

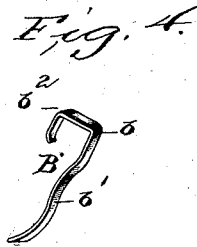
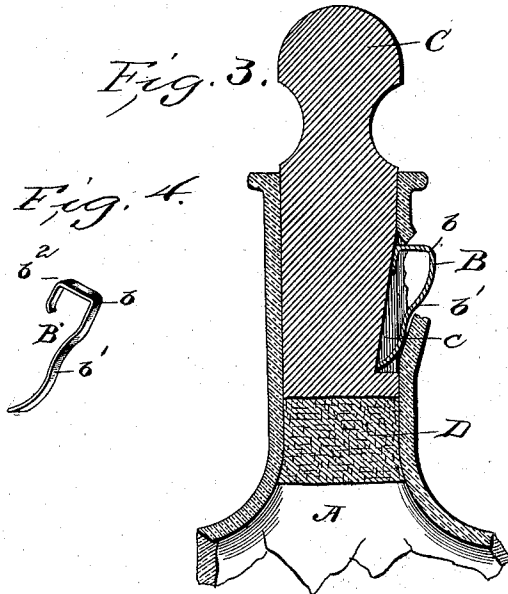
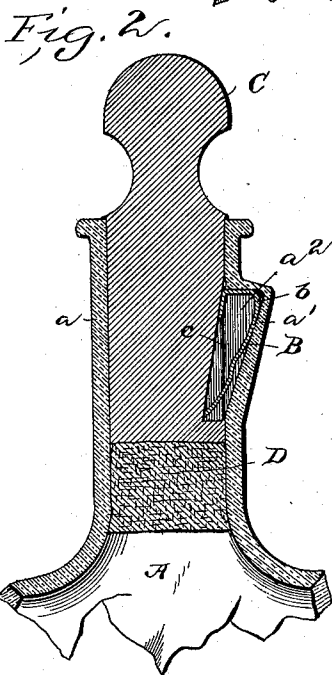
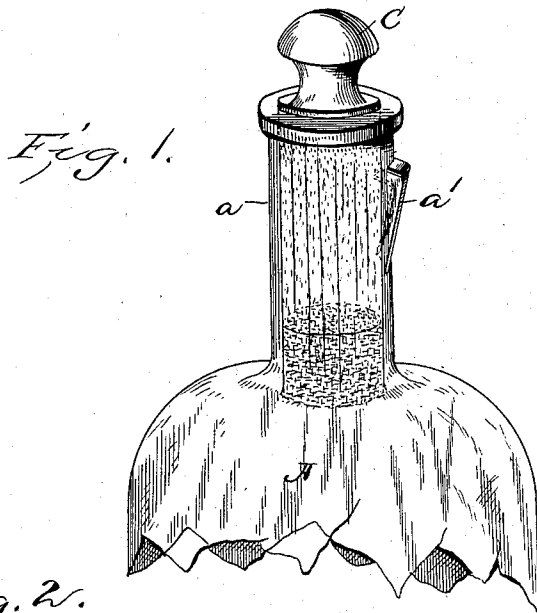
No. 608,957.

Patented Aug. 9, 1898.

S. W. DURHAM.
NON-REFILLABLE BOTTLE.

(Application filed Apr. 21, 1897.)

(No Model.)



Witnesses
L. Mueser
J. H. Riley

Stitch W. Durham Inventor,
By *his* Attorneys,

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UNITED STATES PATENT OFFICE.

SHILOH W. DURHAM, OF BUSHNELL, ILLINOIS.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 608,957, dated August 9, 1898.

Application filed April 21, 1897. Serial No. 633,139. (No model.)

To all whom it may concern:

Be it known that I, SHILOH W. DURHAM, a citizen of the United States, residing at Bushnell, in the county of McDonough and State of Illinois, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

The invention relates to improvements in non-refillable bottles.

The object of the present invention is to improve the construction of that class of non-refillable bottles which are provided with means for locking the stopper in the neck in such manner that the stopper cannot be withdrawn and the bottle opened until the neck has become mutilated in such manner that it cannot be repaired or the bottle refilled and reused as in the original package.

A further object of the invention is to provide a simple, inexpensive, and secure connection between the stopper and the neck of the bottle which cannot be reached by any means for releasing the stopper from the neck after it has been locked without mutilating the bottle; and another object of the invention is to provide a bottle and stopper locked together in this manner with a secure and inexpensive means for sealing or making the neck of the bottle air-tight.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended.

In the drawings, Figure 1 is a perspective view of the upper portion of a bottle constructed in accordance with this invention. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a similar view, the frangible projection being broken to permit the removal of the locking-spring and the withdrawal of the stopper. Fig. 4 is a detail view of the locking-spring.

Like letters of reference designate corresponding parts in all the figures of the drawings.

A designates a bottle, which may be of any preferred design, but it is preferable for the neck a to be longer than usual and slightly tapering from the mouth to the inner end.

The neck a of the bottle is provided with an exterior frangible projection located a

short distance below the mouth of the bottle and provided with an interior tapering recess a^2 , which receives a spring B for locking a stopper C in the neck of the bottle. The tapering recess a^2 has an inclined outer wall and is provided at its top with a substantially horizontal wall forming a shoulder which is engaged by the locking-spring.

The stopper C, which extends below the recess a^2 , is provided opposite the same with a reversely-tapering recess forming a shoulder at its lower end.

The locking-spring, which is provided at its top with a spring-bend, has its greater portion arranged within the recess a^2 and located beyond the inner face of the neck of the bottle. The spring-bend engages the shoulder or stop formed by the upper wall of the recess a^2 , and its outer side lies against the inclined wall of the recess and is directed by the same toward the stopper, whereby it is adapted to engage the shoulder of the recess c automatically when the stopper is introduced into the neck of the bottle. The inner side of the spring bears against the stopper C at the upper end of the recess c , and the spring-bend of the spring is compressed sufficiently to hold the lower terminals of the outer side firmly in engagement with the stopper. The spring is adapted to yield readily to the stopper C when the latter is introduced into the neck of the bottle, and when it is properly engaged with the shoulder at the upper end of the recess a^2 and the shoulder at the lower end of the recess c the stopper cannot be withdrawn until the frangible projection a' is broken. After the frangible projection has been broken the spring may be readily removed through the opening produced by such fracture, as the greater portion of the spring is located within the recess a^2 beyond the plane of the inner face of the neck of the bottle, and the stopper C may then be readily withdrawn.

An air-tight sealing-stopper D is inserted at the base of the neck of the bottle before the closing-stopper C is inserted, and after the bottle has been filled the cork stopper is made preferably air-tight, and the stopper C is fitted to press upon the upper end thereof to hold the sealing-stopper securely in place. Before the withdrawing of the cork stopper after the stopper C has been removed the neck of the

bottle may be washed to remove any small particles of broken glass.

The invention has the following advantages: The means for locking the stopper in the neck of the bottle are simple and comparatively inexpensive in construction and adapted to be readily applied to the necks of bottles and analogous receptacles. The spring is adapted to be removed from the opening produced by the breakage of the frangible projection, and after the latter is broken the bottle is sufficiently mutilated to prevent it from being refilled.

Although the invention is shown applied to the neck of a bottle, yet it will be readily apparent that the improvements are applicable to analogous receptacles.

What I claim is—

In a device of the class described, the combination of a receptacle provided at its neck with an exterior frangible projection having an interior recess, said recess being provided with an inclined outer wall, and having an upper shoulder, a stopper fitting in the neck and provided with a recess forming a lower

shoulder located near the lower end of the recess of the neck, and a locking-spring arranged within the recess of the neck and provided at its top with a spring-bend to engage the upper shoulder, and composed of an inner side bearing against the stopper and an outer side arranged against the inclined wall of the recess of the neck and having its lower terminals engaging the shoulder of the stopper, said locking-spring having its greater portion located within the recess of the neck beyond the plane of the inner face of the latter, whereby when the frangible projection is broken, the locking-spring is adapted to be removed through the opening produced by such breakage to release the stopper, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in the presence of two subscribing witnesses.

SHILOH W. DURHAM.

Witnesses:

J. S. NUNEMAKER,
S. H. ROBINSON.