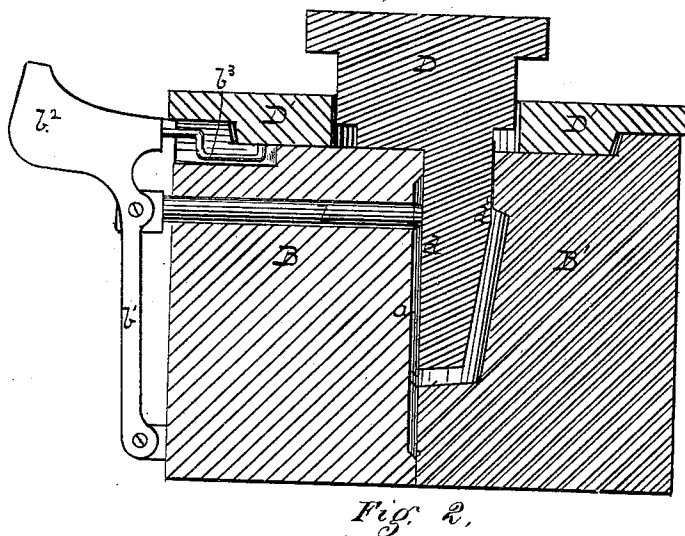
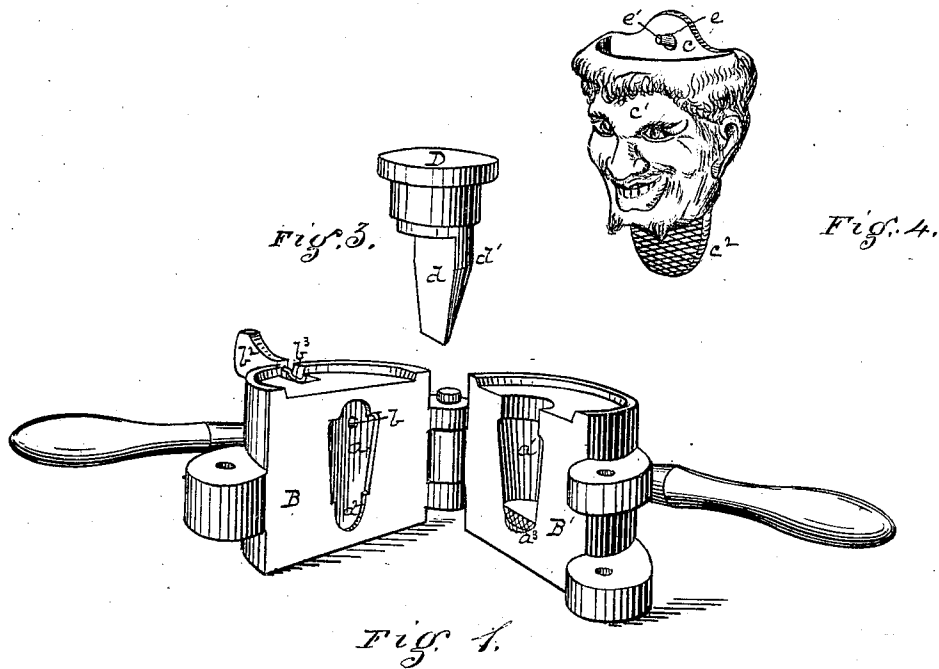


W. BECK.
MANUFACTURE OF GLASS-WARE.
No. 178,504. Patented June 13, 1876.



Witnesses
J. H. Cornille
Claudius Parker

Inventor:
Washington Beck
By George H. Christy,
his Atty.

UNITED STATES PATENT OFFICE.

WASHINGTON BECK, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN THE MANUFACTURE OF GLASSWARE.

Specification forming part of Letters Patent No. **178,504**, dated June 13, 1876; application filed May 5, 1876.

To all whom it may concern:

Be it known that I, WASHINGTON BECK, of Pittsburg, county of Allegheny, State of Pennsylvania, have invented or discovered a new and useful Improvement in the Manufacture of 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 view in perspective of my improved mold, showing the cavities. Fig. 3 shows the plunger to be used in connection therewith. Fig. 2 is an enlarged transverse vertical section of the entire mold and plunger; and Fig. 4 shows a glass match safe or holder, such as (except the ornamental design) the molds of Figs. 1 and 3 are adapted to produce.

My improvement relates to the manufacture of glass articles having one lateral side flat, or nearly so, and a means of suspension, whereby they are adapted to be placed or hung against a wall, like a wall-bracket, with a pocket or other suitably-shaped receptacle for receiving and holding matches, bouquets, papers, or other articles of ornament or value.

The two halves B B' of the jointed or two-part mold are made in the usual way, as also the ring-plate D' and plunger D, and these parts are operated in the manner ordinarily in use in pressing glassware. The cavities shown in these molds are such as are adapted to make a wall match-safe, such as is shown in Fig. 4, except that the peculiar design of its outer face is not represented in the mold-cavities. The half-mold B has a flat-faced cavity, *a*, of the outline and depth corresponding to the outline and thickness of the back plate *c* of the match-safe, and the corresponding face *d* of the plunger is similarly shaped. The other cavity *a'* is made concave or hollowing, such as will produce or shape the convex side *c'* of the match-safe, and with any desired style of ornamentation. The plunger D has on the corresponding side a convex face, *d'*, such as will give the desired pocket or receptacle for the reception of matches or other articles.

In order to make a hole, *e*, by which the

match-safe may be suspended against the wall from a pin, *e'*, or other support, I employ any suitable device, one such being shown in the drawings, where *b* represents a sliding mandrel, which passes through the half-mold B, and at its outer end is pivoted to a swinging bar, *b'*, having an overbalancing weight, *b²*, and a tilting arm, *b³*. These parts are so constructed and combined that the downstroke of the ring-plate will engage the arm *b³*, and shift the swinging bar *b'* to the position indicated in Fig. 2, and will bring the forward end of the mandrel *b* into and across the cavity *a*, and against the flat face of the plunger. Then the plunger, by its downstroke, will cause the glass to pass up around the end of the mandrel, so that the latter will form the hole *e*. On the upstroke of the plunger and ring-plate the mandrel will be withdrawn by the weight *b²*, after which the mold can be opened and the article removed. But a fixed mandrel, projecting across the cavity *a*, or a movable mandrel, otherwise moved, may be substituted for that described, since in this respect I do not limit myself to the construction shown. A spring may give the mandrel *b* its backstroke, and may be arranged to bear against the bar *b'*, as the mechanical equivalent of and substitute for the weight *b²*. And while the mandrel may be operated in any desired way, (or even made stationary,) I prefer to give it such operation that its withdrawal will be quick and certain after the formation of the hole *e*, since there would be a liability in glass to crack in shrinking if the mandrel were left too long in the hole which it makes. And this element of a movable mandrel passing through the side or wall cavity of a mold for hollow or hollowing articles of glassware, as a means of making a hole through, or nearly through, such article, I believe to be new, and to constitute a part of my present invention. Such device I have applied to making the damper-plate holes in the walls of glass ventilators with the most perfect success, and I hereby include this and other kindred uses.

In a match-safe a scratching-surface is desirable. This I have shown at *e²*, and make provision for pressing the same by an extension, *a²*, of the cavity *a*, and suitably roughening the corresponding part of the surface

of the opposite mold, as at a^3 . The operation will be the same whether this part be made or not. Substantially the same construction of mold-cavities, flat on one side and concave or hollowing on the other, with a plunger suitably shaped to form a pocket, may be employed in making other flat-sided articles of glassware, suitable for wall use or wall decoration, such as "what-nots," "catch-alls," &c., and such uses are hereby expressly included as within the scope of my invention. Nor is it necessary that the two halves or parts of the mold be hinged together, since one part may be made to move toward and from the other with a useful result, and in making some articles a three-part mold will be most convenient. And while in the drawing I have shown the mold-cavities as not extending up to the ring-plate, I still do not limit myself in this regard, since in some articles or patterns of articles the ring-plate may form the top inclosure of the cavities, as is common in other operations in glassware.

The design shown in Fig. 4 will form the subject-matter of a separate application.

I claim herein as my invention—

1. The combination, in a glass-mold, of a cavity, flat faced in the direction of the plunger-stroke, a cavity concave or hollowing, a

plunger and mandrel, substantially as and for the purposes set forth.

2. A mandrel, b , operated in one direction by the stroke of the machine, and in the other direction by a counter-weight or equivalent device of like function, substantially as set forth.

3. As a new article of manufacture, a glass receptacle, having a flat side, a pocket, and means of suspension against a wall, substantially as set forth.

4. A glass match-safe, having a flat side, a match receptacle or pocket, means of suspension against a wall, and a roughened match-scratching surface, substantially as set forth.

5. As a means of forming holes through, or nearly through, the walls of hollow or hollowing articles of pressed glassware, a moving mandrel, arranged across the cavity of such wall, in combination with the plunger against which it abuts or works, substantially as set forth.

In testimony whereof I have hereunto set my hand.

WASHINGTON BECK.

Witnesses:

HARRY J. SCHLUTZ,
GEORGE H. CHRISTY.