

No. 690,631.

Patented Jan. 7, 1902.

O. E. BLAINE.
NON-REFILLABLE BOTTLE.

(Application filed Mar. 30, 1901.)

(No Model.)

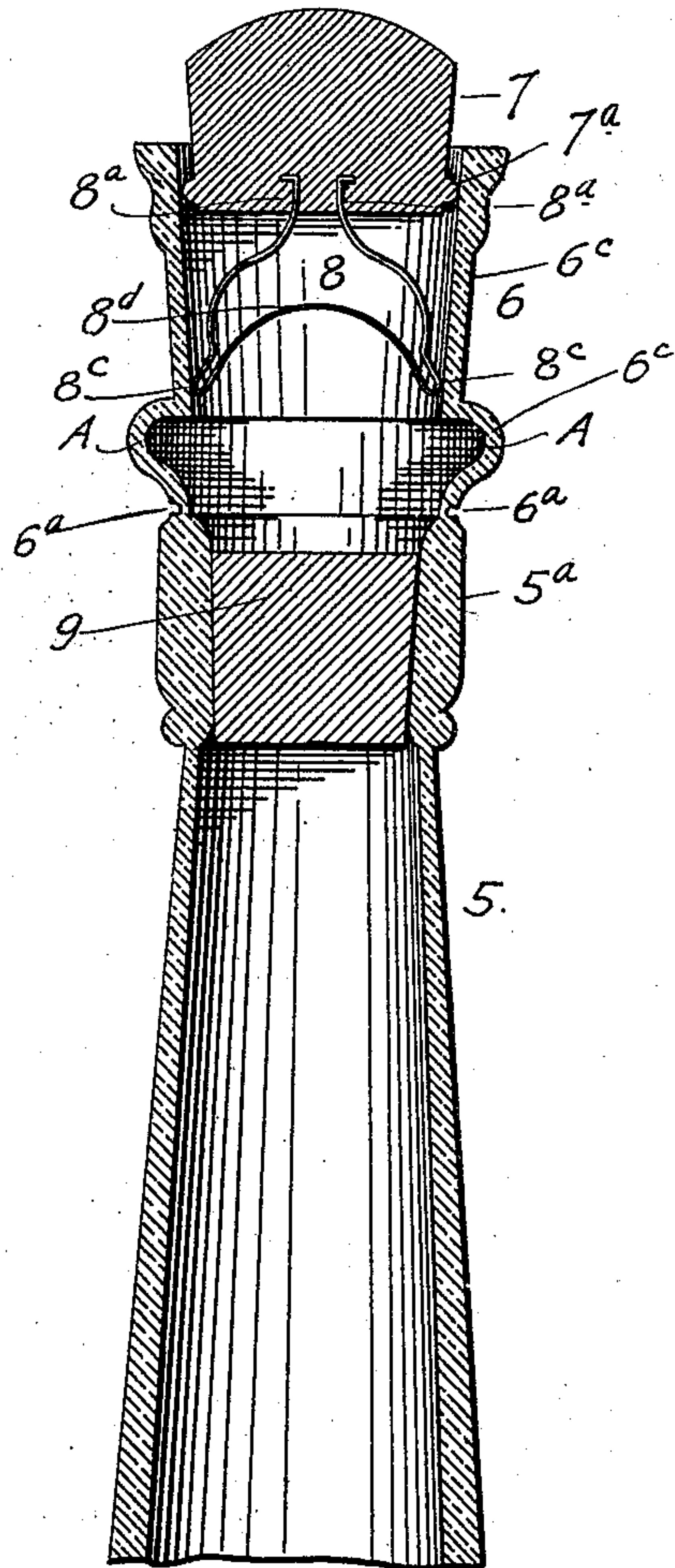


FIG. 1

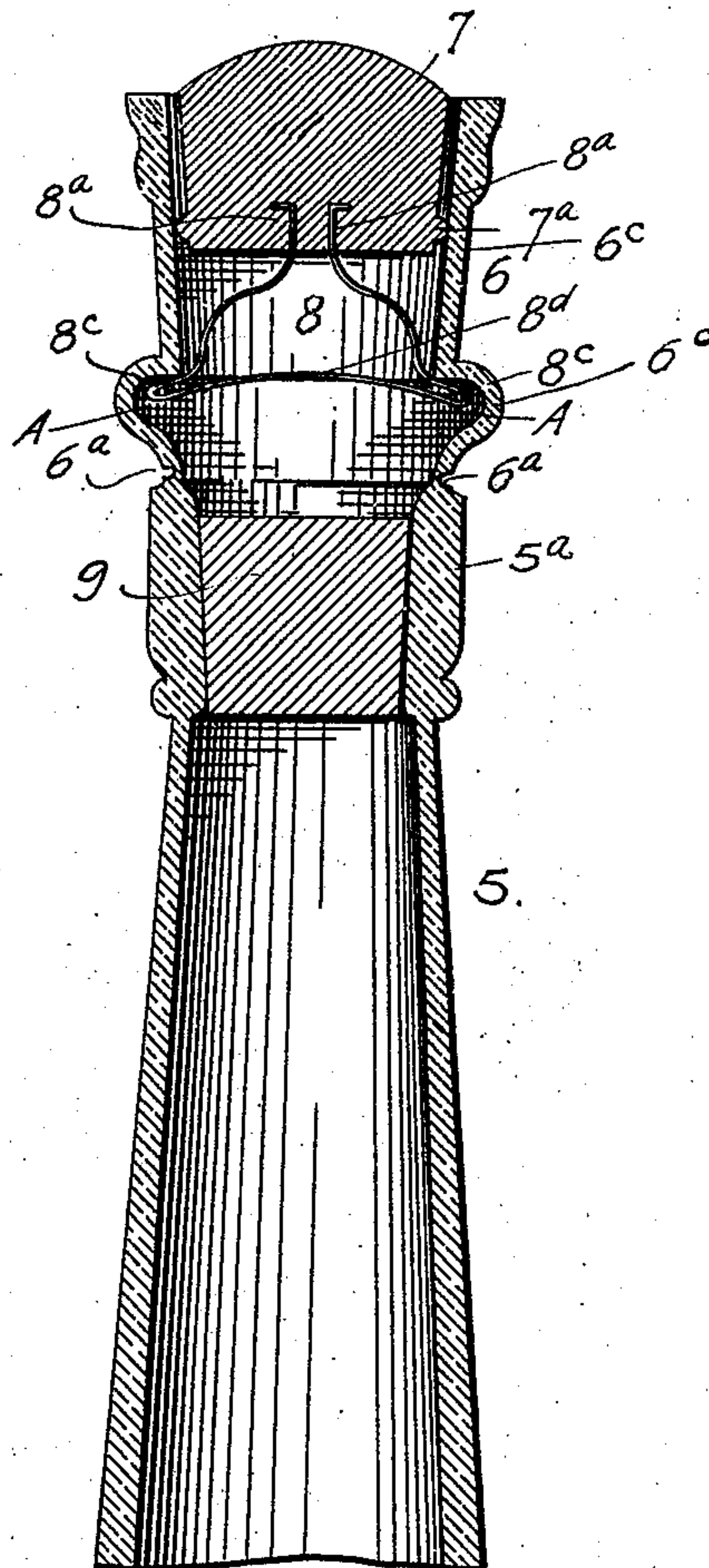


FIG. 2

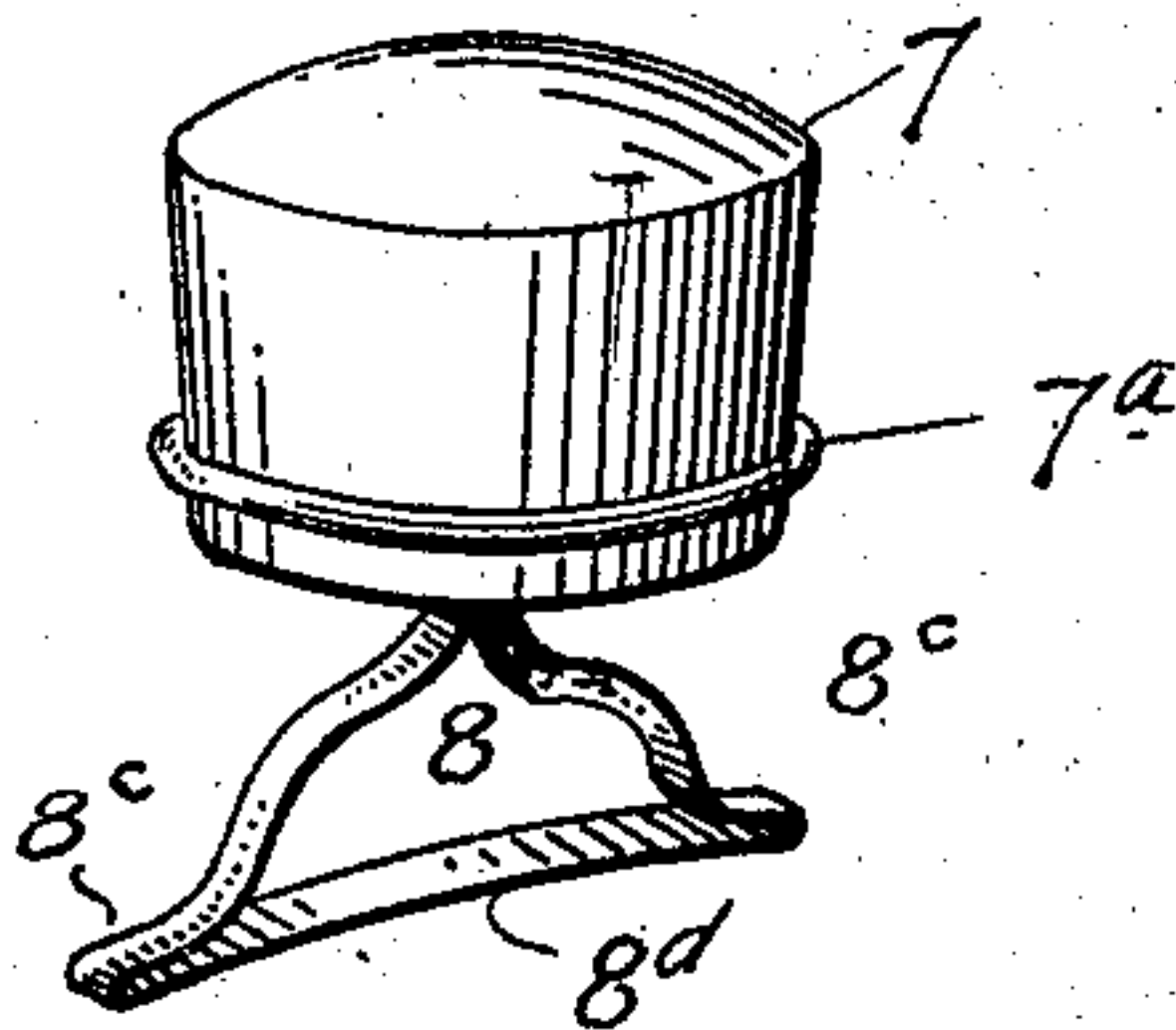


FIG. 3

WITNESSES:
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NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 690,631, dated January 7, 1902.

Application filed March 30, 1901. Serial No. 53,741. (No model.)

To all whom it may concern:

Be it known that I, OTIS E. BLAINE, a citizen of the United States of America, residing at Victor, in the county of Teller and State of Colorado, have invented certain new and useful Improvements in Non-Refillable Bottles; and I do 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, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in non-refillable bottles, my object being to make it impossible or at least impracticable to refill bottles after the original contents have been removed.

Frauds are often practiced by refilling with inferior goods bottles having the wrappers, trade-marks, and names of firms or houses whose goods are known to be of superior quality, thus not only injuring the business of the said firms, but practicing a fraud on the public by palming off inferior goods under the name of the superior article. Hence my object is, as before intimated, to provide a bottle which when first opened must be so mutilated that it cannot be refilled and reused without leaving evidence of the fraud.

My further object is to provide a bottle of this class which while serving the aforesaid purpose shall be of simple and economical construction; and to these ends the invention consists of the features, arrangements, and combinations hereinafter described and claimed, all of which will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a vertical longitudinal section taken through the neck of my improved bottle, showing the safety-stopper partly inserted. Fig. 2 is a similar view showing the stopper in place. Fig. 3 is a perspective view in detail of the safety-stopper.

The same reference characters indicate the same parts in all the views.

Let the numeral 5 designate the neck of the bottle, which may be of ordinary or any suitable construction. The top 5^a of this neck is

provided with a safety-nozzle 6, formed integral with the neck and reduced in thickness or strength where it joins the top of the neck, as shown at 6^a. The upper extremity of the part 6^c of the safety-nozzle 6 is largest, and the part 6^c tapers inwardly to its lower extremity, where it merges into an enlargement 6^d, forming an interior circumferential recess or groove A in the lower part of the safety-nozzle. The safety-stopper 7, which coöperates with the safety-nozzle, is provided with a bell-shaped spring-retaining device 8. As shown in the drawings, this retaining device is formed from a single piece of flat spring metal made sufficiently thin to give it the required resiliency or yielding capacity. The extremities 8^a of this metal piece are brought quite close together at the top and turned outwardly to give them increased holding capacity. The body of the safety-stopper is preferably formed of some material that can be cast or otherwise constructed with the extremities 8^a of the spring in place, whereby the spring is securely fastened to the said stopper. Below the stopper the spring extends outwardly in opposite directions and downward gradually to the lower extremity of the part 6^c of the nozzle, where the spring is bent abruptly outward, as shown at 8^c, to engage horizontal interior shoulders of the enlargement 6^d. At this point the spring is bent back on itself and bowed upward slightly, as shown at 8^d. The stopper 7 tapers to correspond with the taper of the inner wall of the nozzle and is preferably provided with a counterpart rib 7^a, which engages the inner wall of the nozzle part 6^c when the parts 8^c of the spring engage the recess A of the nozzle.

Preparatory to placing the safety-stopper in the nozzle an ordinary cork 9 is inserted in the top of the bottle-neck 5^a in the usual manner. The spring-retaining device is then contracted by pressing inwardly on the horns 8^d to allow the retaining device to enter the nozzle, after which the stopper, with the said device attached, is forced into the nozzle until the circumferential recess A is reached, when the horns of the spring move outwardly into said recess and lock the stopper against removal. When it is desired to open the bottle or pour out its contents, the entire nozzle

is broken off at 6^a, after which the cork may be removed in the ordinary way; but the bottle is so mutilated that it cannot be refilled without showing that the nozzle has been broken
5 off. The function of the rib 7^a is to give the stopper such a small bearing-surface that if an attempt is made to tamper with the stopper for the purpose of removing it the latter will be pressed inwardly and the nozzle
10 broken.

Having thus described my invention, what I claim is—

In a non-refillable bottle, the combination with a nozzle having an interior circumferen-
15 tial recess or groove in its lower portion, a stopper adapted to enter said nozzle, and a re-

taining device carried by the stopper, the said device comprising a bell-shaped spring formed from an integral piece of material, having its extremities embedded in the stopper, the
20 horns or projections of the lower part of the spring being adapted to engage the recess on opposite sides when the stopper is inserted, the two horns being connected by an intermediate, upwardly-bowed bridge-piece. 25

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

OTIS E. BLAINE.

Witnesses:

DORA C. SHICK,
MARY C. LAMB.