W. BUTTLEAR.

MACHINE FOR FLARING GLASSWARE.

No. 193,317. Patented July 24, 1877.

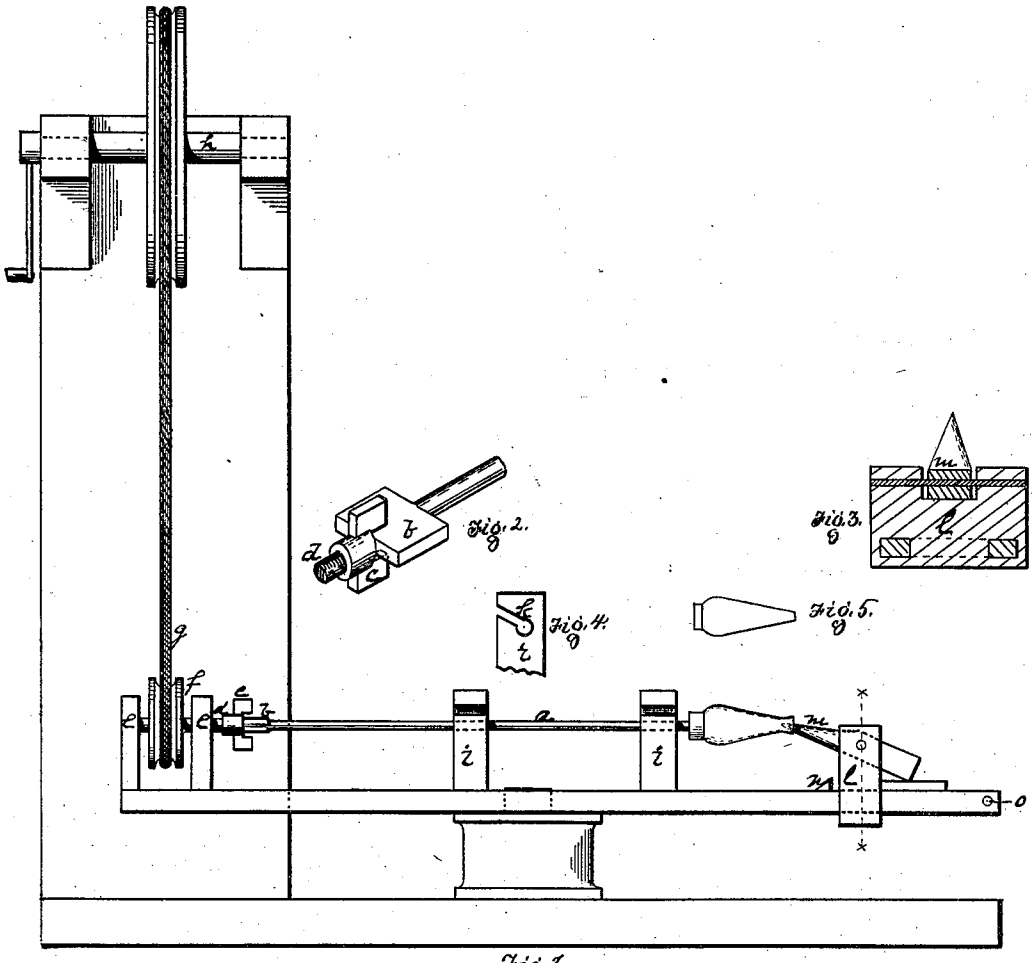


Fig. 1.

Witnesses
Phillips.
F. J. Evans.

Inventor.
William Buttlear.
by Bakewell & Kerr
Attorneys

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM BUTTLEAR, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO DITHRIDGE & CO., OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR FLARING GLASSWARE.

Specification forming part of Letters Patent No. **193,317**, dated July 24, 1877; application filed May 29, 1877.

To all whom it may concern:

Be it known that I, WILLIAM BUTTLEAR, of the city of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Flaring and Crimping Glassware; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of my improved flaring-machine; Figs. 2, 3, and 4, details of the same; and Fig. 5, a view of an unflared chimney.

Like letters of reference indicate like parts in each.

My invention relates to the flaring of lamp-chimneys and like articles of hollow glassware by rotation; and its object is to relieve the workman of the labor of rotating the snap or tool which carries the article, and to enable him to devote his entire attention to the finishing of the end of the article to be flared. The latter operation is performed by means of a hand-tool, or by means of a properly-centered tool mounted in a sliding carrier on the bench or frame of the machine, in front of the article to be flared.

Heretofore the operation of flaring has been performed in various ways, originally by a hand-tool, the article being rotated by the workman by rolling the snap back and forth on the arms of the glass-worker's chair; latterly by means of a snap rolling on bearings which center it with the flaring-tool, upon which it is advanced as it is turned. In all the various devices, however, heretofore in use, in which the snap is rotated, it is turned by hand, either primarily or through hand-operated mechanism.

My invention consists, (in a machine for flaring hollow glassware,) first, in a removable snap, in combination with power rotating devices and supporting-standard, which cause it to be vibrated upon a fixed or determined center; and, second, in combination with a removable power-rotated snap, a flaring-tool properly centered therewith, and mounted in a sliding carrier.

In this instance the drawing shows the use of my improved machine in flaring a lamp-chimney. The snap or carrying-tool *a* is shown with a square or flat end or cross-piece, *b*, which fits in the recess of the clutch or head *c* of the rotary shaft *d*. The shaft *d* is mounted in permanent bearings *e*, and is provided with a pulley, *f*, to which, by means of the band *g*, power is transmitted from the power-shaft *h*. The snap *a* is supported, so as to rotate on a fixed or determined center, by the standards *i*, which are provided with slotted openings *k*, of suitable form to prevent a jumping or unsteady motion of the snap, and permit its easy removal. Mounted directly in front of the centering-standard *i*, upon a sliding carrier, *l*, is a flaring-tool, *m*, which is placed at an angle to the axial line of the snap, the angle being that of the flare to be produced in the article. In effect, this tool is a coniform plug, as the rotation of the article causes its interior end surface to be brought into contact therewith, and be flared or belled out thereby. The section, Fig. 3, shows the ways upon which the carrier *l* moves. Its motion is limited by the stops *n* and *o*.

In the use of my improved machine this sliding carrier may or may not be used. I prefer to use it, however. A conical ribbed flaring-plug may, if desired, be used by mounting it in the sliding carrier instead of the angularly-placed flaring-pin shown; and if it is desired to use this machine for crimping also, a loose crimper, free to revolve with the article, may be placed back of the stationary flaring-tool. Such a combined flaring and crimping tool is shown in Geo. W. Blair's application, filed March 28, 1876. When used without the sliding carrier the flaring-tool is held in the hands of the workman.

The operation is very simple. The end of the chimney to be flared is reheated, and the snap placed in the standards and the rotatory clutch *c*. The sliding carrier is then advanced gradually, and when the stop *n* is encountered the desired flare will have been given to the article. When used with the hand-tool the workman depends on his eye and skill to gage the flare; but being relieved of the labor of rotating the snap, and having it turning steadily and with a regular unvarying speed upon the

machine, he is enabled to attain to a very high degree of excellence in the finish of the chimney.

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

1. In a machine for flaring hollow glassware, the combination of a removable snap, standards for supporting the snap during rotation, and power mechanism adapted to be connected to the snap for rotating the same, substantially as specified.

2. In a machine for flaring hollow glassware, the combination of a removable snap for carrying the article, power mechanism for connecting with and rotating the snap, standards for sustaining the snap, and a tool for flaring the chimney, mounted in a sliding carrier, and properly centered with the snap, substantially as described.

In testimony whereof I, the said WILLIAM BUTTLEAR, of the city of Pittsburg, county of Allegheny and State of Pennsylvania, have hereunto set my hand.

WILLIAM BUTTLEAR.

Witnesses:
JAMES I. KAY,
T. B. KERR.