

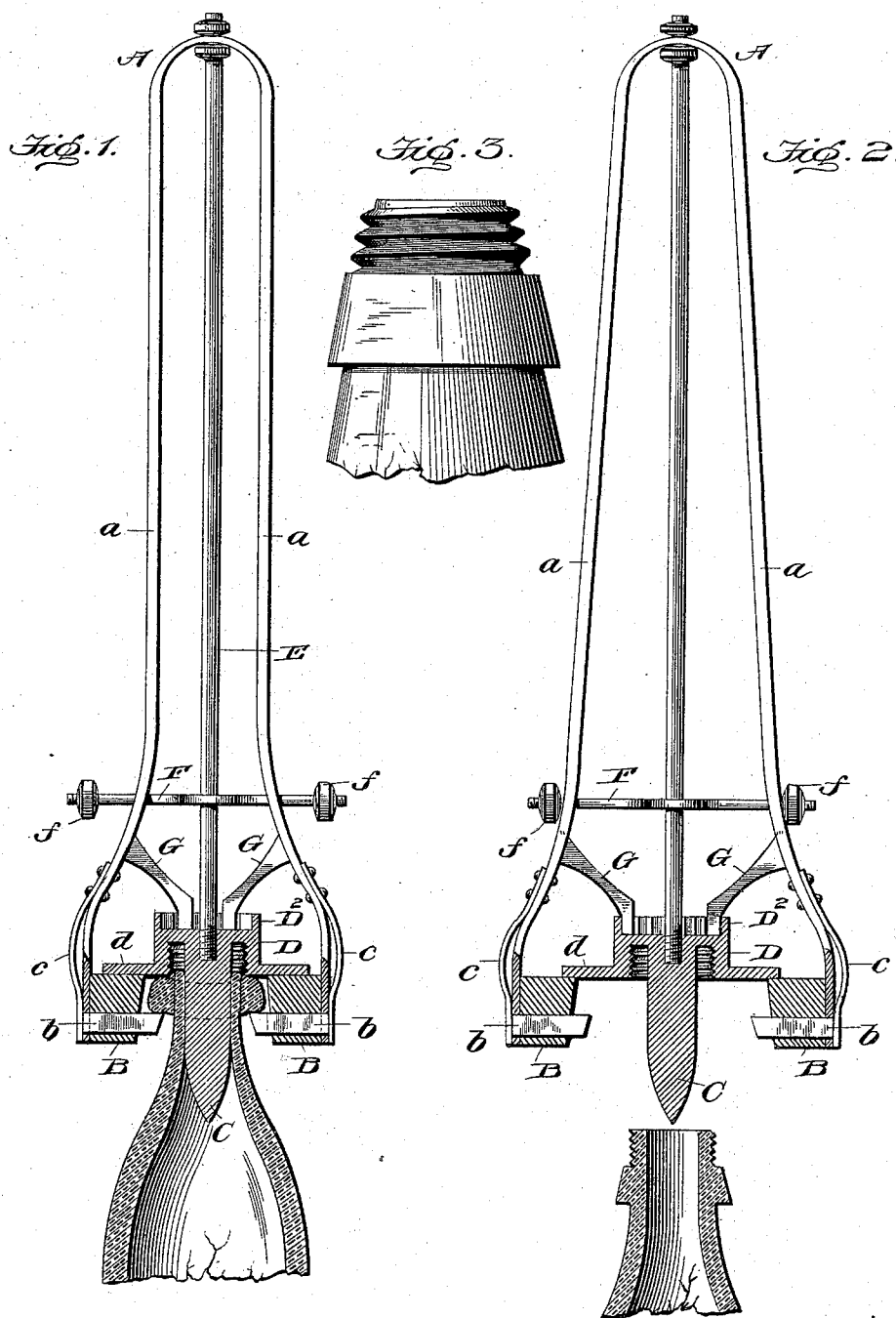
(No Model.)

R. GOOD, Jr.

IMPLEMENT FOR THREADING AND FINISHING BOTTLE NECKS.

No. 534,873.

Patented Feb. 26. 1895.



Witnesses:

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By,

UNITED STATES PATENT OFFICE.

ROBERT GOOD, JR., OF POUGHKEEPSIE, NEW YORK.

IMPLEMENT FOR THREADING AND FINISHING BOTTLE-NECKS.

SPECIFICATION forming part of Letters Patent No. 534,573, dated February 26, 1895.

Application filed July 6, 1894. Serial No. 516,702. (No model.)

To all whom it may concern:

Be it known that I, ROBERT GOOD, Jr., a citizen of the United States, residing at Poughkeepsie, in the county of Dutchess and State of New York, have invented certain new and useful Improvements in Implements for Threading and Finishing Bottle-Necks; and I do hereby 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.

My invention relates to implements for threading and finishing bottle necks.

It has generally been the practice heretofore to apply the external thread to the bottle neck by blowing it thereon while in a mold and after the bottle has gotten cold the end of the neck is finished by grinding. This method leaves an undesirable ground surface on the end of the neck. Bottle necks above a certain size cannot be threaded by this method because in blowing large bottles, say from two gallons up, the glass is too cold when put into the mold to take any impression from a thread cut therein.

It was principally with a view to finishing and threading large ware that I made my invention, but it is applicable to smaller ware also.

The object of the invention is to provide a simple implement for finishing and threading the necks of bottles while in a heated state and not only without the necessity of grinding them, but with a smooth surface at the top adapted to make a water tight joint when covered by cork or similar substance.

In the accompanying drawings in which like letters of reference denote corresponding parts, Figure 1, is a side elevation partly in section showing the ring on the neck of the bottle about to enter the mold and the jaws partly compressed. Fig. 2, is a similar view with the jaws expanded and the implement released from the bottle, and Fig. 3, is a side elevation of the neck of the bottle finished.

Referring to the drawings, A represents the spring bow or handle of the implement; the two arms or members *a a* of which, extend parallel with each other for a portion of their length but gradually diverge thence toward their free ends which terminate in the opposed jaws or bits B B. These jaws are pro-

vided with transverse apertures in which freely slide the stops *b b* the inner ends of which may be beveled or otherwise shaped to adjust them to different bottle necks and so better permit their upper edges to bear tightly against the bottle neck, and thus effectually to prevent the escape of the hot glass downward. These stops slide against the action of light springs *c c* secured to the arms *a a*.

C is the tapered plug or mandrel to enter the mouth of the bottle and prevent its collapsing while the neck is being operated upon. This plug or mandrel is provided at its upper end with an internally threaded, downwardly opening, cap-like mold, D; the lower edge of which is provided with an annular flange *d* overlapping the upper sides of the finishing jaws B B, and working smoothly against the upper face of the jaws without friction.

The top surface of the mold D is provided with an internally toothed ring or ratchet D² and the arms *a a* are each provided with a pawl G to engage said toothed ring or ratchet, and lock the mold and plug or mandrel against rotation when the arms *a a* are allowed to spring outwardly; but when the arms are pressed together, the pawls will be disengaged from toothed ring and the mold and plug or mandrel will be free to turn.

E is the stem or shaft of the mold and is screwed into the upper end thereof and this stem or shaft is swiveled at its upper end in the bow A and near its lower end passes through an aperture in the guide bar F which guide bar passes at its ends freely through apertures in the arms *a a* and permits of free movement of the arms toward each other, but nuts *f f* on the extremities of said bar limit the outward movement of the said arms. By adjusting the nuts *f f* the mold and mandrel may be centered between the jaws B B.

The operation is as follows:—I first cast or otherwise apply a ring of glass around the partly cooled neck of a bottle. Then while the ring is still hot I insert the plug or mandrel C in the mouth of the bottle and bring the inner faces of the bits B B to bear by pressure on arms *a a* against the hot ring of glass, forcing the latter into the internally threaded mold D (the bottle meanwhile being rotated and the mold being free to rotate therewith), thus compressing the said ring laterally by

the said jaws which force it into the mold, while the stops *b b*, engage the lower edge of the ring and prevent it from escaping down on the bottle neck. As the operator holds the bow or handle *A*, the jaws *B B* are stationary relatively to the revolving bottle and therefore the exterior of the plain portion of the neck formed by the cast ring will be smoothed and freed from all roughness and the stops *b* will produce the same effect upon the lower edge of this plain portion or lower ring, at the same time that they aid in forcing the hot glass firmly into the freely rotating mold *D*. The arms *a a* are now allowed to spring apart which causes the pawl *G* to engage the toothed ring and lock the mold and mandrel against rotation, and as the bottle is being revolved in the proper direction, it will unscrew itself from the mold, or if desired the bottle may be held stationary and the implement rotated to unscrew its mold from the bottle neck. The end of the neck and the threads will be perfectly smooth and no grinding whatever will be necessary.

Instead of casting a ring of glass upon the bottle as just described, the neck of the bottle may be heated in a glory-hole furnace and the above described method of threading and finishing carried out with the exception that the stops *b b* will not be necessary as there will be no slippage to be guarded against. In both instances, however, a heated bottle neck is finished and threaded while being rotated by forcing it into a mold free to turn with it, the compressing of the neck serving in each method to force the glass into the mold and at the same time to impart the external finish to the lower ring.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. An implement for threading and finishing bottle-necks comprising arms movable toward and from each other and terminating in opposed jaws provided with independently movable stops projecting beyond their adjacent faces, an internally threaded cap-like mold mounted between the said arms to turn freely, a plug or mandrel depending from the mold to enter the bottle neck, and means for locking the arms and mold together when the

arms are in their outermost position, substantially as herein described.

2. An implement for threading and finishing bottle-necks comprising arms movable toward and from each other and terminating in opposed jaws each provided with a spring pressed stop, an internally threaded cap-like mold journaled between the arms to turn freely and provided with a depending plug or mandrel and with a peripheral flange projecting over said jaws, and means for locking the mold to the arms when the latter are in their outermost position, substantially as herein described.

3. An implement for threading and finishing bottle-necks which consists in a bow the outwardly springing arms of which terminate at their free ends in the opposed jaws, independently movable stops carried by said jaws, a freely rotating cap-like mold mounted between the said arms and having a depending plug or mandrel to enter the bottle neck, an annular toothed ring or ratchet on the upper side of the mold, and pawls on the arms to engage the said ring or ratchet when the arms are in their outermost position, substantially as herein described.

4. An implement for threading and finishing bottle-necks comprising the spring bow, the arms of which terminate at their free ends in the opposed jaws, a transverse centrally apertured bar connecting the said arms above the jaws and permitting free movement thereof; the ends of the bar having stops thereon, a stem swiveled in the bow and extending freely through the aperture in said bar, a depending internally threaded cap-like mold on the lower end of the stem and having a mandrel to enter the bottle neck, and a peripheral flange extending over the said jaws, and a pawl and ratchet mechanism for locking the said mold and arms together when the arms are in their outermost positions, substantially as herein described.

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

ROBERT GOOD, JR.

Witnesses:

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