

J. H. HOBBS  
Glass-Molds.

No. 206,111.

Patented July 16, 1878.

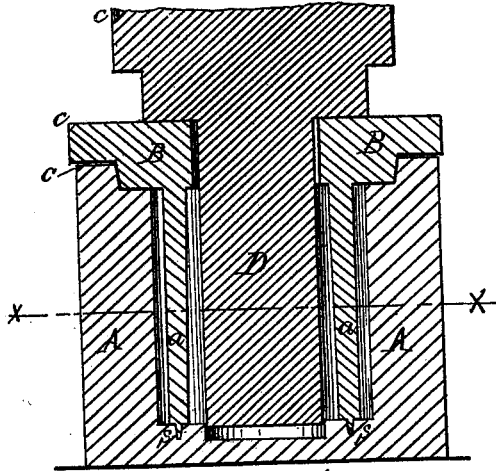


Fig. 1.

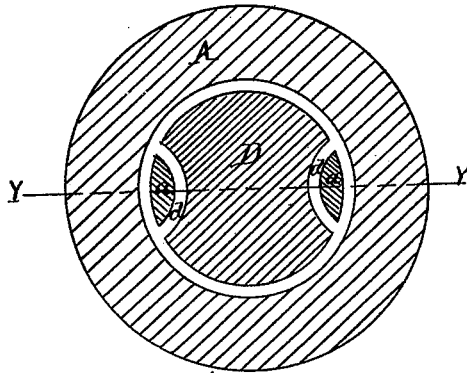


Fig. 2.

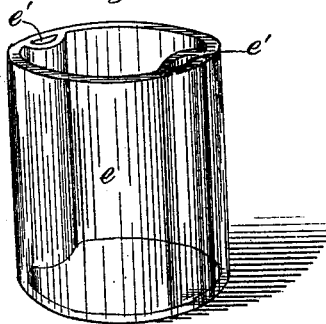


Fig. 3.

Witnesses  
Blandius Parker  
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By Attorney George H. Christie

# UNITED STATES PATENT OFFICE.

JOHN H. HOBBS, OF WHEELING, WEST VIRGINIA.

## IMPROVEMENT IN GLASS-MOLDS.

Specification forming part of Letters Patent No. **206,111**, dated July 16, 1878; application filed July 1, 1878.

*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 Glass-Molds; 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 vertical central sectional view of my improved glass-mold, taken in the line *yy*, Fig. 2. Fig. 2 is a transverse sectional view of the mold in the line *xx*, Fig. 1; and Fig. 3 is a perspective view of a glass article made in my improved mold.

My invention relates more particularly to the manufacture of glass lantern-tubes, chimneys, or globes, such as are referred to in Patent No. 201,072 to Thomas Walton, of March 5, 1878.

Some difficulty has been experienced in the making of such articles, chiefly from the difficulty of devising a mold capable of working the glass into the shape desired with practical success.

In the drawing, A represents the female part of an ordinary pressing-mold, having a cavity of the exterior form of the article to be made. The ring-plate B is also of the ordinary or any suitable construction, except that to it are attached one or more mandrels, *a*, of suitable size for forming the tubular elliptical or open passages or air-ducts *e'* in the wall of the article *e* to be made, and they are so shaped and proportioned as to leave, when in position, a cavity laterally on all sides, as in Fig. 2, for the making of the glass walls of the tube, chimney, or globe. The plunger D has a corresponding number of recesses, *d*, in the periphery, each shaped with reference to the adjacent mandrel *a*, as last above stated. The plunger, in other respects, is of the ordinary construction. Ordinary known appliances are to be added, and, except as herein described, features of construction and operation are such as are well known in the art of pressing hollow glassware.

It is important, however, in working my invention, that the mandrels *a* be placed substantially in the position they are to occupy

while the pressing is being done, before the pressing operation begins, or before the heaviest part is reached, so that when such pressing operation is being done they shall be comparatively or absolutely stationary, or shall have practically no longitudinal motion, and also shall have a firm end support, preferably at both ends, and particularly at the lower end. Within these limits the construction and operation of the devices named may be varied at pleasure. Preferably, however, I attach each mandrel *a* to the ring-plate B, so that one motion may suffice for putting ring-plate and mandrels in position, and also in removing them after the pressing is done.

To steady and support the mandrels, so as to prevent undue springing or bending, I seat the lower end of each in a shoe or socket in the bottom of the mold-cavity, or make a dowel-pin connection, as shown at *s*. To insure getting the mandrels into the right position circumferentially, any suitable guide or index may be employed, registering or otherwise, and index-notches *c*, made in the ring-plate and mold, may suffice for the purpose.

The ring-plate and mandrels being properly in position, the proper quantity of melted glass is dropped into the mold, after which the plunger is forced down, the pressing is done, and, by reversing the order of operation, the article is removed, all in the usual way.

I thus produce a glass globe, tube, or chimney, *e*, having one or more air ducts or passages, *e'*, made longitudinally in its wall, such as are called for in the patent above named. The usual finishing operations are to be added, and to a greater or less extent, if desired, according to the skill of the workman. The article may be brought to the globular or semi-globular form sometimes desired in chimneys and globes.

I do not limit myself to any particular form of mandrels or way of getting them in place. They may be operated by a plunger-like motion through the bottom of the mold, and a part of such motion may take place after the main plunger has commenced its stroke. But I deem it essential that the lower ends of such mandrels be held securely in place as against lateral bending or springing at the time the pressing is being done by the main plunger,

and, preferably, each mandrel should be supported at both ends at such time.

Any desired number of such mandrels, one or more, may be employed.

I claim herein as my invention—

1. In a glass-pressing mold, a mandrel or mandrels, arranged within the mold-cavity alongside the path of the pressing-plunger, and firmly held or supported each at its lower end at the time the heaviest operative pressure is applied, in combination with the plunger which does the pressing, substantially as set forth.

2. In combination with a pressing-mold and plunger, a ring-plate, carrying one or more mandrels, which shall be stationary between

plunger and mold-face while the pressing is being done, substantially as set forth.

3. One or more stationary mandrels firmly held or supported at both ends in the cavity of a pressing-mold, alongside the path of the plunger, in combination with plunger and mold, substantially as set forth.

4. The combination of mold, plunger, mandrels, and guide or index, substantially as set forth.

In testimony whereof I have hereunto set my hand.

JOHN H. HOBBS.

Witnesses:

J. J. McCORMICK,  
CLAUDIUS L. PARKER.