(No Model.)

G. E. BRUNDAGE.

BOTTLE LOCK.

No. 285,385. Patented Sept. 25, 1883.

Fig: 1.

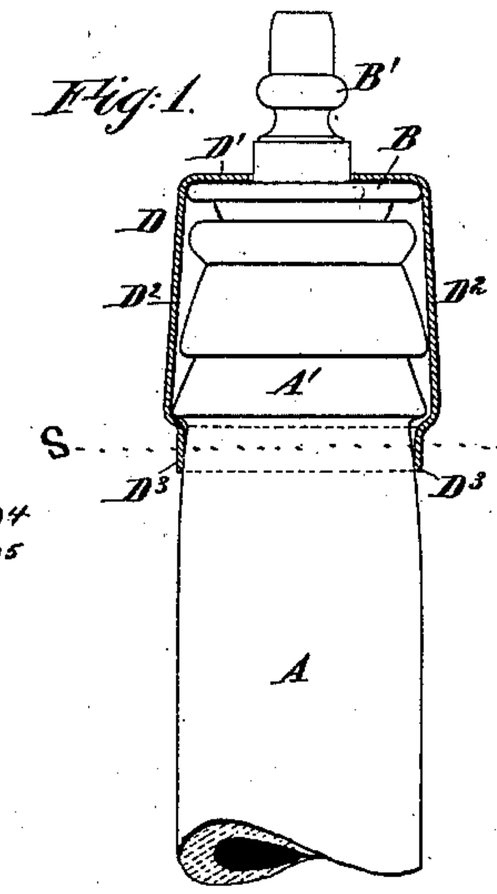


Fig: 1ª.

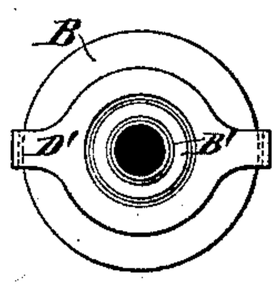


Fig: 2.

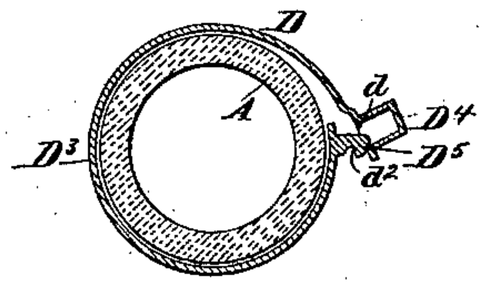


Fig: 3.

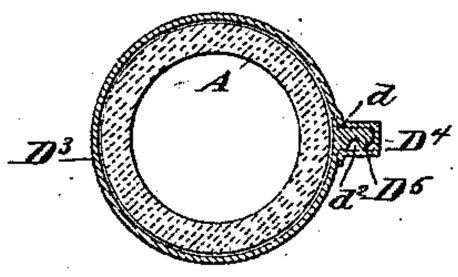


Fig: 6.

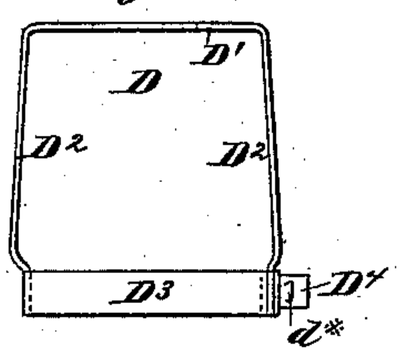


Fig: 8.

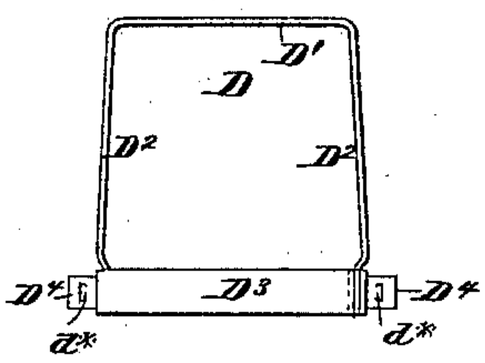


Fig: 4.

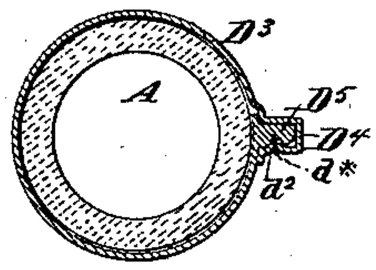


Fig: 7.

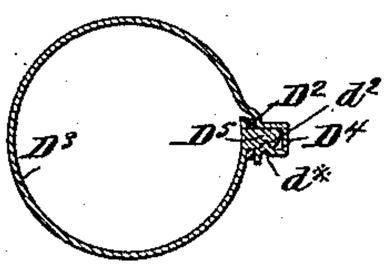
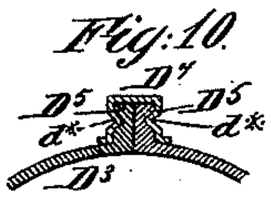


Fig: 10.



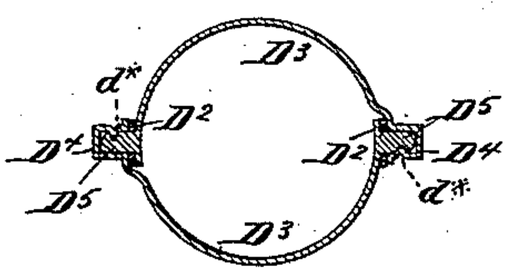


Fig: 11.

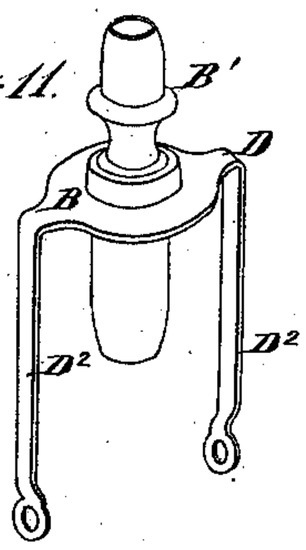


Fig: 5.

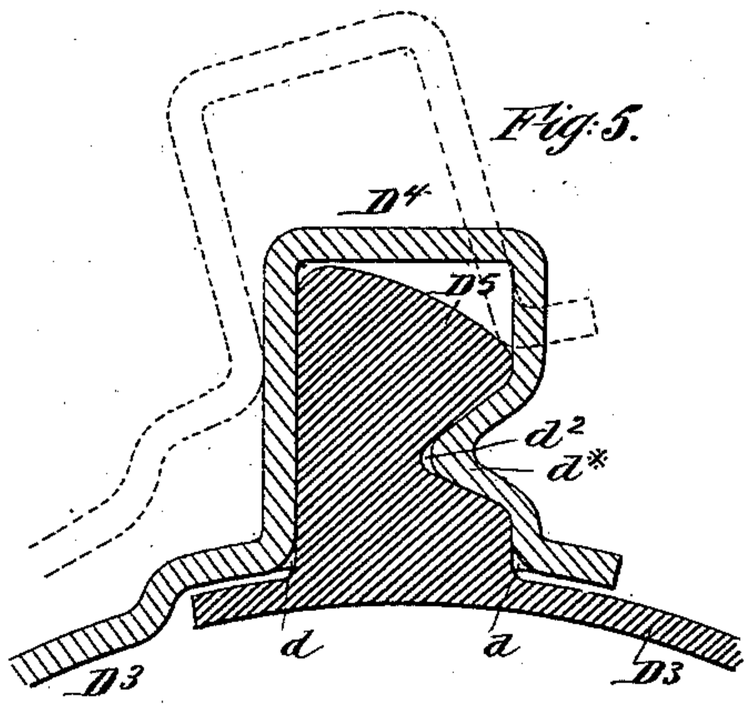
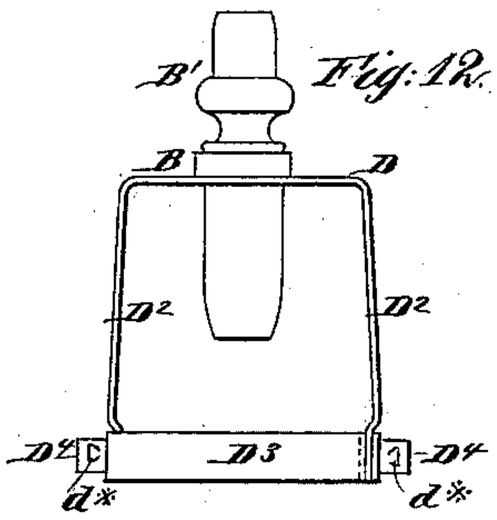


Fig: 12.



WITNESSES—

Charles R. Searle
B. E. Stafford.

INVENTOR—

George E. Brundage
by his attorney
Thomas D. Nelson

UNITED STATES PATENT OFFICE.

GEORGE E. BRUNDAGE, OF NEW YORK, N. Y.

BOTTLE-LOCK.

SPECIFICATION forming part of Letters Patent No. 285,385, dated September 25, 1883.

Application filed February 24, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. BRUNDAGE, of New York city, in the county and State of New York, have invented certain new and useful Improvements in Bottle-Locks, of which the following is a specification.

The object of the invention is to provide a device capable of ready and rapid attachment to bottles, and which cannot be removed without destroying it so as to incapacitate it for future use.

The invention is intended more particularly for use on bottles containing liquids which it is desirable to prevent being counterfeited. I will describe it as applied to Worcestershire sauce.

The use of my invention prevents the bottles from being bought up after being emptied and refilled with an imitation and again put on the market as the original goods, thereby interfering with the sale of the legitimate article, and probably injuring its reputation by being inferior.

My bottle-lock in its most complete form is adapted to engage over a projecting mouth-piece containing the valve or valves long used to prevent refilling through the same passage by which the sauce escapes.

The following is a description of what I consider the best means of carrying out the invention.

The accompanying drawings form a part of this specification.

Figure 1 is a central longitudinal section, showing the inclosed bottle-mouth in elevation. Figs. 2, 3, and 4 are horizontal sections on the line *s s* in Fig. 1 in different conditions. Fig. 2 shows the lock in the act of being engaged together. Fig. 3 shows the same after the parts are engaged together, but before they have been finally locked. Fig. 4 shows the condition after the locking is effected. Fig. 5 is a diagram showing the engagement of the parts on a larger scale. The strong lines show the parts fully engaged and locked. The dotted lines show them in the act of being engaged together.

The remaining figures show modifications, and will be described farther on.

Similar letters of reference indicate corresponding parts in all the figures.

Referring to Figs. 1, 2, and 3, A is the neck of a bottle, and A′ an ordinary shoulder or enlargement near the mouth. It is important that the bottle shall have a sufficient enlargement, A′, to allow my device to take a reliable hold.

B is a plate of metal covering the outer surface of the cork. B′ is a projecting mouth-piece containing valves which allow the liquid to be discharged in proper quantities; but, in consequence of the valves, the bottle cannot be refilled except by removing the entire stopper, including the plate B and projecting mouth-piece B′.

I will designate my entire locking device by the single letter D, using additional marks of reference, as D′ D^2, when necessary to indicate special parts thereof.

D′ is a broad cross-piece, extending across the outer surface of the plate B, and having a sufficient orifice to match easily over the mouth-piece B′.

D^2 D^2 are bent extensions from the ends of D′, running down the neck of the bottle and united to a ring, D^3, which encircles the small portion of the neck below the flange A′. The ring D^3 opens at one point only. I attach much importance to the construction at the point of opening. The ring D^3 is of such length as to extend around the bottle and overlap. On the end which overlaps is formed a hole, *d*, surmounted by a cap, D^4. On the other end, which underlaps, is a projection, D^5, sufficiently smaller than D^4 to be received in the hollow interior of the latter. The part D^5 is beveled at the outer end, as indicated at D′, and notched in the side, as indicated by d^2.

The device is formed sufficiently open, or capable of being easily opened or sprung open enough, to allow it to be applied over the outer face, D D′, of the stopper, and to be pressed down until the ring D^3 comes below the flange A′. Then, the ends D^4 and D^5 being brought together by the force of the thumb and fingers, or by any convenient tongs or clamps which may be applied for the purpose, the cap D^4 acts on the beveled outer end of the projection D^5, which allows the cap to slip down over the projection so that D^4 shall embrace D^5 and conceal D^5 entirely within D^4. While the parts are held in this condition, pressure is applied by suitably-shaped pliers or other devices to indent the side of the cap D^4, as

shown at d^*, and cause its material to enter the notch d^2 in the side of D^4. The metal thus pressed inward remains indented, and it is forever after impossible to remove the lock from the bottle without destroying it. The stopper cannot be removed without the removal of the lock.

The material of the entire part D is an alloy composed of tin and other metals. The proportions may vary. It may be a soft brass or bronze, or it may be a still softer alloy, such as is generally designated by the term "soft metal."

I do not confine the invention to the use of any particular alloy, or even to the use of metal. I believe the strong vegetable material known as "celluloid" may serve. It is essential that the material be bendable or plastic, by which I mean capable of changing its form to a considerable extent by pressure at ordinary temperatures.

The lock D may be, and preferably is, formed in a single piece by molding. I can, however, form it of two or more pieces, of sheet-brass, German silver, soft metal, or the like, shaping the several parts by a pinching-press or analogous means, and joining the parts by soldering or brazing. I prefer to make the whole in a single piece, for the reason, among others, that it allows the discovery of any soldering or other piecing to prove at once that there has been fraud in the use of the device. The fact of the patching should show that it is a reuse of the article and insure its rejection.

Modifications may be made in the forms and proportions. Parts of the invention can be used without the whole.

It is not essential to the success of the device that other portions than the cap D^4 be of material adapted to be compressed into the notch d^2 and to remain strongly engaged. It is sufficient if that cap, or even only that side of it which is to be thus compressed inward, has the required degree of softness.

I use the term "bendable" as applied to the material to indicate that degree of softness which allows the material to be pressed inward, while retaining sufficient rigidity to prevent the separation of the parts by the material remaining thus compressed into the notch and refusing to be returned to its original position without such force as will destroy the construction.

Figs. 6 and 7 represent a modification in the construction, in which the parts D' D^2 are permanently joined to the ring D^3 at one point only, that point being opposite to the locking parts D^4 D^5. Fig. 6 is an elevation, and Fig. 7 a section. A sufficient hole is formed in the end of the opposite part, D^2, to match over the part D^5 after the parts are in place on a bottle. Then the cap D^4 is pressed down upon the part D^5, and a portion of its material pressed into the notch d^2, as before.

Figs. 8 and 9 show another modification, in which the part D' and the two parts D^2 are formed entirely detached from the ring D^3. The end of each part D' is provided with a hole capable of matching over a part, D^5. In the modification here shown the ring D^3 is made in two parts, with one end of each part capable of locking over the adjacent end of the opposite part. The locking is effected by indenting in the same manner. This construction involves more labor, because the pinching of the metal into the notch d^2 has been effected at two points instead of at one point. Fig. 8 is an elevation, and Fig. 9 a section.

Fig. 10 shows still another modification of the locking device. In this each of the adjacent ends of the ring D^3 is adapted to be covered by a cap, and provided with a notch corresponding to d^2. No cap is formed on the ring, but a cap is formed of a separate piece of material. This is applied upon the others, and, after being forced home by the pressure of the thumb and fingers or any suitable device, is compressed at two points. The material of the cap D^4 is forced into both the notches d^2 with substantially the same effect as in the other constructions.

I prefer the construction shown in Figs. 1, 2, 3, 4, and 5.

What I esteem a modification of some importance is shown in Figs. 11 and 12. Both are elevations, Fig. 11 showing a portion and Fig. 12 the whole of the fastening device, but without the bottle-neck or the cork which forms the tight-fitting stopper. In this modification the valved mouth-piece is formed in one with the portion of the fastener which extends across the mouth of the bottle, and also in one with the straps or bent extensions, which lead down the bottle-neck to the ring. The same letters are marked on this form of the invention as on the corresponding parts of the other forms. The parts differ only in the fact that they are in one with the tube, which extends down into the interior of the neck of the bottle, and also in one with the mouth-piece, which extends out beyond the mouth of the bottle proper.

More than two of the straps D^2 may be employed, extending down to the ring D^3, if desired, in any case.

I propose in some cases to employ my lock on bottles which are to be kept entirely sealed—that is to say, without any mouth-piece B', valved or otherwise. In such case care must be taken to make the mouth-piece of good width, so that the cork cannot be exposed and removed by simply moving the mouth-piece to one side.

I claim as my invention—

1. The engaging parts D^4 D^5, the part D^4 being formed of bendable material, in combination with the ring D^3, arms D^2, and front piece, D', and adapted to serve on a bottle-mouth, A A', substantially as and for the purposes herein specified.

2. The combination, with the bottle-mouth A A', of the stopper-face B, with projecting mouth-piece B', and a locking device having

a front piece, D′, engaging with the mouth-piece B′, arms D^2, extending down the bottle-neck, ring D^3, and locking device D^4 D^5, adapted to be permanently locked by indenting one portion into another, substantially as herein specified.

In testimony whereof I have hereunto set my hand, at New York city, New York, this 21st day of February, 1883, in the presence of two subscribing witnesses.

GEORGE E. BRUNDAGE.

Witnesses:

B. E. D. STAFFORD,

M. F. BOYLE.