collar or band being partially severed immediately above the bottle-mouth, a stopper inserted into the bottle-mouth through said collar or band and having the annular groove and the flange or shoulder jutting over the edge of said collar or band, and means for forcing said collar or band into said groove, substantially as set forth.

8. In a bottle-seal, the combination with the bottle, of the sheet-metal annular collar or band projecting above the bottle-mouth and having the series of openings into which the material composing the bottle-neck is forced when plastic, the stopper introduced into said bottle-mouth through the upper portion of said collar or band, the cap fitting upon said stopper, and means for enabling the upper part of said collar or band to lock said cap in place, substantially as set forth.

In testimony that I claim the foregoing invention I have hereunto set my hand this 19th day of October, 1899.

ALFRED N. HOUGHTON.

Witnesses:

A. B. UPHAM,
EDWARD C. BATES.