

G. W. FRY.
HOLDERS FOR TUMBLERS.

No. 176,525.

Patented April 25, 1876.

Fig. 1.

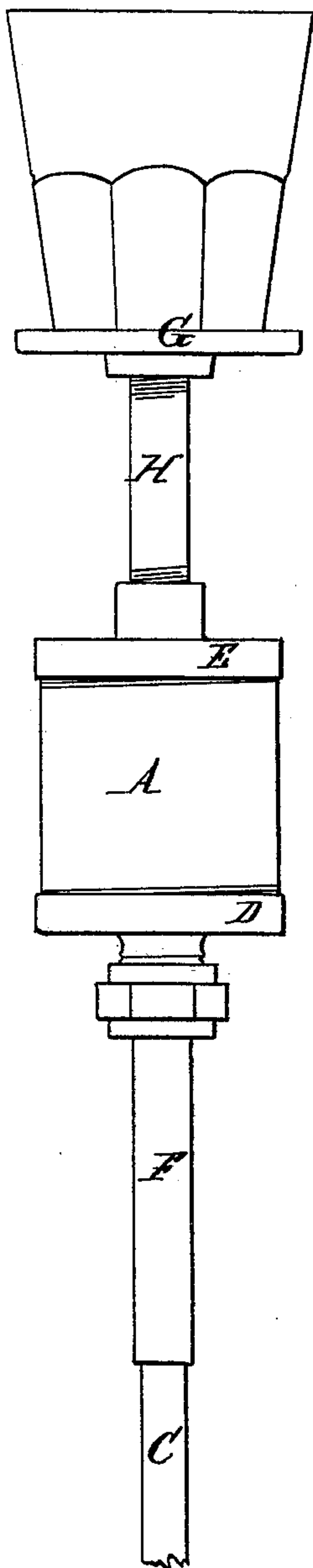
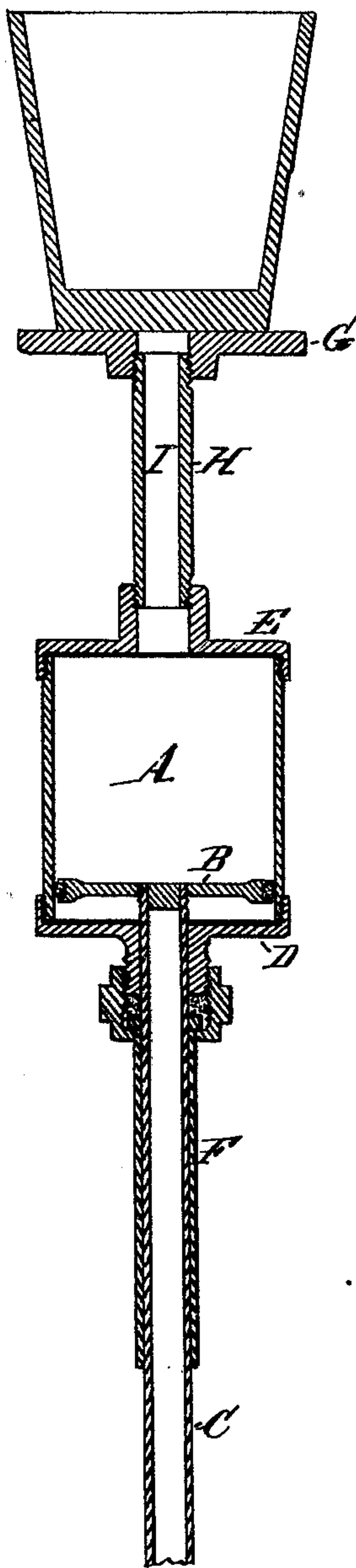


Fig. 2.



Witnesses
Thos P. How
E. L. Sherman

Inventor
Geo. W. Fry.

UNITED STATES PATENT OFFICE.

GEORGE W. FRY, OF ROCHESTER, PENNSYLVANIA.

IMPROVEMENT IN HOLDERS FOR TUMBLERS.

Specification forming part of Letters Patent No. **176,525**, dated April 25, 1876; application filed March 27, 1876.

To all whom it may concern:

Be it known that I, GEORGE W. FRY, of Rochester, in the State of Pennsylvania, have invented a new and useful Improvement in Holders for Tumblers; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, and the letters of reference marked thereon, in which the same letter represents the same thing in each figure.

Figure 1 is a front view of a holder embodying my invention with a tumbler attached. Fig. 2 is a sectional view of the same.

Tumblers, after being molded, pressed, or blown into the desired shape, are attached at their bottoms to a rod or punty, and held in a furnace until a desired degree of heat has been attained to finish it, and then the tumbler is finished upon the top or sides, as may be required. The mode of attachment consisted in having upon the end of the rod or punty a projection of sufficient size, and then rolling it around in the molten glass until enough glass should adhere to enable a tumbler to be sufficiently secured when pressed upon the bottom, so as to allow it to be finished as desired. Upon removing the tumbler the bottom is left rough and uneven, and requires an additional operation to make it smooth enough to render it salable. Snap catches or springs have also been used as means of attachment when the article was of such shape that it could be held by any such device. In this case the impression of the snap or catch was usually left upon the article when finished, and injured its appearance.

My invention consists in constructing a holder with an air-tight chamber and flat smooth holding-surface, in such manner that when the holder is placed upon the bottom of a glass tumbler, and a portion of the air has been previously removed, the tumbler will be held securely in place by reason of the natural pressure of the atmosphere upon the tumbler. By this means the bottom of the tumbler, when removed from the holder, is left smooth and perfect, and does not require any further finishing.

In the drawings, A represents an air-tight cylinder or chamber, with a piston, B, so constructed as to work air-tight in the cylinder. C is the piston-rod leading out through

the cylinder-head D, and may be made long enough so as to form the main handle of the holder. F is a pipe, large enough for the piston-rod to slide through, and is connected with the cylinder-head D by means of a nut, or in any suitable manner, the connection being made air-tight by packing, or otherwise. G is a disk or bearing-surface, which presses upon the bottom of the tumbler, and is connected with the air-cylinder by means of the pipe H, which is securely fastened to the head E of the air-cylinder. This disk has an opening, I, leading through the pipe H into the air-cylinder. The cylinder-heads may be screwed on or secured by bolts, as may be preferred. Before securing the top cylinder-head the piston must be drawn up to the top, so that when the piston is forced down a vacuum will be created between the piston and the top cylinder-head.

To use my improved holder, first force down the piston by means of the piston-rod; the air in the cylinder will escape through the opening in the disk, and a vacuum will be created between the piston and the top cylinder-head. Then apply the bottom of the tumbler to the disk and remove the pressure from the piston rod, and the atmospheric pressure upon the tumbler will hold it securely upon the disk. To remove the tumbler, press down the piston-rod, and the tumbler can easily be withdrawn from the disk.

I do not confine myself to the precise form of the parts herein shown, as modifications thereof may be made which will produce the same result.

I claim as my invention—

1. Securing a tumbler on the end of a holder by atmospheric pressure, substantially in the manner and by the means described.
2. The combination of a disk or holding-surface, having an opening for air, with an air-chamber, piston, and piston-rod, substantially as and for the purposes herein set forth.
3. The combination of a disk or holding-surface, having an opening for air, and the connecting-pipe, with an air-chamber, piston, and piston-rod, substantially as and for the purposes herein set forth.

GEO. W. FRY.

Witnesses:

THOS. P. HOW,
E. L. SHERMAN.