

(No Model.)

J. A. STUKEY.
BOTTLE STOPPER.

No. 475,631.

Patented May 24, 1892.

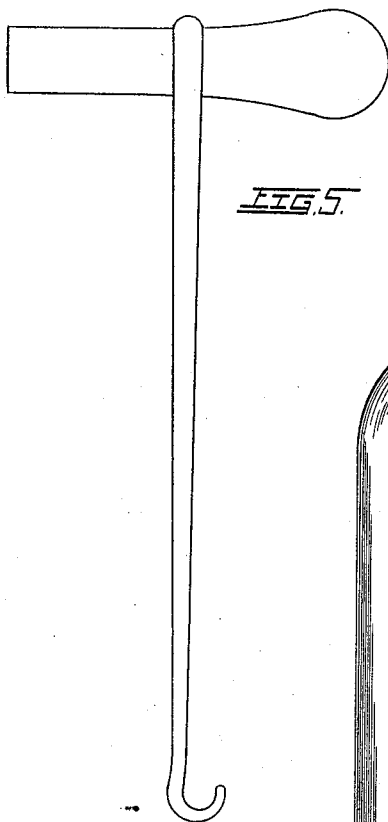


FIG. 5.

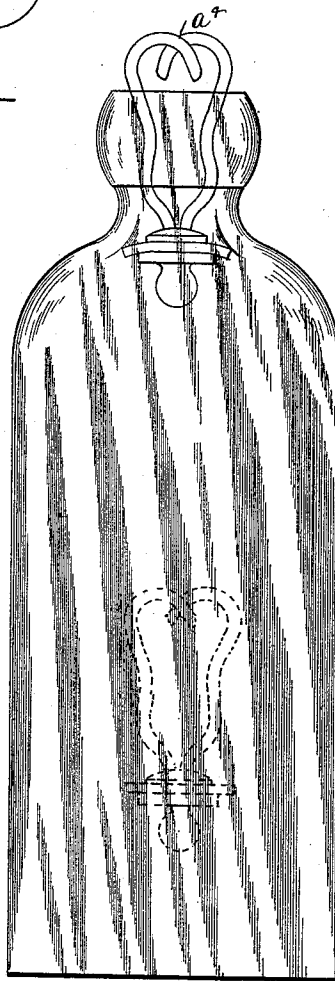


FIG. 1.

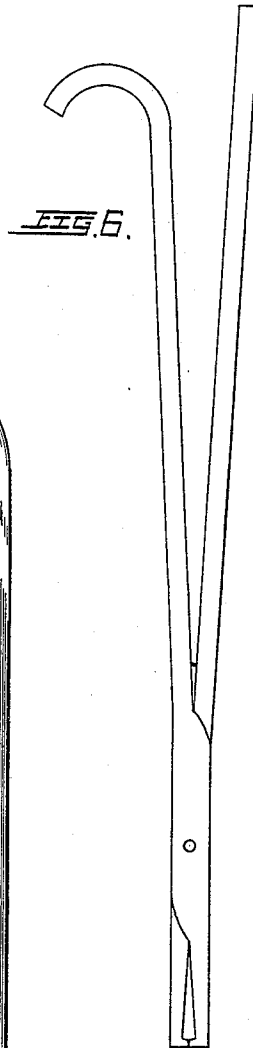


FIG. 6.

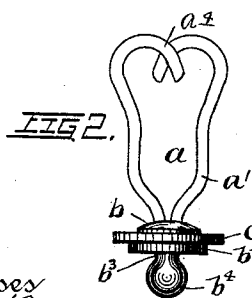


FIG. 2.

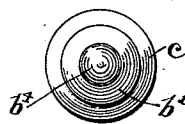


FIG. 4.

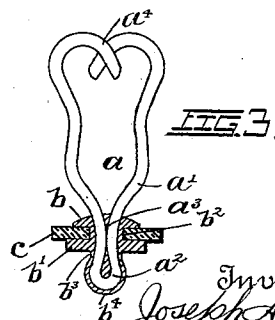


FIG. 3.

Witnesses
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UNITED STATES PATENT OFFICE.

JOSEPH A. STUKEY, OF COLUMBUS, OHIO.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 475,631, dated May 24, 1892.

Application filed January 8, 1892. Serial No. 417,397. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. STUKEY, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Bottle-Stoppers, of which the following is a specification.

My invention relates to the improvement of bottle-stoppers, and has particular relation to that class of bottle-stoppers which are adapted for use with bottles containing carbonated liquids and wherein a doubled wire stem or shank is made to support a flexible stopper-disk between two rigid buttons.

The objects of my invention are to provide a stopper of this class of superior construction and arrangement, to form integral with the stopper-disk holding-buttons a casing for the doubling-point of the wire shank, and in forming said casing not only greatly increase the strength and durability of the stopper, but produce thereby a form of knob or projection at the inner end of said wire shank or stem which will greatly facilitate the withdrawal of the stopper through the bottle-neck when the stopper has been reversed within said bottle. These objects I accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 represents in elevation a bottle closed by my improved stopper. Fig. 2 is a detail view, in elevation, of said stopper. Fig. 3 is a central sectional view of the stopper shown in Fig. 2. Fig. 4 is an inner end view of the stopper. Fig. 5 is a view in elevation of the tool employed in withdrawing the stopper from the bottle, and Fig. 6 is a similar view of the tool employed in restoring the stopper to the closed position shown in full lines in Fig. 1.

Similar letters refer to similar parts throughout the several views.

a represents my improved stopper, the stem or shank of which, as shown in the drawings, consists of a suitable spring-wire a' , doubled at the center of its length to form a small loop a^2 at its doubling-point. From this doubling point or loop, the two arms of the stem are continued for a short distance parallel with and abutting against each other, after which they diverge, as shown at a^3 , and are continued outwardly in suitably curved and correspond-

ing lines, as indicated. As shown in the drawings, the outer end of each arm of this shank or stem is curved inward and outward to form hook-shaped terminations which cross each other, as indicated at a^4 . Surrounding the abutting portions of the spring-wire arms, between the doubling and converging point a^3 , are metallic disk-holding buttons b b' . These buttons are formed integral, their bodies being connected by a central tubular neck b^2 and the upper button being, as is usual in this class of stoppers, of less diameter than the lower button. Formed with the lower button b' is a central shell or projection, which, as shown in the drawings, consists of a short tubular neck b^3 , which terminates in a ball-shaped body b^4 , and which incases or incloses the doubling point or loop a^2 of the wire shank or stem. As will be observed from this construction, the buttons b b' and ball-shaped shell b^4 are formed integral, which results in the formation of a complete casing of the central and weaker portion of the stopper-wire. Clamped between the buttons b b' and encircling the button-neck b^2 is a rubber stopper-disk c of greater diameter than the buttons b b' . As is usual in this class of bottle-stoppers, the outwardly-bent portions formed by the curves in the arms of the spring-wire a' serve by spring pressure or engagement against the inner sides of the bottle-neck to retain the stopper-disk at the junction of the bottle neck and body and thus securely close the latter.

In case it is desired to gain access to the bottle for the purpose of cleaning the operation of removing the stopper entirely from connection with the bottle has been as follows: The stopper has been pressed completely within the bottle-body and the bottle so manipulated as to cause the stopper to be reversed or turned end for end within the bottle. In this position it is customary to withdraw the stopper from the bottle by engaging the loop a^2 of the wire with a suitable hook and drawing the stopper through the bottle-neck. The formation of the short bends necessary to produce the loop a^2 has resulted in weakening the wire to such extent that the latter often breaks at the doubling-point when submitted to the strain imparted thereto when the same is drawn through the bottle-neck. This difficulty I have remedied by incasing the doubling

point or loop and forming the same into a ball-shaped body, which may be easily grasped by the jaws *f'* of suitable pliers. (Shown in Fig. 6 of the drawings.) By the use of these pliers
5 the stopper may be readily withdrawn from the bottle with a direct strain upon the wire at its weakest point. In drawing the stopper back to the closed position shown in Fig. 1 of the drawings after it has been forced inward
10 I employ the tool shown in Fig. 6. In using this tool the hook end *s* thereof is engaged with the crossed stopper-hooks *a'*. It will also be observed that by forming the buttons *b b'* and the ball-shaped projection integral any
15 tendency of the buttons to become loose upon the wire which they surround is obviated and leakage is thus prevented.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

In a bottle-stopper, the combination, with the doubled spring-wire stem *a'*, integrally-formed disk-holding buttons *b b'*, surrounding, as described, the adjoining portions of said spring-wire arms, and a ball-shaped shell
25 *b'*, formed integral with said buttons and incasing, as shown and described, the doubling-point of said stem-wire, substantially as and for the purpose specified.

JOSEPH A. STUKEY.

In presence of—
BARTON GRIFFITH,
C. C. SHEPHERD.