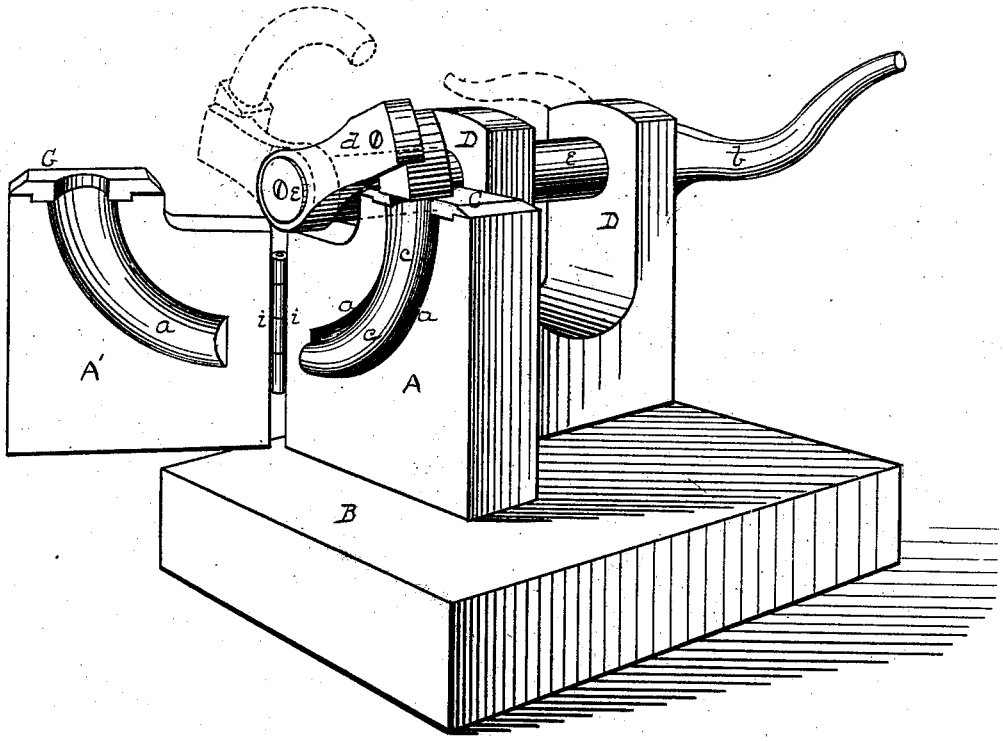
J. H. HOBBS.

Manufacture of Glassware.

No. 198,741. Patented Jan. 1, 1878.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN H. HOBBS, OF WHEELING, WEST VIRGINIA.

IMPROVEMENT IN MANUFACTURE OF GLASSWARE.

Specification forming part of Letters Patent No. **198,741**, dated January 1, 1878; application filed December 15, 1877.

To all whom it may concern:

Be it known that I, JOHN H. HOBBS, of Wheeling, county of Ohio, State of West Virginia, have invented or discovered a new and useful Improvement in Manufacture of Curved Tubular 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 indicate like parts.

My improvement relates to the manufacture of curved tubular articles of glassware by pressing the same in a mold.

In the drawing, A A′ represent the sections or divisions of a two-part mold, hinged or jointed in any convenient way, as at *i*, or otherwise adapted to be closed together preparatory to pressing. Such mold, when in use, is mounted on any suitable support, B, so that its cavity shall be brought into proper relation to the plunger. In each of these mold-sections A A′ is formed the half of a curved cavity, *a*, which, when the parts are closed together, give a cavity of the desired form in cross-section.

The ring-plate is represented at C, and it may be made in one or two parts, as desired.

The plunger *c* is curved to correspond to the curved form of the cavity *a*, and is made of the size desired for the interior diameter of the glass tube.

Upright bearings D rest upon the base B, and in these bearings is arranged a rock-shaft, *e*, which carries a hand-crank, *b*, at one end, and at the opposite end a working crank or arm, *d*. To the outer end of this arm *d* is rigidly attached the plunger *c*.

The cavity *a* is curved, or laid out so that it shall have for an axial or pressing line the arc of a circle whose center is a point in the axial line of the shaft *e*.

The length of the arm *d* from the central line of the shaft *e* to the point of attachment with the plunger, and the angle at which the plunger is connected with this arm, are such as to cause the central or axial line of the plunger to coincide or nearly coincide with the central or axial line of the cavity. The plunger may then be inserted into or drawn from the cavity by rocking or partially rotating the shaft *e*, as shown in dotted lines, since the path described by the plunger when moved by the shaft *e* coincides with, or lies in the same circle as, the curve made by the form of the plunger and the form of the cavity.

The operation of pressing glass in this mold is similar to that already practiced in the art with straight or vertically-moving plungers.

The walls of the cavity *a* may receive any form of cutting, carving, or other irregularity to give the desired finish or exterior design or shape to the pressed article; and they may also be shaped so as to give a cylindrical, polygonal, or other desired form to the exterior of the tube. In this respect it is only essential that the pressing-cavity be capable of receiving the pressing stroke of a plunger which moves in the arc of a circle during its entire stroke into, through, and out of the body of glass in the cavity.

Also, if the cavity be made of the form of a curved frustum of a cone, with a sufficient taper to permit of the ready discharge of the article produced, the mold may, in such cases, be made solid or unjointed.

Also, other known modes of imparting the described motion to the plunger may be substituted for that above described without departing from the scope of my invention.

Curved glass tubes made as described may be adapted to a variety of uses, and especially as trimmings for chandeliers, gas-pipes, and other like purposes.

I claim as my invention—

1. A mold for pressing tubular articles of glassware having a curved cavity therein, in combination with a plunger having a curved form corresponding to the curve of the cavity, said plunger having a curved line of motion, substantially as described, whereby the path described by the plunger as it is inserted into or drawn from the mold is made to correspond with the line or curve of the cavity.

2. In combination with a glass-mold having a pressing-cavity therein, a curved plunger having a pressing stroke into, through, and out of the body of glass in the cavity, substantially as set forth.

3. The method of making curved tubular articles of glassware by causing a curved plunger to traverse the mold-cavity in the axial line of the curvature of the plunger, substantially as described.

In testimony whereof I have hereunto set my hand.

JOHN H. HOBBS.

Witnesses:

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JAY E. RATCLIFFE.