DANIEL C. RIPLEY.

Apparatus for Finishing Tumblers.

No. 125,145 Patented April 2, 1872.

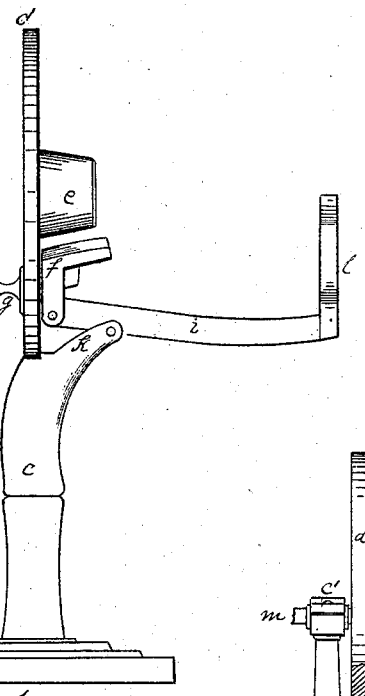

Fig. 1.

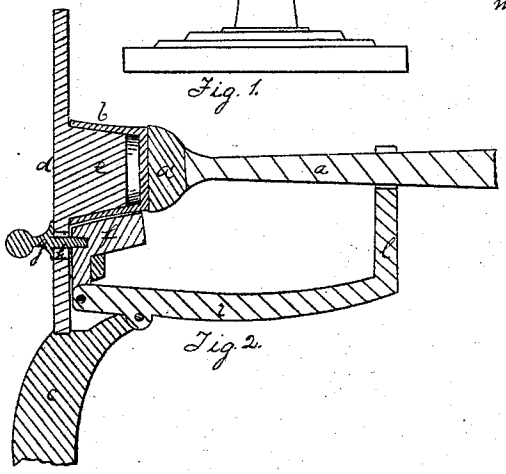

Fig. 2.

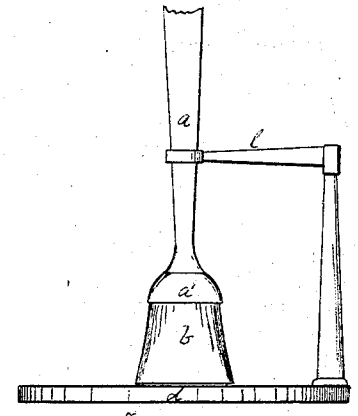

Fig. 4.

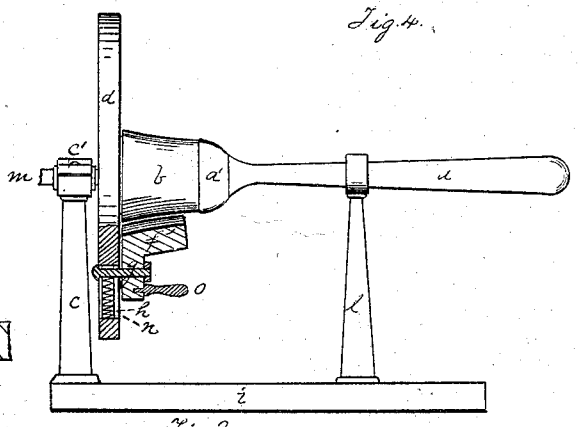

Fig. 3.

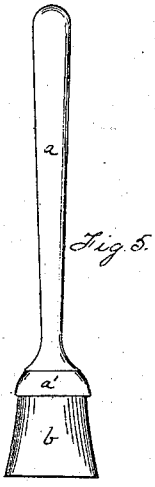

Fig. 5.

Witnesses
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UNITED STATES PATENT OFFICE.

DANIEL C. RIPLEY, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN APPARATUS FOR FINISHING TUMBLERS.

Specification forming part of Letters Patent No. 125,145, dated April 2, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, DANIEL C. RIPLEY, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Finishing Tumblers, &c.; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a side elevation of my improved machine for forming or finishing tumblers or other like hollow articles of glass-ware. Fig. 2 is a vertical sectional view of the same when finishing a tumbler. Fig. 3 is a side view of the same, partly in section, modified so as to apply power to it. Fig. 4 is a like view of the former in a vertical position, in which it may be used without a follower or tool; and Fig. 5 is a view of a "punty" carrying a tumbler.

Like letters of reference indicate like parts in each.

Heretofore tumblers and other like articles of hollow glass-ware have been finished by hand in the following manner: The tumbler having been first pressed is carried by means of a "punty" to the "glory-hole" and heated. The "punty" is an iron rod, having on one end a lump of semi-molten sticky glass, which is put against the bottom of the tumbler, and to which it adheres, as shown in Fig. 5, in which *a* is the "punty;" *a'*, the mass of semi-molten glass; and *b*, the tumbler. After the tumbler has been heated it is taken to a chair, which has long extending arms, in which the workman sits, while with one hand he rolls the "punty" back and forth upon the arms, and with the other hand shapes and finishes the tumbler by means of a wooden paddle called a "buffer." This operation requires time and skillful labor.

The object of my invention is to secure an easier, quicker, and cheaper method of finishing tumblers and other like articles of hollow glass-ware, and this I do by the means hereinafter described and claimed.

To enable others skilled in the art to make and use my invention, I will describe its construction and mode of operation.

Upon the stand *c* is a disk or plate, *d*, projecting from the inner side of which is a former or mandrel, *e*, which is of the size and shape of the inside of the tumbler, and has a polished or burnished surface. Directly under the mandrel or former *e* is a tool or follower, *f*, the inner face of which is smooth or planished. The tool *f* is held in place loosely, so as to allow it to move, by the screw *g* projecting through the slot *h* from the opposite of the disk *d*. Hinged to the lower end of the tool *f* is the arm *i*, which is pivoted to the projection *k*, and on its outer end carries a rest or support, *l*, for the "punty" *a*. The arm *i* actuates the tool *f*, the motion of which is limited by the slot *h*. When there is no pressure on the outer end of the arm *i* the weight of the tool *f* is sufficient to cause it to drop down to the lower end of the slot *h*, away from the former *e*. When there is sufficient pressure on the outer end of the arm *i* the tool *f* is forced up toward the former *e* until the screw encounters the upper end of the slot *h*, when the space between the former *e* and tool *f* is equal to the thickness of the sides of the tumbler to be finished.

The operation is as follows: The tumbler is carried on the "punty," as shown in Fig. 5, from the "glory-hole," and is placed on the former *e*, while the "punty" is rested upon the support *l*, as shown in Fig. 2. The weight of the "punty" upon the outer end of the arm *i* forces the tool *f* up against the exterior surface of the tumbler. The "punty" is then revolved by hand, so as to cause the tumbler to revolve two or three times between the polished surfaces of the former and tool, which gives to it the round shape required more accurately and much more quickly than can be done by hand. The tumbler is then removed to the sand-box in the usual way.

Fig. 3 shows a way by which power may be applied to operate the disk and former, so as to make them revolve. In this case the tumbler is held stationary, while being formed, by the revolving former and tool. The stand *c* is extended up as at *c'*, so as to afford a bearing for the shaft *m*, which on one end carries the disk *d*, which is otherwise unconnected with stand *c*. The arm *i* is rigidly attached to the stand *c*, and sustains the support *l* on its outer end. The tool *f* is attached to the disk *d* by the screw or bolt *g* in the slot *h*, and is actuated by a spiral spring, *n*, which occupies the lower end of the slot, and presses the tool up against the exterior surface of the tumbler. The handle *o* is for drawing down the tool *f*,

so that the tumbler may be placed on the mandrel *e* with ease and quickness. Power is applied to the shaft *m* either by a crank or by a foot-treadle extending forward, so as to be worked by the operator, or in any other desired or convenient way. Steam or other like power may be applied by the use of proper devices to give a regular intermitting motion.

The operation is the same as that described, two or three revolutions of the former being sufficient to finish the tumbler.

The former *e* may be used with a hand-tool instead of the tool *f*, attached as shown in Figs. 1, 2, and 3.

If the former *e* is placed in a vertical position, as shown in Fig. 4, it may be used without a tool; for the glass, being in a soft plastic condition, will conform to the shape of the former, and becoming chilled almost immediately hardens, and retains the form thus given it. This operation requires more care and skill than when a tool is used as described, and the former must be of the exact shape to be given to the article.

The former and tool are made of any suitable material, such as iron, steel, soap-stone, or wood; but in the latter case would have to be renewed very often, as it would be burned away by the heated glass.

The shape of the mandrel *e*, as used in Figs. 1 and 3, may be varied. A pin having a polished surface, properly placed—that is, placed a distance from the tool *f*—when at the extreme upper limit of its movement equal to the thickness of the edge of the tumbler, so that the edge of the tumbler could pass between would answer the purpose.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The mandrel or former *e* for shaping tumblers or other similarly-shaped hollow articles of glass-ware, either revolving while the tumbler is held stationary, or stationary while the tumbler is revolved upon it, substantially as hereinbefore described.

2. A former or mandrel, in combination with a tool or follower for forming tumblers and other similar hollow articles of glass-ware, substantially in the manner described, either stationary while the tumbler revolves between them, or revolving while the tumbler is held stationary.

3. The combination of the arm *i* and the adjustable tool *f*, for the purposes described.

4. The spring *n*, in combination with the tool *f*, substantially as described.

In testimony whereof I, the said DANIEL C. RIPLEY, have hereunto set my hand.

D. C. RIPLEY.

Witnesses:

A. S. NICHOLSON,

THOS. B. KERR.