J. Focer,

Making Glass Bottles.

No. 30,106. Patented Sep. 18, 1860.

Fig. 1.

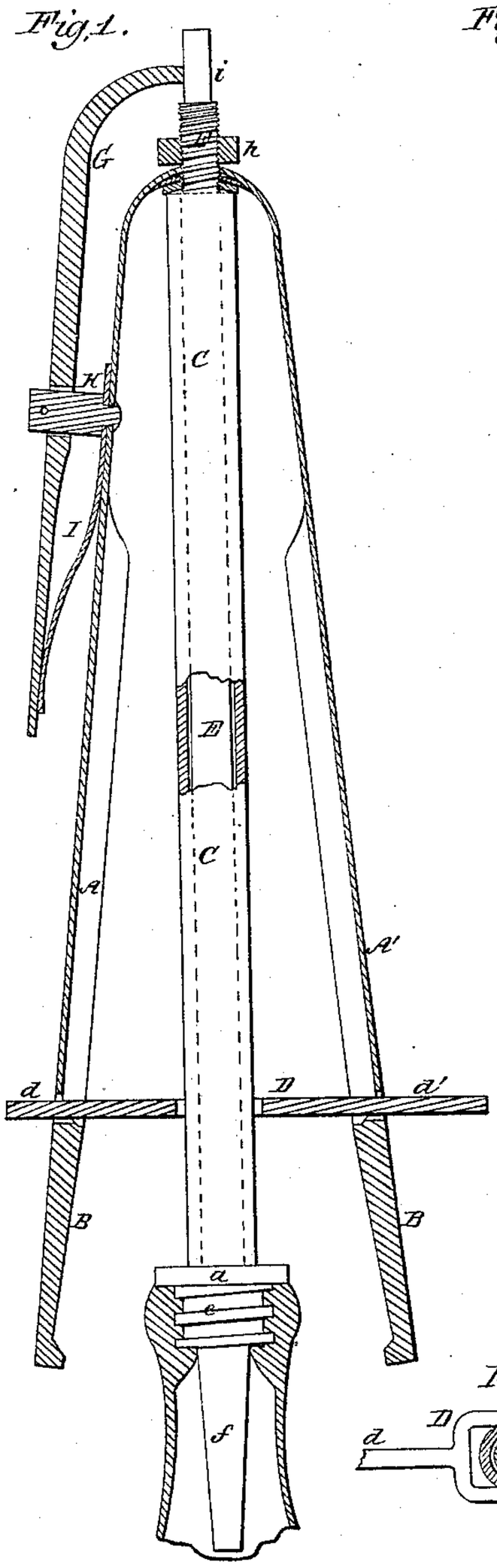


Fig. 2.

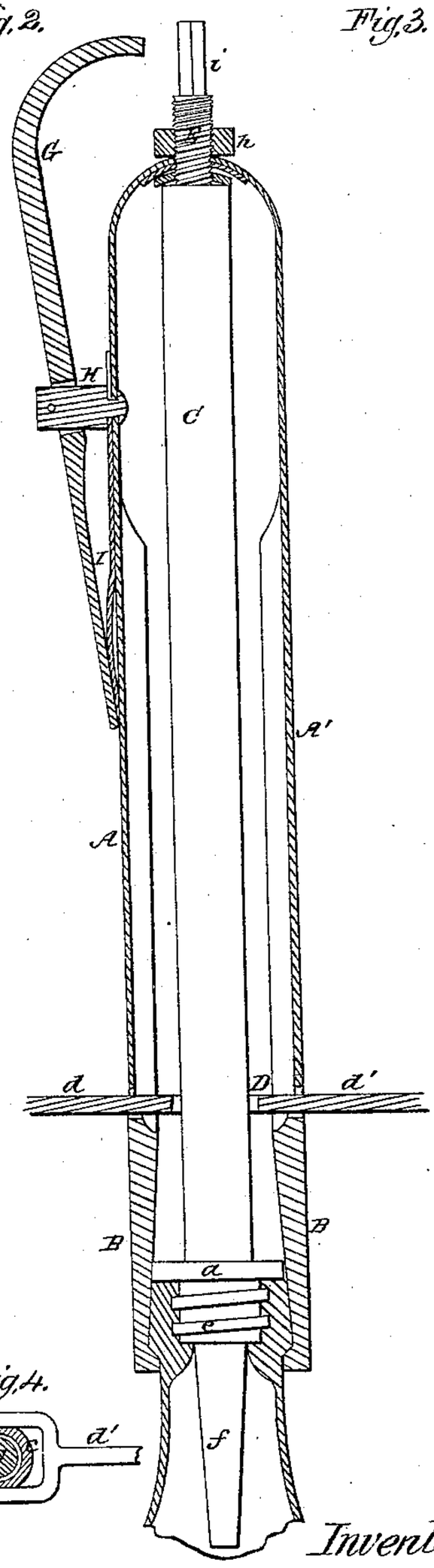


Fig. 3.

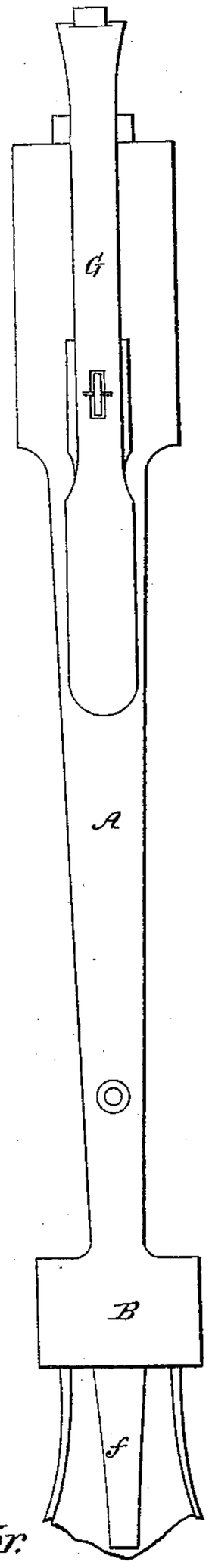
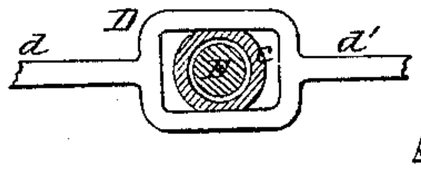


Fig. 4.



Witnesses. Wm. G. Joan
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UNITED STATES PATENT OFFICE.

JOHN FOCER, OF GLASSBORO, NEW JERSEY, ASSIGNOR TO WHITNEY BROTHERS, OF SAME PLACE.

TOOL FOR FORMING SCREWS IN THE NECKS OF BOTTLES.

Specification of Letters Patent No. 30,106, dated September 18, 1860.

To all whom it may concern:

Be it known that I, JOHN FOCER, of Glassboro, in the county of Gloucester and State of New Jersey, have invented a new and Improved Tool for Forming Screws in the Necks of Bottles; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

My invention consists in forming a screw within the neck of a bottle and shaping the exterior of the neck by means of a rod with a screw formed thereon, and certain jaws arranged to open and close substantially in the manner described hereafter, the said screwed rod, being combined with the devices hereinafter set forth or their equivalents, so that it may be retained or released at the pleasure of the operator.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawing, which forms a part of this specification, Figures 1 and 2 are vertical sections of my improved tool for forming screws in the necks of bottles. Fig. 3 an edge view. Fig. 4 a detached plan view of part of the machine.

Similar letters refer to similar parts throughout the several views.

A and A′ are two arms formed, in the present instance, of one piece of metal, the bent junction of the two arms forming a spring, and the lower ends of the arms being provided with jaws B, which serve to shape the outside of the bottle's neck as seen in Fig. 2.

C is a tubular spindle, provided at the lower end with a plate *a*, and passing through a yoke D, one projection *d* of this yoke passing through the arm A, and the other projection passing through the arm A′.

It will be observed on reference to Fig. 4, that the portion of the spindle which passes through the yoke, is slightly flattened on the opposite sides, and that the yoke is so adapted to these flat sides as to prevent the spindle from turning independently of the arms.

Through the tubular spindle C passes a rod E, the lower end of which, immediately below the plate *a* has a screw *e* of the form required to be imparted to the inside of the bottle's neck, the rod below the screw terminating in the tapering projection *f*, the object of which will be shown hereafter.

The upper screwed end of the rod E passes through the bent junction of the two arms A and A′, above which it is furnished with a nut *h*, the rod above this nut having a square termination *i*, adapted to fit into the forked end of the lever G, which has its fulcrum in a projection H on the arm A; a spring I attached to the same arm, and acting on the inside of the lever G, tends to retain the latter in the position shown in Fig. 1, its forked end embracing the square top *i* of the rod E.

The operator takes the above-described tool in one hand, the jaws being allowed to spring open, and care being taken that the forked end of the lever G shall retain its hold of the rod E, and prevent the latter from turning within the tubular spindle C. The bottle with its neck in a plastic state is then applied to the tool, the tapering end *f* of the rod being first passed into the mouth of the bottle so as to prepare the way for the screwed portion *e* of the rod; the bottle is then turned around until the screw penetrates the neck as far as the plate *a*. The outside of the neck which by the above operation has assumed a shape more or less irregular, has now to be reduced to the proper form. This is accomplished by closing the jaws, forcing them against the side of the neck, pressing on the lever G, so as to set the rod E at liberty, and allow it to revolve freely with the bottle, this turning of the bottle while the sides of the neck are in contact with the jaws being necessary to complete the desired shape of the neck. After this, and while the tool is still held in the hands of the operator, the jaws are allowed to spring open, the pressure being at the same time removed from the lever G, so that its forked end will again grasp the square end *i*, of the rod E, and prevent the latter from being turned as the finished bottle is unscrewed from the lower end of the rod.

It will be observed that the tapering projection *f* is of such a diameter compared with that of the screwed portion *e* of the rod E as to leave a shoulder, which forms a corresponding shoulder in the neck of the bottle, for the reception of a washer at the end of the stopper.

I claim as my invention and desire to secure by Letters Patent.

Forming a screw within the neck of a bottle, and shaping the exterior of the neck, by means of the rod E, its screwed portion *e*, and the jaws B, B, the latter being arranged to open and close substantially as set forth, and the whole being combined with the devices herein described, or their equivalents, so that the rod may be readily released or retained for the purpose specified.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

JOHN FOCER.

Witnesses:
WM. G. DOWN,
THOS. ARMADANN.