

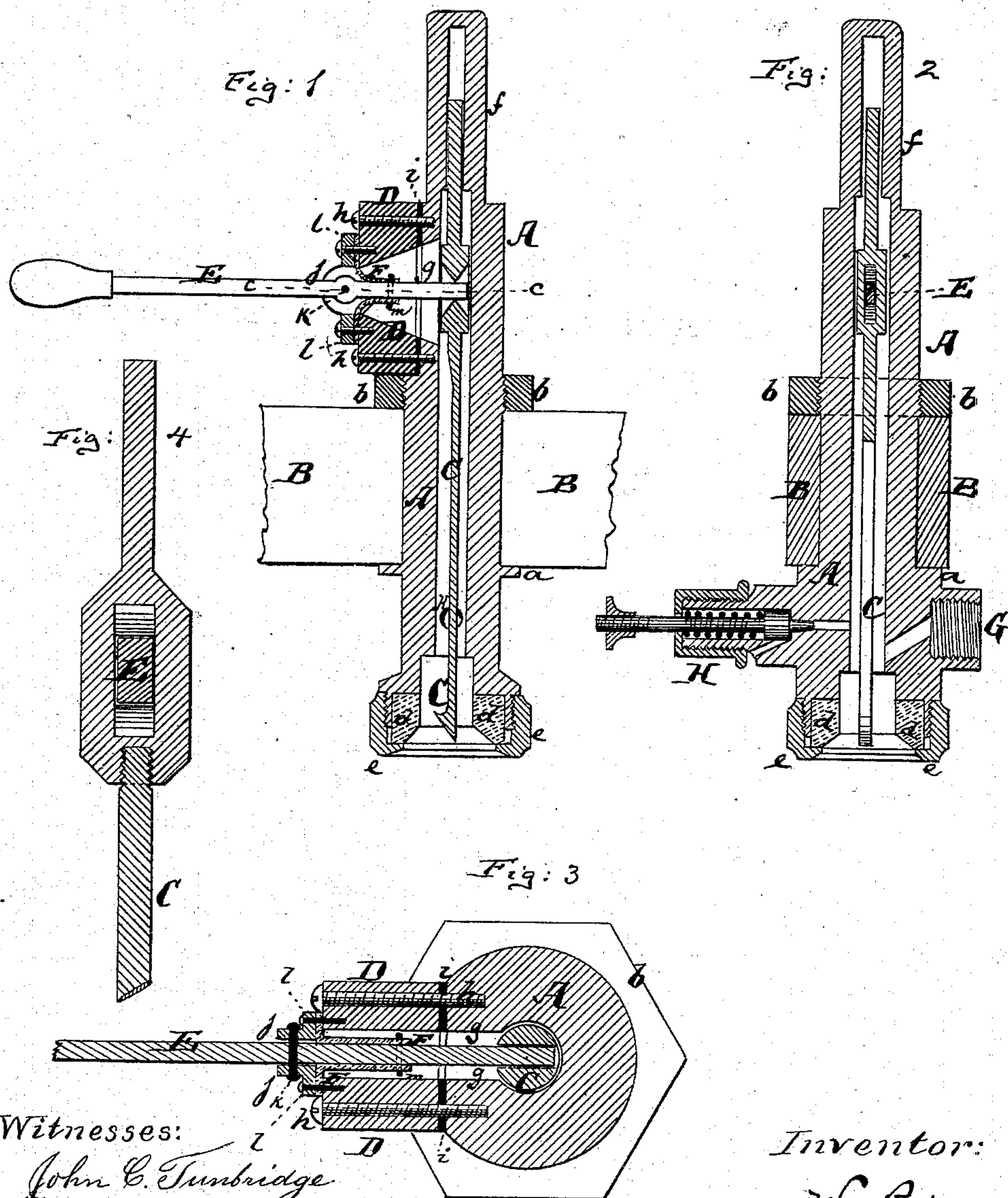
(No Model.)

H. W. PUTNAM.

BOTTLING MACHINE.

No. 272,153.

Patented Feb. 13, 1883.



Witnesses:
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UNITED STATES PATENT OFFICE.

HENRY W. PUTNAM, OF BENNINGTON, VERMONT.

BOTTLING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 272,153, dated February 13, 1883.

Application filed October 30, 1882. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. PUTNAM, of Bennington, in the county of Bennington and State of Vermont, have invented an Improved Bottling-Machine, of which the following is a specification.

This invention relates to a new machine for supplying bottles that contain internal stoppers with liquid, and for closing the stoppers when the bottles are filled. The internal stoppers must be raised to close the bottles, and in bottling apparatus as heretofore proposed a vertically-movable hook working in the tubing that supplies the liquid to the bottle has been employed. Said hook extended through a stuffing-box in the upper part of the tubing, and was connected with a hand-lever outside of said tubing.

The object of my invention is to do away with that stuffing-box and with all danger of leakage, which exists when the stuffing-box is employed.

My invention consists principally in providing the tube that guides the stem of the hook with a projection in which the hand-lever is pivoted, in carrying said hand-lever through the side of the tube into a slot in the shank of the hook, and in forming a tight joint by a flexible connection between the hand-lever and the projection of the tube, all as hereinafter more fully described.

In the accompanying drawings, Figure 1 represents a vertical central longitudinal section of my improved bottling apparatus. Fig. 2 is a vertical central cross-section of the same. Fig. 3 is a horizontal section on an enlarged scale, taken on the plane of the line *c c*, Fig. 1. Fig. 4 is a vertical section, on an enlarged scale, of that part of the shank of the hook which is traversed by the lever.

The letter A in the drawings represents the upright tube of the bottling apparatus, said tube being hung in the framing B, that holds it suspended over the bottling-table.

For the purpose of connecting the tube with the framing B, which framing is usually at this place a cross-piece, the tube is provided with a flange, *a*, on which said framing rests, and with a fastening-nut, *b*, which engages

with the threaded portion of the tube A directly above the framing B, clamping the latter against the flange *a*.

The lower part of the tube A is provided with an annular cushion, *d*, held in place by a flanged nut, *e*, in the usual manner.

C is the hook, placed into the tube A, as shown, and adapted to be moved up and down therein. The shank of the hook at its upper end enters the contracted uppermost part, *f*, of the tube A, and is guided therein, inasmuch as said shank fits the bore of the contracted portion *f* with sufficient exactness to find proper guidance therein.

In the side of the tube A, above the nut *b*, is an elongated aperture, *g*, which is longer vertically than horizontally, as appears from a comparison of Figs. 1 and 3.

To the outer (preferably flattened) part of the tube A, around said aperture *g* is fastened by screws *h* or otherwise a hollow block, D, between the inner face of which and the outer face of the tube A a perforated packing-plate, *i*, is by preference inserted.

In ears *j*, that project from the block D, or from a face-plate, *l*, attached thereto, is hung by a pin, *k*, the hand-lever E, which extends into the tube A, and into or through a slot formed in the shank of the hook C.

A flexible and water-proof piece of india-rubber or analogous material, which piece is marked F in the drawings, connects the lever E; where it enters the block D, with the outer face of the block D—that is to say, said flexible piece of india-rubber F is fastened to the outer face of the block D, and held there by the face-plate *l*, which is secured by screws or otherwise. The inner part of the flexible piece F extends inward along and around the lever E to a certain extent, and is tied tightly around said lever by a band, *m*, of wire, or otherwise tightly secured to the circumference of the lever. The flexible piece F thus secured will prevent the escape of gases or of liquid from the tube A through the aperture of the block D and around the lever E, and will still allow the lever to vibrate freely on its pivot *k*; and it will also constitute a sort of a spring, which will tend to hold the lever in a certain position, and with

it the hook C. Thus in the drawings the hook C is shown of such a length that when the lever is held in its horizontal position by the springy action of the elastic and flexible piece F the hook C will be in its middle position—that is, in a position intermediate between its lowest and highest—so that the operator can lower the hook into the bottle and into engagement with the stopper when ready to do so, and afterward pull up the hook, so as to raise and close the stopper; but the adjustment may also, if desired, be such that when the lever is held in its normal position by the elastic and flexible piece F the hook C will be either in its lowermost or in its uppermost position, as may be desired. Those edges in the slot of the shank of the hook C which are in contact with the lever E are by preference made sharp, like knife-edge pivots, or rounded, as shown in Fig. 1, so as to cause as little friction as possible when the lever is moved on its pivot. The shank of the hook below the slotted portion that engages with the lever E should be springy for greater convenience of operation in engaging with the stopper laterally.

Fig. 4 shows a convenient arrangement of constructing the shank of the hook by screwing the lower part of its shank into the upper part, which is slotted. This enables me to unscrew the hook and to substitute for it a different hook, either a longer or shorter, broader or narrower, as occasion may require, without necessitating the taking out of the other parts of the bottling apparatus.

Fig. 2 shows the lower part of the tube A connected with the liquid-supply tube G and with the air-vent extension H, which are ordinary well-known contrivances.

It will be perceived that my apparatus, in not employing a stuffing-box for the guidance of the shank or stem of the hook C, avoids the danger of leakage around said shank or stem, and facilitates also the manipulation of the parts.

Another advantage of my construction is that, for the purpose of taking the parts of the apparatus asunder, it is not necessary to break the connection between the tube A and the cross-piece B, as all the parts C D E and their appurtenances can be disengaged from the tube without disturbing said connection.

The ears *j*, which are shown as projecting

from the face-plate *l*, may, if desired, be caused to project from the block D.

Instead of joining the lever E to the hook C by passing the former through a slot in the latter, any other mode of connection may be employed, such as a flexible link-connection, ball-and-socket joint, or the like.

The opening through the block D, which coincides with the opening *g* of the tube A, is by preference made inwardly flaring, as shown in Fig. 1, so as to allow proper play for the lever E, and yet expose as little of the flexible part of the piece F as possible to direct contact with the gases and liquid.

The block D may be made in one piece with the tube A, or entirely omitted if the tube is thick enough, and constitutes, for the purposes of my invention, only a part and parcel of said tube.

I claim—

1. In a bottling apparatus, the tube A, having side opening *g*, combined with the flexible connecting-piece F, lever E, and hook C, substantially as herein shown and described.

2. In a bottling-machine, the tube A, having shoulder *a* and clamping-nut *b*, combined with the supporting-frame B, and the face-plate *l*, flexible piece F, lever E, and hook C, substantially as herein shown and described.

3. In a bottling apparatus having a tube, A, and reciprocating hook C, the combination thereof with the lever E, that extends through the side of the tube A, and connects with that part of the hook which is within said tube, substantially as specified.

4. The tube A, having contracted upper portion, *f*, combined with the reciprocating hook C and lever E, which enters the tube A through the side thereof and connects with said hook, substantially as described.

5. The flexible connecting-piece F, placed over an opening in the side of the tube or chamber A, and around a lever entering the tube or chamber through said opening, and secured to and combined with said lever and said tube, substantially as herein shown and described.

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Witnesses:

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