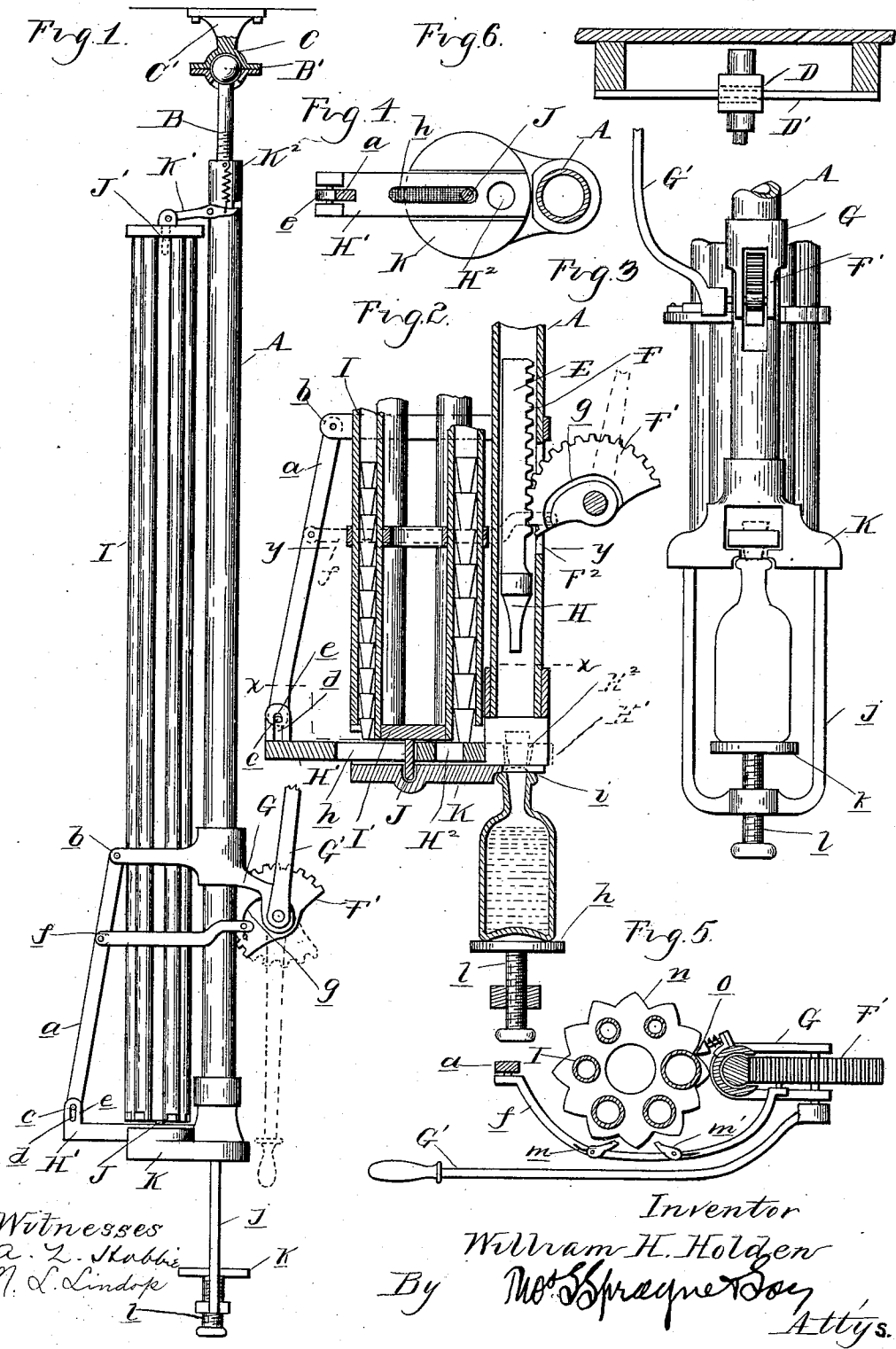


(No Model.)

W. H. HOLDEN.  
BOTTLE CORKING MACHINE.

No. 484,591.

Patented Oct. 18, 1892.



Witnesses  
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# UNITED STATES PATENT OFFICE.

WILLIAM H. HOLDEN, OF DETROIT, MICHIGAN.

## BOTTLE-CORKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 484,591, dated October 18, 1892.

Application filed October 26, 1891. Serial No. 409,882. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. HOLDEN, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Bottle-Corking Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in bottle-corking machines; and the invention consists in the peculiar construction of a machine embodying a reservoir adapted to hold a number of corks, a feed-plate having a restricted aperture to hold the corks, and a reciprocating plunger adapted to force the cork from said plate into the bottle.

The invention further consists in employing a series of reservoirs, whereby a number of corks of different sizes may be conveniently stored, and in providing means for feeding from any of said reservoirs.

The invention further consists in the peculiar construction, arrangement, and combination of the various parts, all as more fully hereinafter described.

In the drawings, Figure 1 is a side elevation of my improved device. Fig. 2 is a vertical central section through the lower part of Fig. 1 to show the reservoirs, plungers, and actuating mechanism therefor. Fig. 3 is a front elevation of that part of the machine shown in Fig. 2. Fig. 4 is a cross-section on line *xx* in Fig. 2. Fig. 5 is a cross-section on line *yy* in Fig. 2. Fig. 6 is a side elevation of a modified form of support for the top of the standard.

A is a hollow standard, which I preferably support from the ceiling of the room in which it is designed to be used.

B is a bolt having a screw-threaded engagement with the upper end of the standard A and either provided with a ball B', engaging in a round bearing C, formed in the bracket C', as shown in Fig. 1, or provided with a grooved head D, slidingly engaging with a rail D', as shown in Fig. 6. The construction shown in Fig. 1 will allow of swinging the standard upon the ball C, the construction shown being simply a ball-and-socket joint, while the construction shown in Fig. 6 allows of sliding the standard along, so that it may be moved from one part of the table to another. The object of this is that where I am

corking a large number of bottles by arranging them in rows the standard may be successively brought over each bottle to cork it.

E is a reciprocating plunger slidingly secured in bearings in the standard A and provided on its face with a rack F, with which a pinion F' is adapted to engage, the standard being cut away at F<sup>2</sup> to allow of the engagement of the pinion with the rack inside of the standard. The pinion F' is pivoted in a bracket G, which is secured to the standard A and is provided with an operating handle or lever G', suitably curved to allow of its movement beside the standard without danger of striking the operator. It is evident that by swinging the lever forward and back the plunger E will be vertically reciprocated, carrying with it the corking-head H, which in its movement passes through the feed-plate H', having the corking-receptacle H<sup>2</sup>.

I is a series of vertical tubes secured at top and bottom to the plates I' and preferably arranged in a circle around the circumference of those plates.

J is a pivot-pin extending from the lower plate I', engaging into a suitable socket formed in the base-plate K.

J' is a pivot-pin detachably engaging in the upper plate I' and secured to a lever K', pivoted to the standard A, a spring K<sup>2</sup> acting with its tension to hold the pivot normally in engagement with the plate I'.

The tubes I are preferably of different size and adapted to hold corks, which may be filled in through the aperture in the upper plate I' and which will fall by gravity to the lower end thereof. These tubes and plates form a revolving multiple reservoir for the corks. The corks in this tube rest upon a feed-plate H, located below but independent of the reservoir and having the aperture H<sup>2</sup> forming the cork-receptacle, being normally in the position shown in full lines in Fig. 2—that is, slightly in rear of that tube—from which the cork descends to be fed, and this plate is reciprocated beneath the reservoir by means of the lever *a*, pivoted at its upper end to the bracket *b* and at its lower end having the pin *c* engaging in the slot *d* in the ear or bearing *e*.

*f* is an actuating-arm connected with said lever *a* intermediate its ends and extending around the reservoir and standard and engaging in the camway *g*, formed in the face

of the pinion  $F^2$ , so arranged that as the lever  $G'$  is moved forward and back to vertically reciprocate the plunger, the movement of the engaging-pin on the lever  $f$  through the camway  $g$  will draw the lever  $a$  forward, and with it the feed-plate  $H'$ .

The feed-plate is provided with a slot  $h$ , through which the pivot-pin  $J$  of the reservoir passes. As the plate  $H'$  moves forward the cork-receptacle  $H^2$  will pass beneath that feed-tube which is arranged in its path, a cork will fall therein and be carried forward by the feed-plate to a point beneath the standard  $A$  in position for the head  $H$  to strike the top of the cork and force it through an aperture  $i$ , formed in the base-plate  $K$  beneath the plunger, driving the cork into the bottle which is arranged beneath.

The bottle may be placed upon a table or may be supported by means of a frame  $j$ , having an adjustable plate  $k$ , supported upon a screw-bolt  $l$  at the lower end, as plainly shown in Figs. 2 and 3. Where the bottle is placed upon the table, the upward thrust is designed to be taken up against the bracket  $C'$ , or where the rail  $D'$  is used against the ceiling of the room.

To prevent a cork being fed into the cork-receptacle in the return movement of the feed-plate, I arrange spring-pawls  $m m'$  upon the lever  $f$ , adapted to engage with the serrations upon the periphery of the plate  $n$  to partially rotate the reservoir in the forward movement of the arm  $f$  after the cork has been fed into the cork-receptacle  $H^2$ , the movement being sufficient to carry the feed-plate from which the cork is delivered to one side of the path of the cork-receptacle, holding it in that position until after said receptacle has passed in its return movement beyond the feed-tube, when the oppositely-arranged pawl will carry it back to its normal position, ready to deliver another cork in the next operation.

It is evident that the operator may take hold of the reservoir and turn it so as to feed from any one of the feed-tubes, a spring-pin  $o$  being arranged to engage with the serrations upon the plate  $n$  to hold it in its adjusted position.

What I claim as my invention is—

1. In a machine for corking bottles, the combination, with a cork feeding and forcing mechanism, of a cork-receiving reservoir, means for connecting the feed mechanism with the reservoir in its forward movement and disconnecting the same in its return movement, substantially as described.

2. In a bottle-corking machine, the combination, with a standard, of a plunger working in the same, a revolving reservoir carried by the standard, an independent reciprocating feed-plate below the reservoir, and means for simultaneously moving the plunger, feed-plate, and reservoir, substantially as described.

3. In a bottle-corking machine, the combi-

nation, with a supporting-standard, of a vertically-movable plunger carried by the standard and having a rack-bar thereon, a pinion meshing with the rack, a movable reservoir supported by the standard, a notched plate on the reservoir, a lever actuated by the pinion, a sliding feed-plate actuated by the lever, and means engaging the notched plate for moving the reservoir, substantially as described.

4. In a machine for corking bottles, the combination, with the standard  $A$ , the vertically-reciprocating plunger, the revolving multiple-chambered reservoir beside said standard, the feed-plate  $H'$ , the cork-receptacle  $H^2$  therein, of means for reciprocating said plate and actuating said plunger, and means for rotating said reservoir to bring one of the chambers in line with said receptacle in the forward movement thereof and out of line with said receptacle in the return movement, substantially as described.

5. In a machine for corking bottles, the combination, with the cork forcing and feeding mechanism, of a multiple-chambered reservoir and means for connecting said feed mechanism with the reservoir in the forward movement thereof and for disconnecting the same in the return movement thereof, substantially as described.

6. In a bottle-corking machine, the combination, with a hollow supporting-standard and means for adjustably securing the same to the support at its upper end, of a vertically-movable plunger in the standard, a revoluble reservoir supported by the standard, a rack on the plunger, a pinion meshing with the rack and supported on the standard, a notched plate on the reservoir, a lever actuated by the pinion, a sliding feed-plate actuated by the lever, and means for rotating the reservoir by the movement of the pinion, substantially as described.

7. In a bottle-corking machine, the combination, with the standard and means for adjustably suspending the same from its upper end, of a plunger carried by the standard, having a rack thereon, a pinion on the standard engaging the rack, a cork-reservoir on the standard, a feed-plate below the reservoir, and a lever connecting the plate with the pinion, substantially as described.

8. In a bottle-corking machine, the combination, with a vertically-disposed standard, of means for movably suspending the same from above, a plunger working in the standard, means for reciprocating the plunger, a reservoir carried by the standard, and a reciprocating feed-plate below the reservoir and supported by the standard, substantially as described.

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

WILLIAM H. HOLDEN.

Witnesses:

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RICHARD H. BAXTER.