

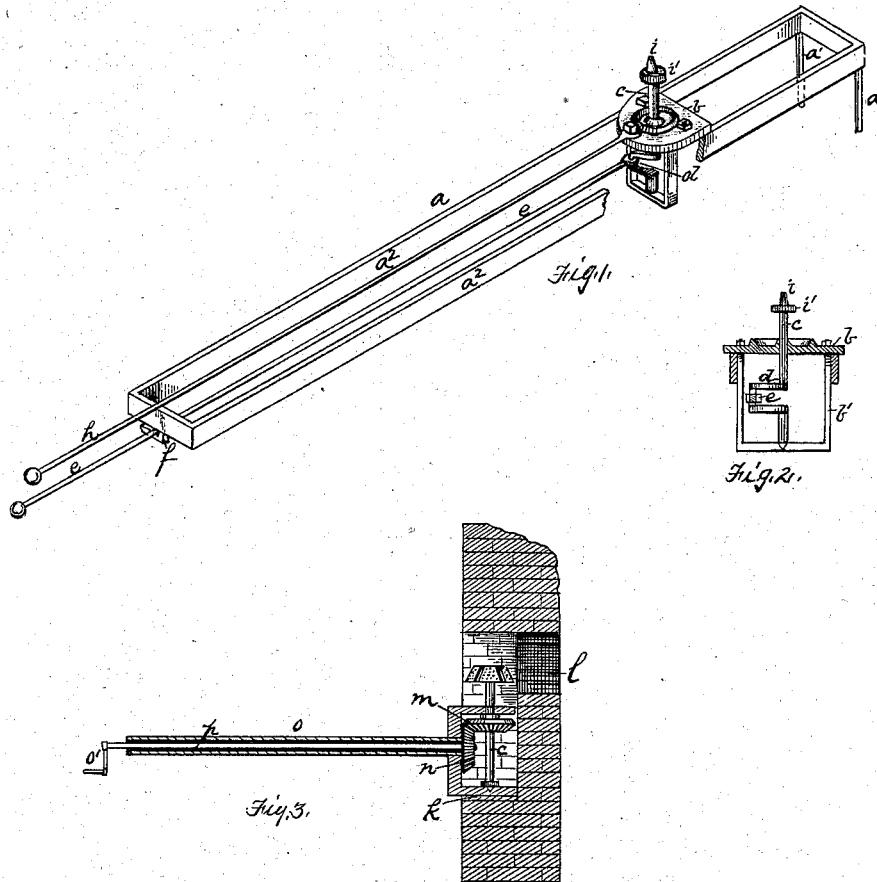
(No Model.)

J. B. LYON & J. ANDERSON.

MACHINE FOR FINISHING AND FIRE POLISHING GLASSWARE.

No. 263,051.

Patented Aug. 22, 1882.



Witnesses.
R. L. W. Hall
W. B. Quinn

Inventors
James B. Lyon
Joseph Anderson
by their atty's
Bakewell & Kerr

UNITED STATES PATENT OFFICE.

JAMES B. LYON AND JOSEPH ANDERSON, OF PITTSBURG, PA., ASSIGNORS
TO THE O'HARA GLASS COMPANY, (LIMITED,) OF SAME PLACE.

MACHINE FOR FINISHING AND FIRE-POLISHING GLASSWARE.

SPECIFICATION forming part of Letters Patent No. 263,051, dated August 22, 1882.

Application filed May 3, 1882. (No model.)

To all whom it may concern:

Be it known that we, JAMES B. LYON and JOSEPH ANDERSON, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Machines for Finishing and Fire-Polishing Glassware; and we do hereby declare the following to be a full, clear, and exact description thereof.

In the manufacture of glassware, and more particularly pressed ware, which requires to be fire-finished, the article, after being formed in the molds, is inserted into the glory-hole of a reheating-furnace and reheated. The effect of the reheating operation is to make the glass soft, and the article is very liable to sink out of shape or become distorted by the weight of the glass. To prevent this in articles of a round shape—such as goblets—the tool is rotated by the workman in the mouth of the glory-hole, and when sufficiently reheated is swung downward, and the rotation is continued until the article is finished and sufficiently cooled to become set. This, however, is impossible with articles of angular shape, as the effect of the rotation would be to give them a circular shape.

Our invention consists of a machine for presenting articles of glassware to the flame of a reheating-furnace in such a manner that they may be reheated without becoming distorted, and their edges and sides exposed to the flame so as to obliterate all mold-marks therefrom.

To enable others skilled in the art to make and use our invention, we will now describe it by reference to the accompanying drawings, in which—

Figure 1 is a perspective view of our improved machine. Fig. 2 is a vertical cross-section. Fig. 3 is a view of a modified form.

In Figs. 1 and 2 we show a rectangular frame, *a*, having legs *a'*, which support it on the breast of the glory-hole furnace. Resting on the upper edges of the parallel side bars of the frame *a* is a plate, *b*, having a step or stirrup, *b'*, secured to its under side by nuts or otherwise, which step fits snugly between the side rails, *a²*, of the frame *a*, and operates as a guide to retain the plate *b* in proper position as it is moved back and forth upon the side rails, *a²*.

Extending vertically through the plate *b* is a shaft, *c*, provided with a crank, *d*, below the plate *b*, and having its lower end supported by the step *b'*. Pivoted to the crank *d* is a rod, *e*, which extends to the back end of the frame *a*, and is there supported by a hook or staple, *f*. The shaft *c* is rotated in its bearings by means of the crank *d* and rod *e*. On the upper end of the shaft *c* is a plug or holder, *i*, upon which the article to be reheated is placed, and which sustains it in position to be acted upon by the flame, both on its sides and edges. The plug *i* is provided with a flange, *i'*, at its lower end to sustain the edges of the article. A rod, *h*, is attached to the plate *b* for the purpose of moving it back and forth upon the frame *a*.

The operation of our improved machine is as follows: The front end of the frame *a* is rested upon the breast *k* of the glory-hole furnace, the legs *a'* being of sufficient length to bring the plug *i* in proper position in front of the glory-hole *l*. The shaft *c* is then rotated by means of the rod *f*, so as to expose the sides and edges of the article to the flame from the glory-hole *l*. When the article has been sufficiently reheated the plate *b* is drawn out by means of the rod *h* and the article removed by a suitable tool. The rear end of the frame *a* is supported by a trestle, standard, or by any suitable support. The shape of the plug *i* and flange *i'* should be such as to conform to the shape of the article placed thereon, or at least be made of such shape as would be adapted to supporting the article without distorting it.

In the modification shown in Fig. 3 a beveled-gear wheel, *m*, fixed on the shaft *c*, is turned by a beveled-gear wheel, *n*, upon the end of the shaft *o*, extending through the pipe *p*. The shaft *o* is provided with a crank, *o'*, for turning it. In this figure the plug *i* is shown of a shape suitable for a glass dish, and the shaft *c* cannot be drawn away from the glory-hole except by lifting down the entire machine.

By our invention we are enabled to reheat glassware of all shapes without danger of distortion from the falling of the hot glass. We are also enabled to reheat the articles more perfectly and uniformly, effect a large saving

of time, and use unskilled labor for this purpose.

An important advantage of our invention is that we can fire-polish the foot or bottom of the article. This is impossible by the old method, because the foot of the article is always grasped by a tool to present it to the flame; or the article is stuck on a "post," which is a tool having a lump of heat-softened glass on its end, and adheres to the article by being placed on the bottom, the hold thus obtained being strong enough to raise the article and to sustain it during the reheating and finishing operations. Hence ordinarily the foot and bottom of articles of glassware have not been fire-polished, and have lacked in finish.

The tool shown in Figs. 1 and 2 is adapted for use with large or heavy articles of glassware.

The plug or holder *i* may be removable from the shaft *c*, and be used to carry the articles from the press or chair to and from the glory-hole. In such case there would be several holders in use at once. As soon as one holder is removed with an article another holder with its article, just from the press or chair where it was formed, is put on the shaft *c*, the upper end *o* which should be of proper form to fit in a socket on the under side of the holder.

The machine shown in Fig. 3 is for small articles, and is portable, being of about the same weight as the ordinary snap, and is designed to be carried to and from the glory-hole with each article.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. A device for presenting articles of glassware to a reheating-furnace, consisting of a shaft capable of rotation, provided with a plug and devices for rotating the same, substantially as and for the purposes described.

2. A device for presenting articles of glassware to a reheating-furnace, consisting of a shaft capable of rotation, provided with a removable plug and devices for rotating the same, substantially as and for the purposes described.

3. The combination of the frame and a sliding plate or carrier provided with a vertical shaft, and device for rotating the shaft, substantially as and for the purposes described.

In testimony whereof we have hereunto set our hands this 29th day of April, A. D. 1882.

JAMES B. LYON.

JOSEPH ANDERSON.

Witnesses:

T. B. KERR,

W. B. CORWIN.