

(No Model.)

W. C. KING.
BOTTLE LOCK.

No. 445,755.

Patented Feb. 3, 1891.

FIG.1.

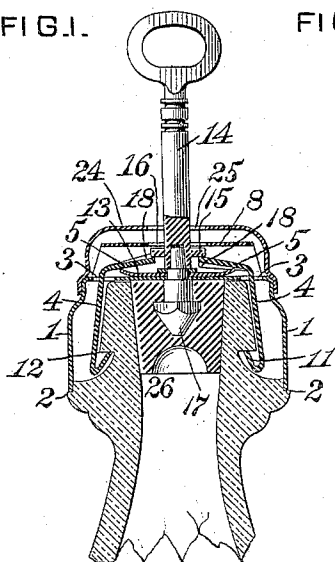


FIG.6.

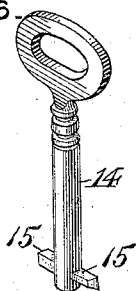


FIG.7.

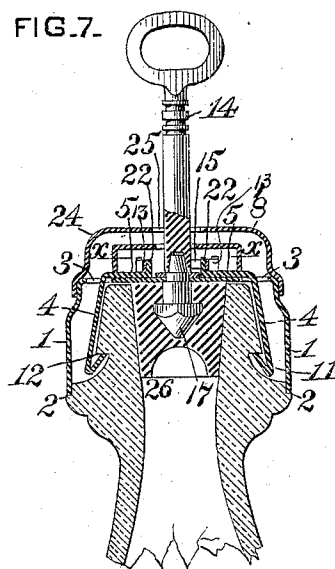


FIG.12.

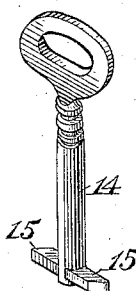


FIG.2.

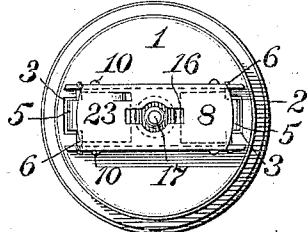


FIG.8.

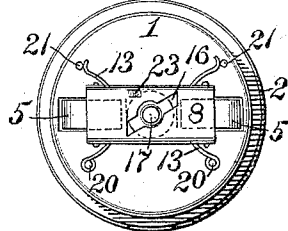


FIG.3.

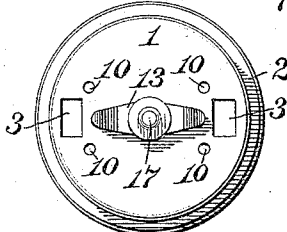


FIG.4.

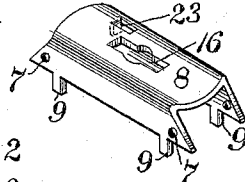


FIG.9.

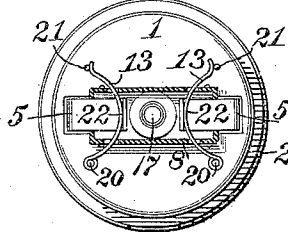


FIG.5.

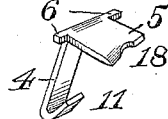


FIG.10.

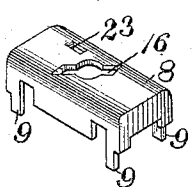
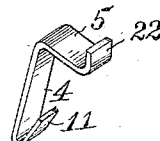


FIG.11.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM C. KING, OF PITTSBURG, PENNSYLVANIA.

BOTTLE-LOCK.

SPECIFICATION forming part of Letters Patent No. 445,755, dated February 3, 1891.

Application filed October 27, 1890. Serial No. 369,409. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. KING, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Bottle-Locks, of which improvements the following is a specification.

The invention described herein relates to certain improvements in locks for bottle-stoppers, and has for its object a construction capable of automatically locking itself on the bottle, and wherein the locking mechanism is so entirely protected as to prevent its being disengaged, except by a properly-constructed key.

In general terms the invention consists in the construction and combination of mechanical devices or elements, all as more fully hereinafter described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a sectional elevation of my improved lock-stopper applied to a bottle. Fig. 2 is a plan view, the top plate being removed. Fig. 3 is a plan view of the cap, the locking devices being removed. Fig. 4 is a perspective view of the guide-box for the locking devices. Fig. 5 is a similar view of one of the catches. Fig. 6 is a perspective view of the key. Figs. 7, 8, 10, 11, and 12 are views similar to Figs. 1, 2, 4, 5, and 6 of a modified structure; and Fig. 9 is a sectional view on the line *x x*, Fig. 7.

The locking mechanism is arranged on and partially inclosed by a shell 1, constructed to fit over the top of the bottle, its lower edge resting on a shoulder 2, formed on the neck of the bottle, as shown in Figs. 1 and 7. In the top of the shell are formed openings 3, through which project the arms 4 of the locking-plates. The arms 5 of said plates, being bent to an angle to the arms 4, project radially toward each other and lie approximately parallel with the top of the shell, as shown in Fig. 1.

In the construction illustrated in Figs. 1 to 5, inclusive, trunnions 6 are formed at the junction of the arms 4 and 5, said trunnions being journaled in the holes 7, formed in the sides of the box 8, fitting over the arms 5 and secured to the top of the shell by means of

pins 9, fitting in suitable holes 10 in the top of the shell, as shown in Figs. 3 and 4. At their ends the arms 4 are provided with inwardly-projecting hooks 11, adapted to engage a peripheral shoulder 12, formed on the neck of the bottle. The locking-plates are normally held in such position that the hooks 11 will engage the shoulder 12, when the shell is placed on the bottle, by a spring 13, secured at its middle point to the top of the shell and having its ends bent upwardly and bearing against the under side of the arms 5, as shown in Figs. 1 and 3. In order to release the shell, a key 14, provided with laterally-projecting lugs 15 and with an opening in its stem, is passed down through a slot 16 in the box 8, and then rotated on the centering-pin 17. The lugs 15, which are slightly beveled on their under sides, engage the correspondingly beveled or inclined surfaces 18 at the inner ends of the arms 5, thereby depressing such ends and shifting the hooks out of engagement with the shoulder 12.

In lieu of pivoting the locking-plates, as described, they may be made to slide radially in and out, as shown in Figs. 7, 8, and 9. In such a construction the arms 5 of the locking-plates rest upon the top of the shell and are held and guided by the ends of the box 8, said ends being notched, as shown in Fig. 10, to fit upon and around the arms 5. The plates are moved inwardly, so that the hooks 11 may engage the shoulder 12 by springs 13, as shown in Fig. 9. These springs have one of their ends attached to pins 20, while the other ends bear against pins 21, and the center portions bear against toes 22, formed on the inner ends of the arms 5. When employing such a construction, the lugs on the key bear against the toes 22, thereby forcing the plates outwardly against the tension of the springs 13.

In order to prevent the key from turning so far as to move out of engagement with the ends of the arms 5, thereby permitting the hooks 11 to again engage the shoulder 12, a portion of the top of the box is forced inwardly, thereby forming a stop 23 in the line of movement of the key.

A cap 24 is secured on the top of the shell, entirely inclosing the portions of the locking

mechanism projecting above the shell. In the cap is formed a slot 25 for the passage of the key, said slot being similar to the slot 16 in the box 8. If desired, the cap 24 may be so constructed that its top shall stand at a distance from the top of the box equal to the width of the lugs 15 of the key, and in such case the slots 16 and 25 may be arranged at an angle to each other, so that the key after passing through the slot 25 must be given a partial rotation before it can pass through the slot 16.

A stopper 26, formed of rubber or any other suitable material, may be secured within the shell, as shown in Figs. 1 and 7. The stopper may be secured to a downward extension of the centering-pin 17, such extension being provided with a head or enlargement, as shown.

I claim herein as my invention—

1. A bottle-lock having in combination a shell adapted to fit the top of the bottle, movable locking-plates mounted on the shell and provided with hooks constructed to pass outside the bottle-neck and engage an external shoulder thereon, and a spring for holding the plates in such position that the hooks will automatically engage said shoulder, substantially as set forth.

2. A bottle-lock having in combination a shell adapted to fit over the top of the bottle, movable locking-plates consisting of arms arranged at an angle to each other, the arms 4 of each plate projecting down into the shell and provided with hooks, the arms 5 extending radially over the top of the shell, a spring engaging the arms 5, and a key adapted to engage and shift the movable plates so as to move the hooked ends outwardly, substantially as set forth.

3. A bottle-lock having in combination a shell adapted to fit over the top of the bottle,

movable locking-plates, consisting of arms 4 and 5, arranged at an angle to each other, the arms 4 projecting down into the shell and provided with hooks, the other arms 5 extending radially toward each other, a spring for holding the hooked ends of the plates inwardly, a box arranged over the arms 5 and provided with a key hole or slot, and a key for engaging the inner ends of the arms and moving the hooked ends of the plates outwardly, substantially as set forth.

4. In a bottle-lock, the combination of a shell adapted to fit over the top of the bottle, movable locking-plates mounted on the shell and provided with hooks adapted to engage a shoulder on the bottle, a spring for shifting said plates, a box provided with a key hole or slot arranged over the inner ends of the movable plates, a cap provided with a key-hole secured to the shell over the box, and a key for shifting the plates against the tension of the spring, substantially as set forth.

5. The combination of a bottle having shoulders 2 and 12 on its neck with a shell fitting over the top of the bottle, its lower edge resting on the shoulder 2, movable locking-plates mounted on the shell and provided with hooks for engaging the shoulder 12, a spring for shifting the plates so as to cause the hooks to engage said shoulder, a cap provided with a key-hole secured to the top of the shell, and a stopper fitting within the bottle and attached to the shell, substantially as set forth.

In testimony whereof I have hereunto set my hand.

WILLIAM C. KING.

Witnesses:

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DARWIN S. WOLCOTT.