

D. CHALLINOR.

FLARING-TOOLS FOR GLASSWARE.

No. 175,851.

Patented April 11, 1876.

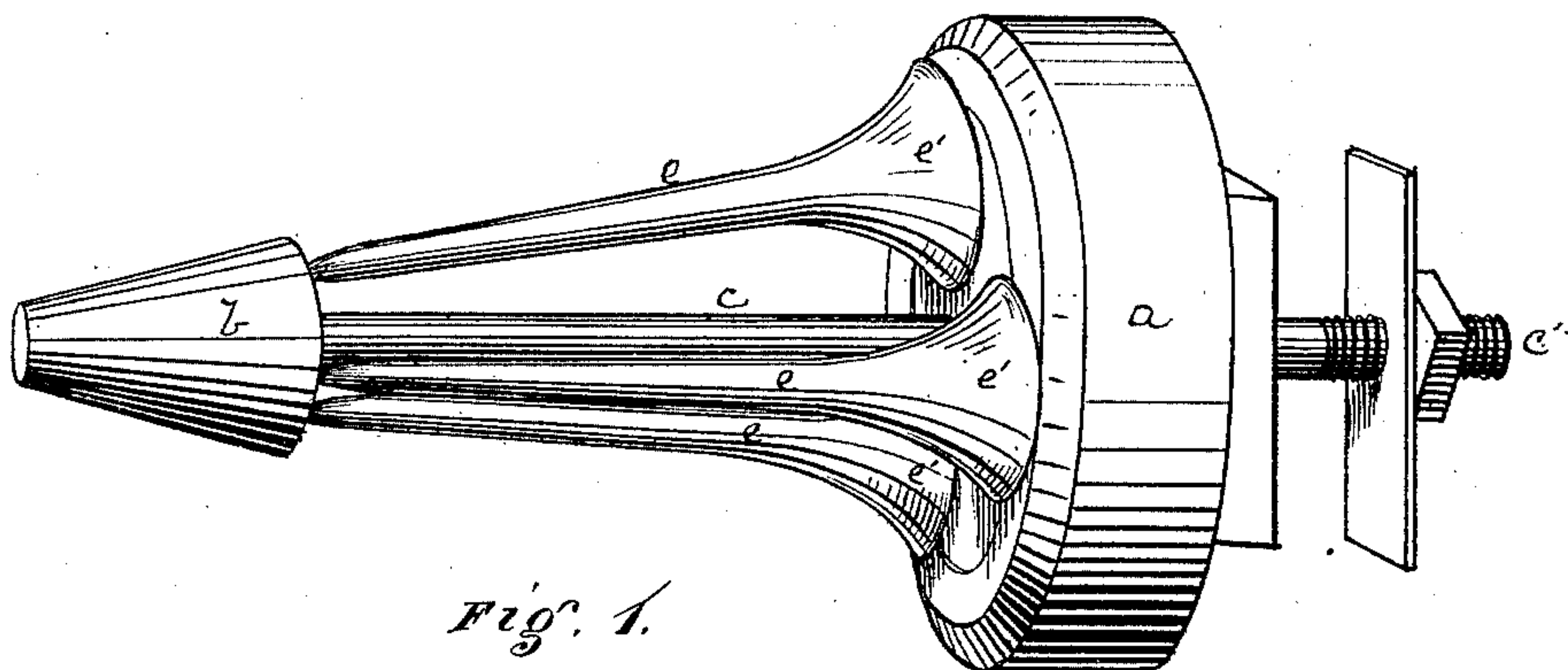


Fig. 1.

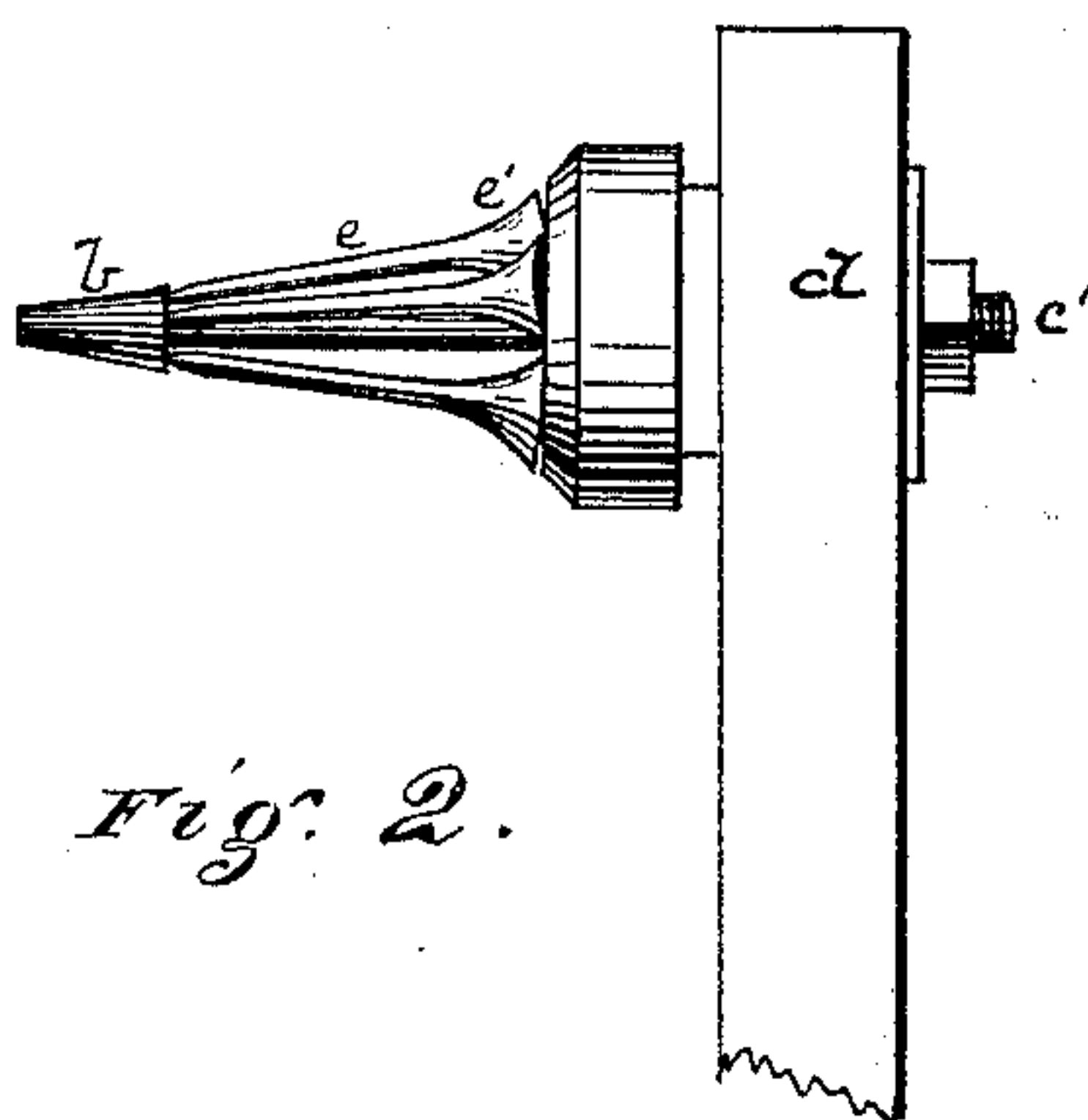


Fig. 2.

Witnesses.

Claudius L. Parker.
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UNITED STATES PATENT OFFICE.

DAVID CHALLINOR, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN FLARING-TOOLS FOR GLASSWARE.

Specification forming part of Letters Patent No. **175,851**, dated April 11, 1876; application filed March 27, 1876.

To all whom it may concern:

Be it known that I, DAVID CHALLINOR, of Pittsburg, county of Allegheny, State of Pennsylvania, have invented or discovered a new and useful Improvement in Flaring-Tool for Glassware; and I do hereby declare the following to be a full, clear, concise, and exact description thereof, reference being had to the accompanying drawing, making a part of this specification, in which—like letters indicating like parts—

Figure 1 is a perspective view of my improved flaring-tool, and Fig. 2 is a reduced elevation of the same, attached to a post in a fixed position for use.

My invention relates to a tool for flaring the upper open ends of lamp-chimneys, and the open ends of smoke-bells, or other hollow open-ended articles of glassware wherein an enlarged flaring or bell-mouth end is desired; and it differs from similar tools heretofore in use in employing revolving surfaces arranged in a fixed head with their working-faces along the lines of contact, angularly arranged with reference to the axial line of the tool or of the line of feed.

The fixed head consists of a base block or frame, *a*, and an end bearing or tip, *b*, both affixed rigidly to a stem, *c*, which latter, being prolonged, as at *c'*, is employed as a means of fastening the tool in a fixed position to any suitable post or support, *d*. Between the tip *b* and base *a*, and with an end bearing in each, so as to rotate freely on their axes, I arrange a series of two or more friction-rollers, *e*. These rollers are preferably made with flaring bases, as at *e'*, and with the base ends of their axes at a greater distance from the axial line of the tool than the opposite ends, so that the exterior or working faces shall be not only inclined like the up and down sides of a cone, but shall also flare outwardly at or near the base to a bell-mouth shape. The tip *d* is designed to enter the hollow of the glass article to be flared without coming in contact therewith. Then as the glass article, previously hot or heated to the proper temperature, is passed over or onto the tool, the inside of its open end comes in contact with the rollers *e*. The glass article, being held in a snap, is at

the same time rapidly rotated and pressed forward, and thereby the rollers *e* are caused to revolve on their axes, so as to expand or flare out the open end without frictional contact therewith, and consequently without impairing its smooth inner surface, and also without chilling it so as to prevent the flaring effect desired. The glass article is pressed forward and rotated till its end comes even with the base ends of the rollers *e* or till the desired amount of flare is secured.

I do not limit myself to any particular shape of rollers, since, for a conical flare, cylindrical rollers, arranged angularly with the axial line of the tool, may be substituted; and for some purposes conical rollers or bell-mouthed rollers may be employed with their axial lines parallel with the stem. In this respect it is only essential that the exterior working-faces or lines of bite or contact with the interior surface of the glass should be inclined to the axial line of the tool, or to the line in which the glass article is fed to the tool, whether such inclination be secured by the shape of the roller or by the inclination of its axis, or partly by each. Nor is it essential that the rollers should be supported at both ends, since, by the exercise of ordinary mechanical skill, long bearings can be made at either end which will support them with sufficient firmness and in the proper position for accomplishing the end in view.

I claim herein as my invention—

1. A flaring-tool for glassware, consisting of a fixed non-rotating head or frame and a series of two or more rollers, arranged in such head or frame so as to revolve each on its own axis, and with its exterior working-face set at an angle to the axial line of the head or frame, substantially as set forth.

2. The non-rotating base *a*, tip *b*, and stem *c*, carrying and supporting a series of two or more revolving rollers, *e*, substantially as and for the purposes set forth.

In testimony whereof I have hereunto set my hand.

DAVID CHALLINOR.

Witnesses:

CLAUDIUS L. PARKER,
JNO. A. WILSON.