

No. 618,405.

Patented Jan. 31, 1899.

S. ERSTAD.
NON-REFILLABLE BOTTLE.

(Application filed Jan. 17, 1898.)

(No Model.)

Fig. 1.

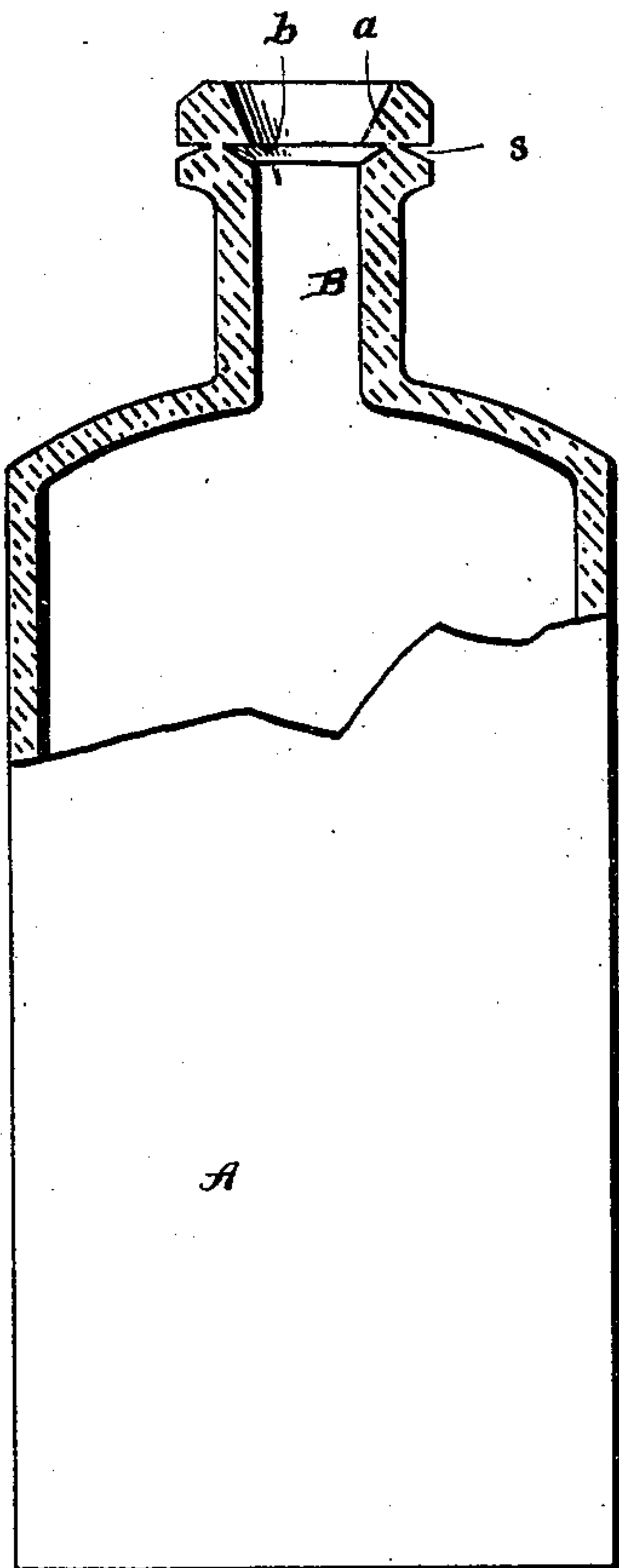


Fig. 2.

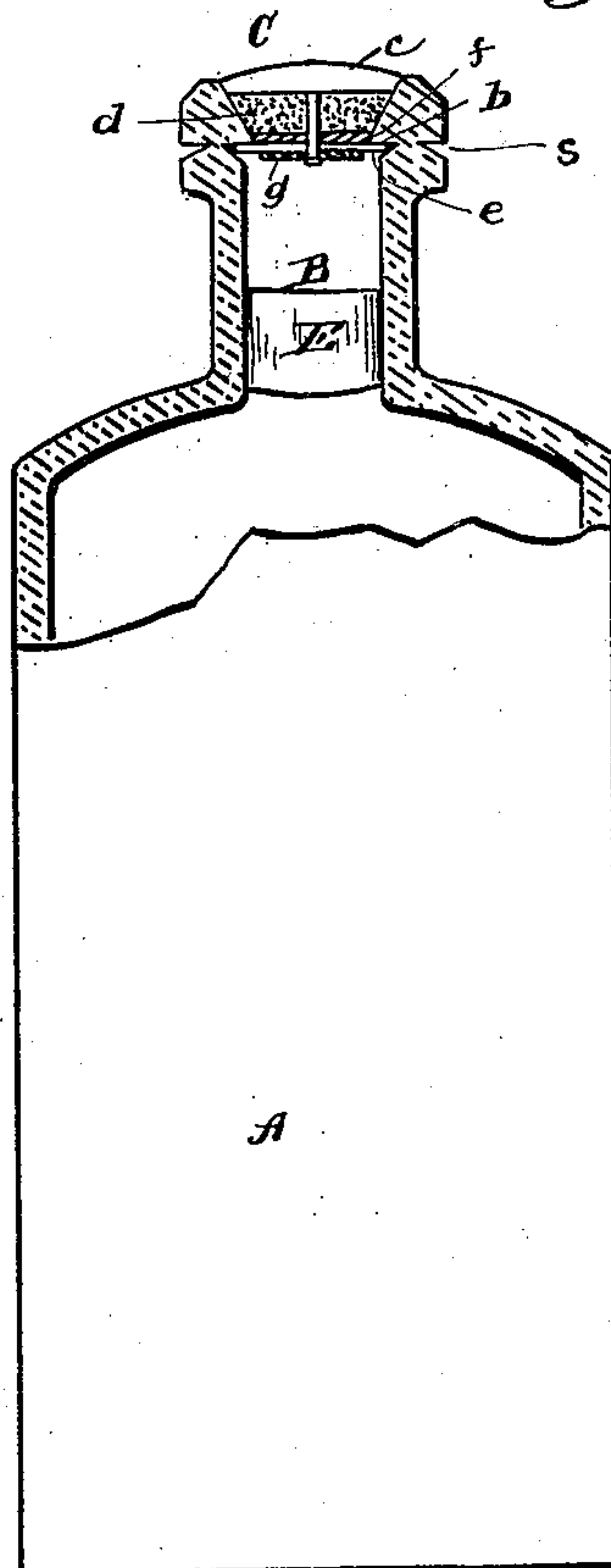
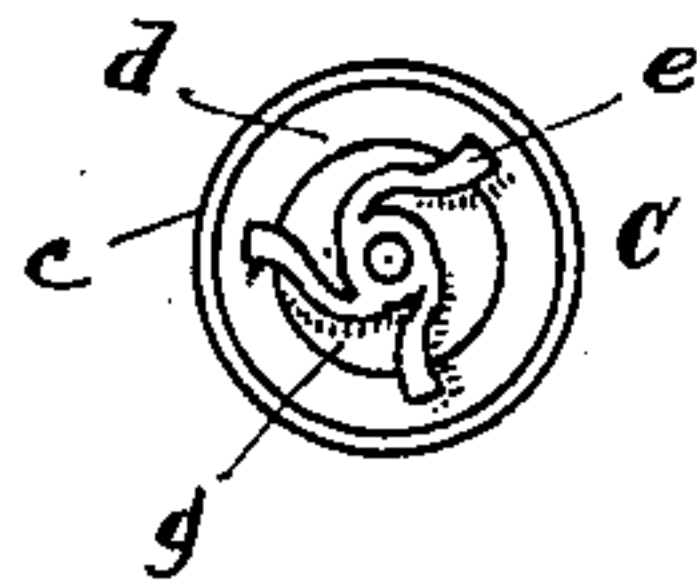


Fig. 3.



WITNESSES

C. P. H. L. H. A. U.
B. M. D. O. U. G. A. L. L.

INVENTOR

S. E. R. S. T. A. D.
L. P. B. R. A. D. F. O. R. D.

By

Attorney.

UNITED STATES PATENT OFFICE.

SEVERIN ERSTAD, OF BISBEE, ARIZONA TERRITORY, ASSIGNOR OF ONE-FOURTH TO CARMAN E. CUMMINGS, OF SAME PLACE.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 618,405, dated January 31, 1899.

Application filed January 17, 1898. Serial No. 666,906. (No model.)

To all whom it may concern:

Be it known that I, SEVERIN ERSTAD, a citizen of the United States, residing at Bisbee, in the county of Cochise and Territory of Arizona, have invented certain new and useful Improvements in Non-Refillable Bottles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to non-refillable bottles; and it has for its object to provide certain new and useful improvements that will enable the user to detect whether or not the contents of a bottle have been tampered with and whereby the identity of the bottle is destroyed by the operation of opening the same.

The invention consists in the general construction and arrangement of the parts to be hereinafter described and claimed.

Referring to the accompanying drawings, Figure 1 is a vertical section of my improved bottle, showing the arrangement of the neck before the cork has been inserted therein. Fig. 2 is a similar view showing the cork in position. Fig. 3 is an inverted plan view of the cork, illustrating the manner of arranging the spring-catches.

Like letters of reference refer to corresponding parts.

The bottle A, as will be evident, may be made in any desired style or form, the only change necessary in the common and well-known bottle being in the peculiar construction of the neck with which the cork engages. At the top of this neck B the inner edge is beveled inward, and just below the termination of the beveled surface *a* there is a small V-shaped undercut groove *b*, one side of which lies in a horizontal plane for a purpose to be hereinafter pointed out.

The cork C, which is adapted to fit in the upper end of the neck, is composed of the several parts shown in Figs. 2 and 3—the top plate *c*, the cork or rubber *d*, the springs *e*, the spring-holding plates *f* and *g*, and the rivet or bolt, which is adapted to hold the sev-

eral parts together. The top plate *c* may be made of glass or nickel, and, if desired, the rivet may be secured thereto at its central under point or formed integral therewith. The cork washer or stopper is then placed over the rivet into a snug joint, with the under surface of the top plate and its outer edge cut conical to conform to the beveled inner edge *a* of the neck. Below the cork is then placed the washer or plate *f*, which is followed by the springs *e*, formed integral with each other, as shown in Fig. 3, and held in position by the plate *g*. When these parts have all been mounted upon the rivet or bolt, they may be firmly clamped together either by riveting the bolt or by any common and well-known means.

The springs *e* are preferably arranged in a spiral form around the center which engages over the bottle and their free ends bent outward, where they extend a short distance beyond the edges of the washers *f* and *g*. Thus it will be seen, assuming the cork and washer *f* to have been made the proper size to fit the beveled neck of the bottle, that the springs as the cork is inserted will be pressed back between the plates until they escape below the lower edge of the bevel *a* into the notch *b*, and owing to the angle of the sides in the notch *b* it will be impossible to remove the cork without destroying the bottle.

As a means of removing this cork so as to render the tampering or opening of the bottle easily detected I provide the notch or V-shaped groove *s* upon the outer surface of the neck directly in a plane with the inner groove *b*, leaving a narrow strip of material between the two notches that will readily give away under the pressure of a pair of pliers or other similar implement. By this means it will be seen that the top of the bottle can be quickly and easily snapped off and the cork or stopper thus removed, thereby leaving the bottle in a serviceable condition, at the same time destroying its identity, so that it cannot again be employed for the same purpose.

As an additional safeguard against the escape of liquid that may be stored in the bottle a common and well-known cork may be inserted within the neck in advance of the stopper, as shown at E in Fig. 2.

From the foregoing it will be obvious that the essential novelty of my invention lies in the construction of the neck of the bottle and the provision of an automatic locking-cork
5 that may be pressed into the neck and will become fastened in such a manner as to compel the removal of a portion of the head or neck before access may be had to the contents, and although I have preferred to illustrate the invention in the form herein shown
10 I desire to have it understood that a variety of modifications may be made that will not materially affect the results without departing from the spirit and scope of my invention, and although I prefer the form shown I
15 do not limit myself thereto.

Having thus described my invention, what I claim is—

20 In a non-refillable bottle the combination with the neck of said bottle, having its upper

inner edge beveled, a V-shaped groove cut upon the inner surface beneath said bevel, and a similar groove cut in the outer surface in a plane with the first-named groove, of a stopper composed of a top plate, cork or rubber washers, and springs *e*, arranged in a spiral form around the center of said stopper radiating therefrom and having their free ends bent outward adapted to extend a short distance beyond the edge of said washers, whereby they may be pressed into said V-shaped
25 groove formed upon the inner surface of the neck, substantially as described. 30

In testimony whereof I affix my signature in presence of two witnesses.

SEVERIN ERSTAD.

Witnesses:

CARMAN E. CUMMINGS,
DEAN DUDLEY.