

J. MAGOUN.

MOLD FOR MAKING GLASS GOBLETs, GLASSES, &c.

No. 68,633.

Patented Sept. 10, 1867.

Fig. 5.

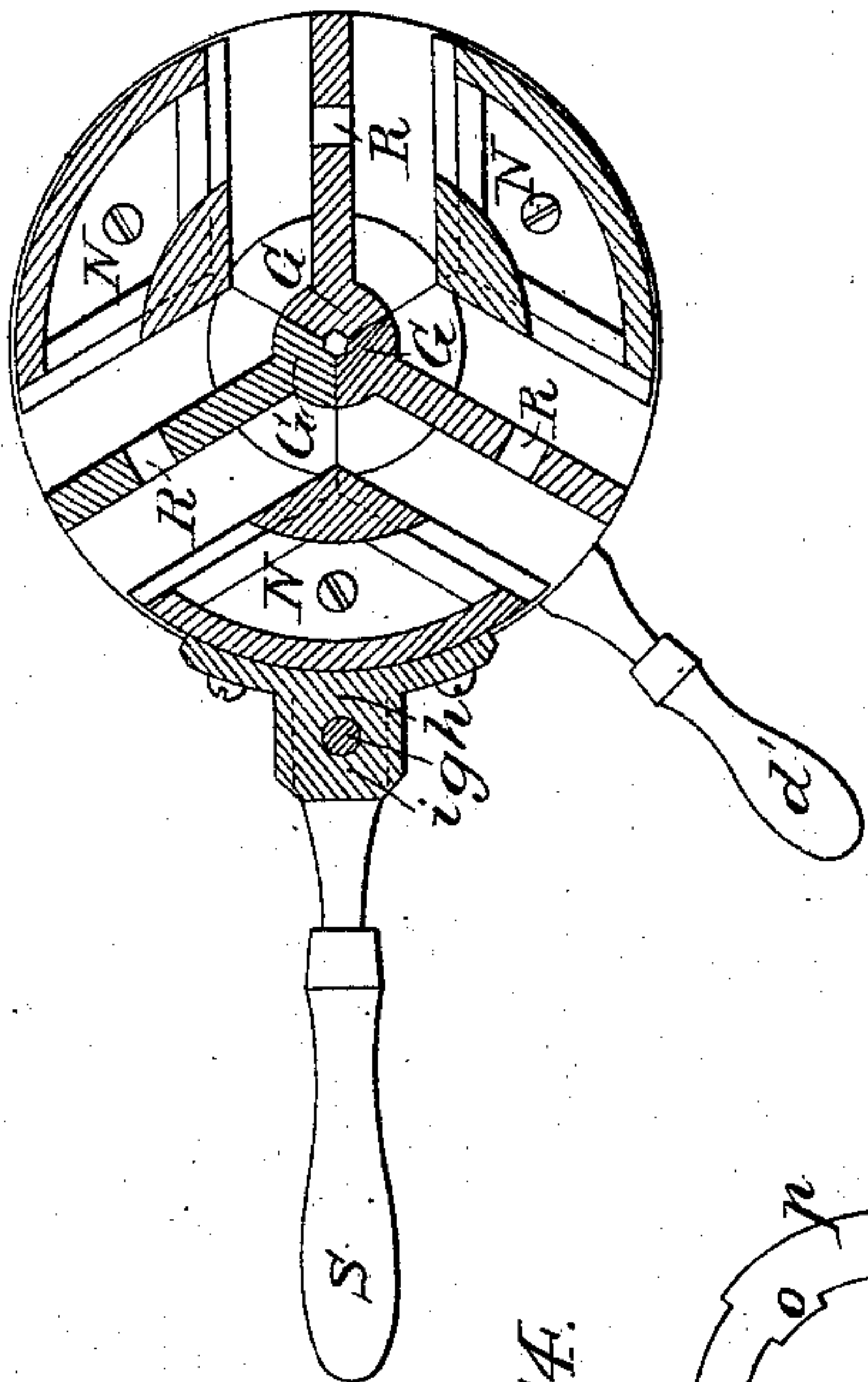


Fig. 2.

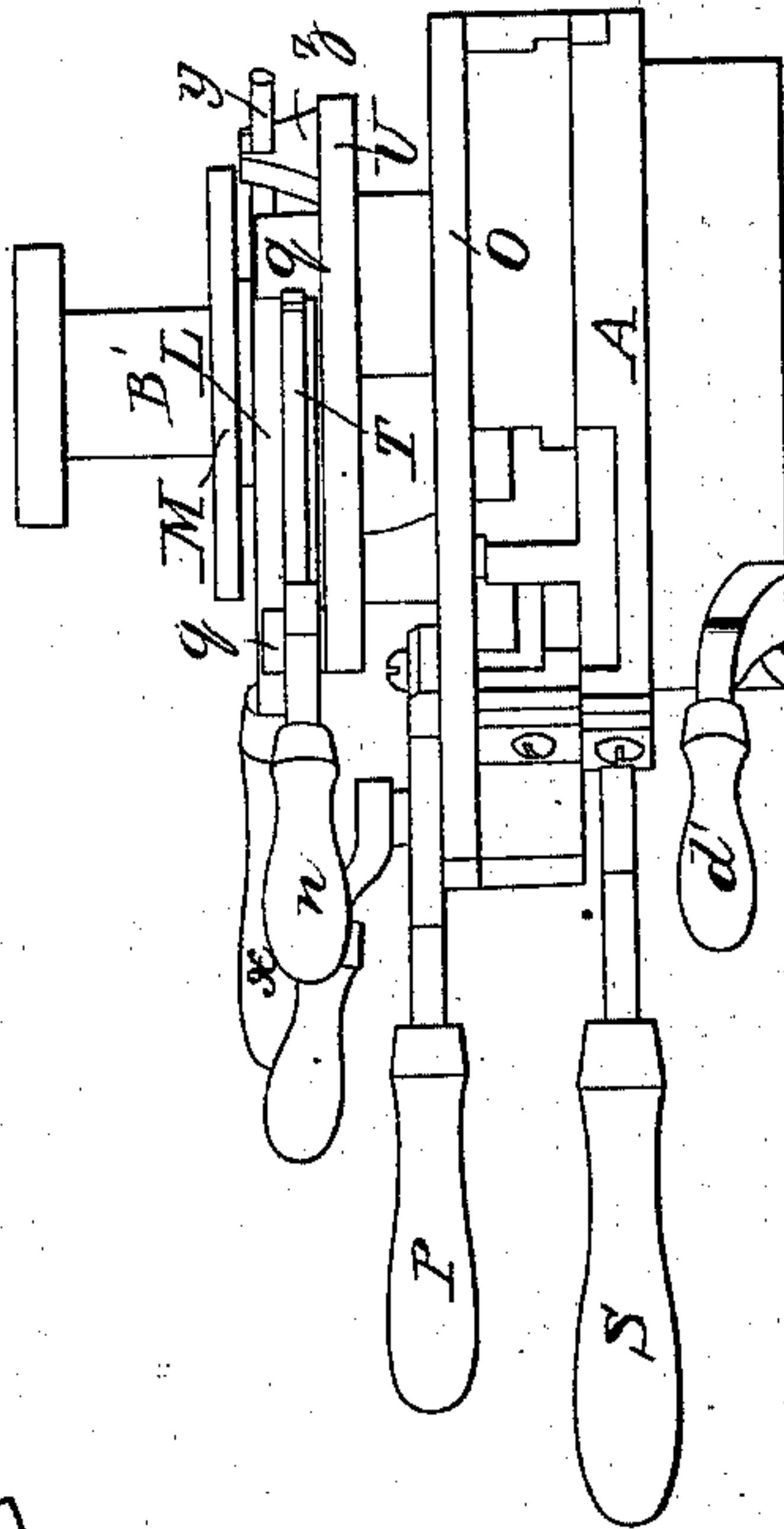


Fig. 14.

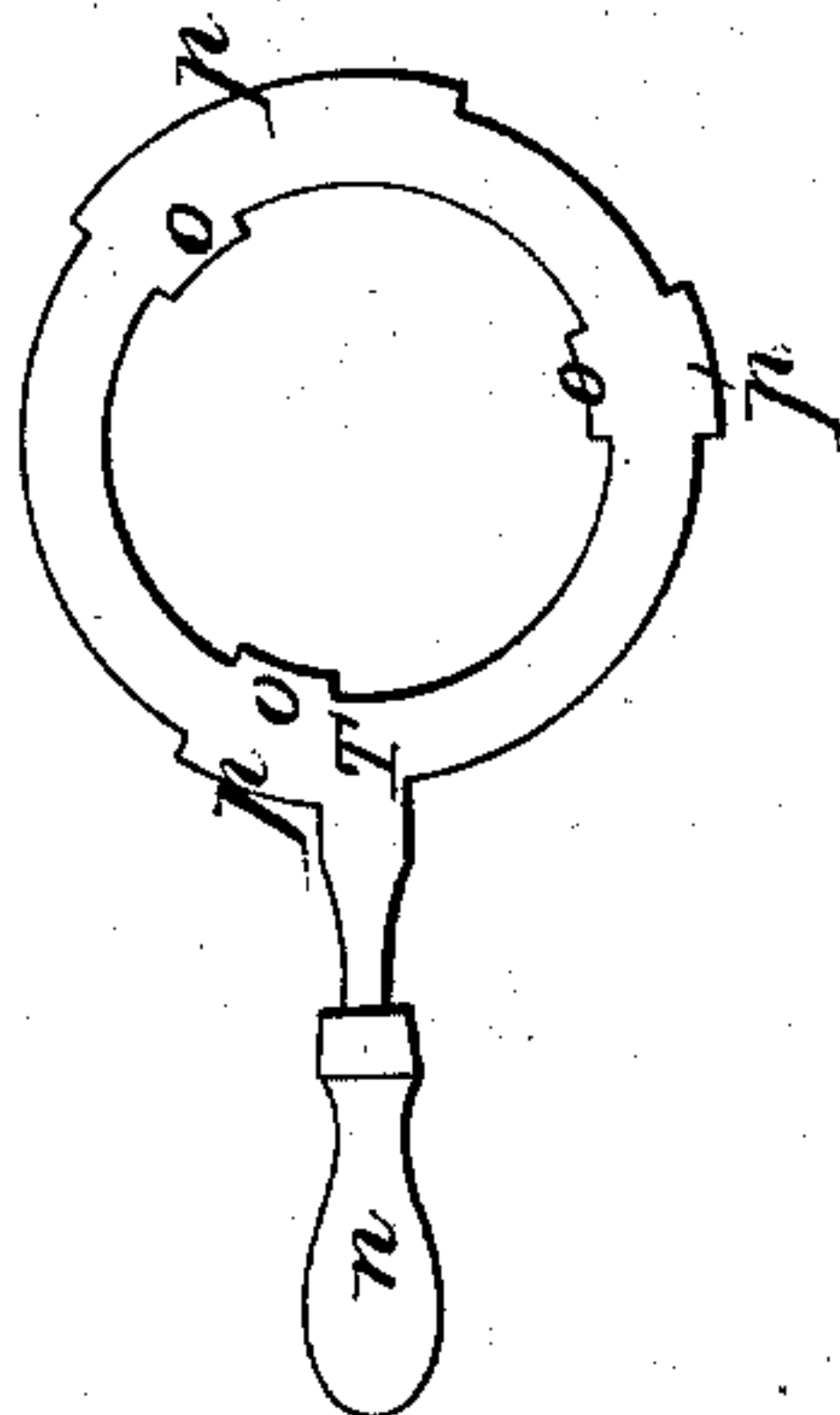


Fig. 11.

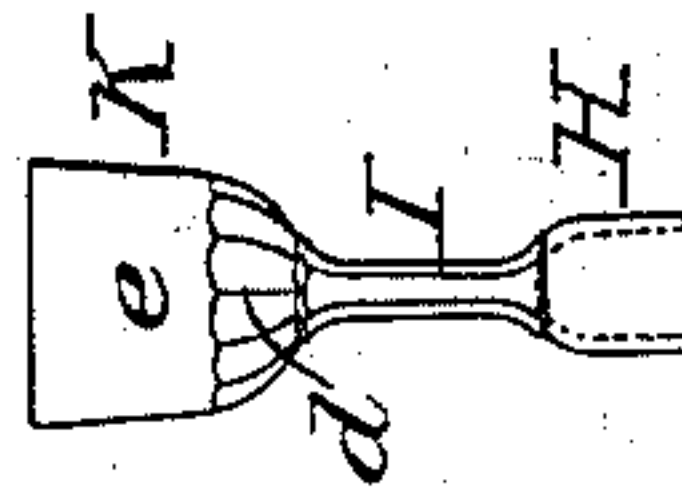


Fig. 1.

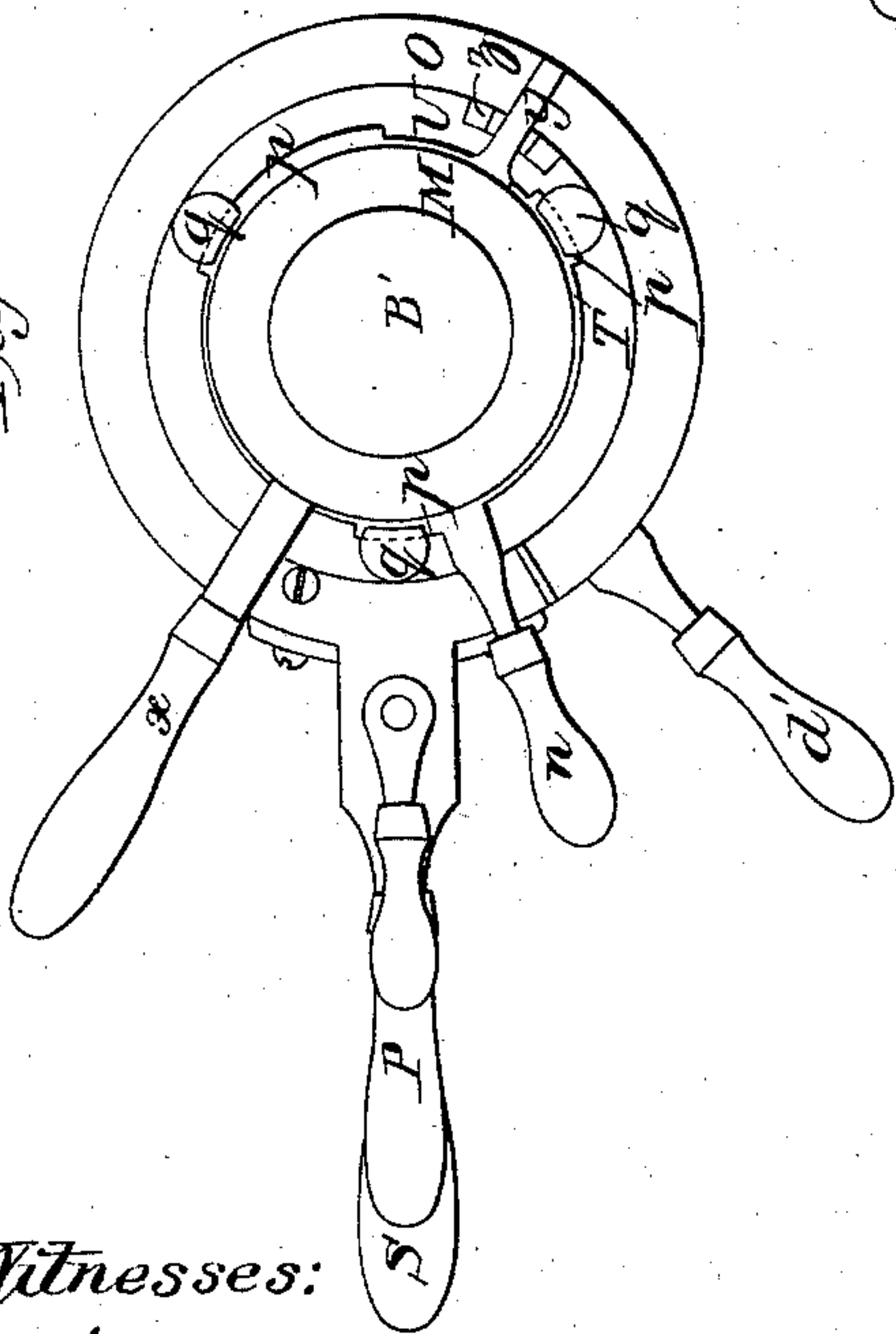
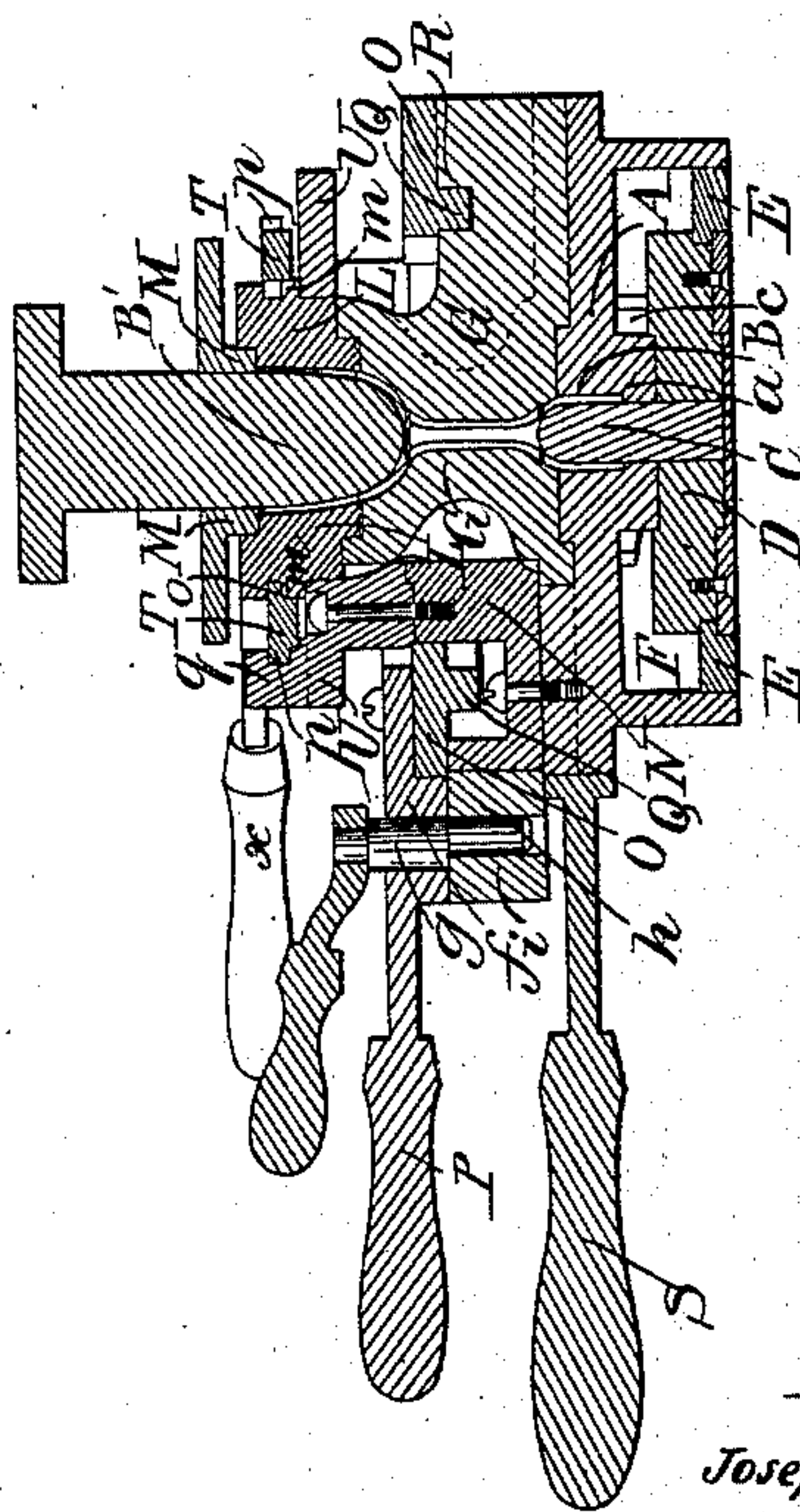


Fig. 3.



Witnesses:  
*Wm. Andrews*  
*Samuel H. Piper*

Inventor:  
*Joseph Magoun*  
 by his attorney  
*R. H. Hady*

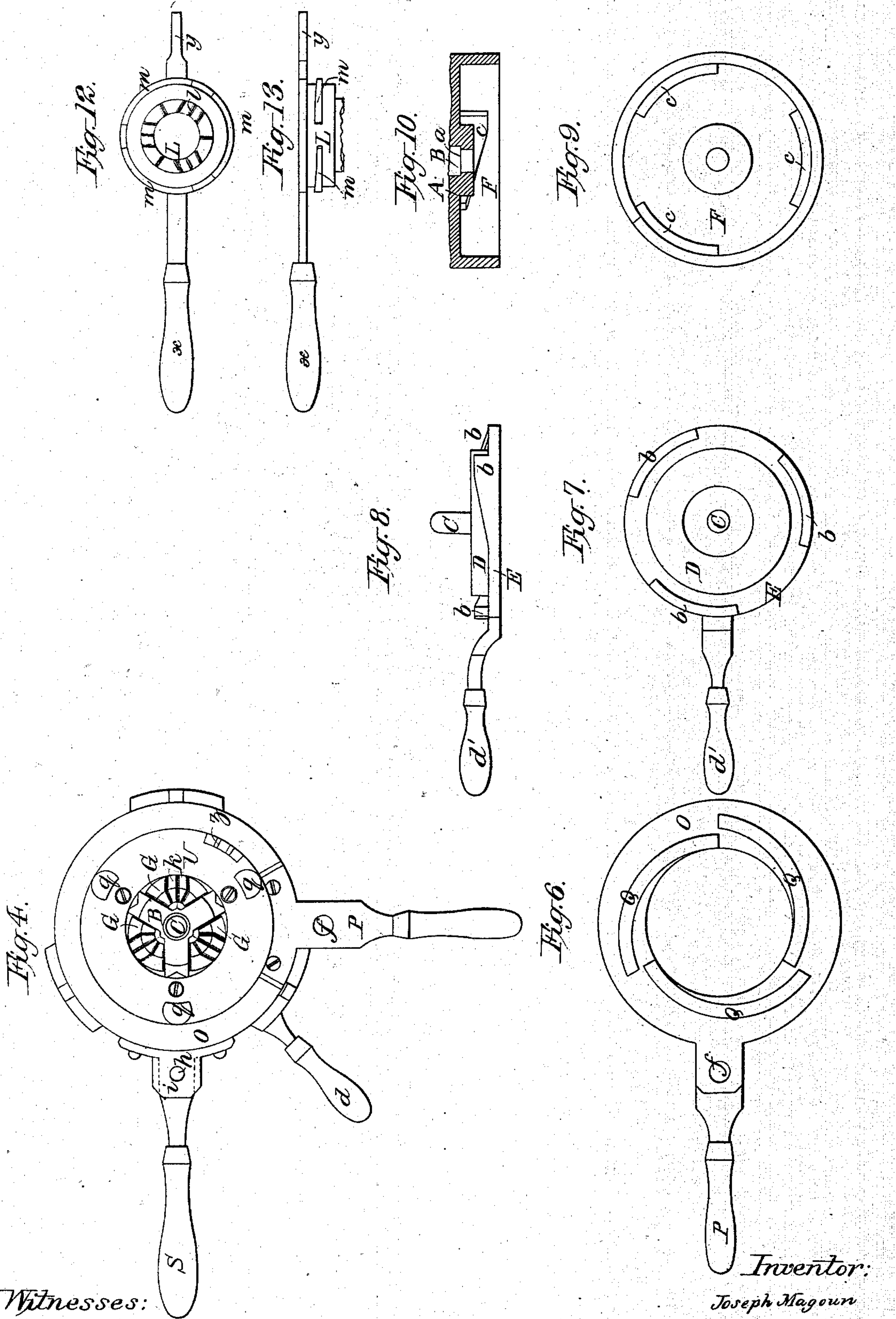


J. MAGOUN.

MOLD FOR MAKING GLASS GOBLETs, GLASSES, &c.

No. 68,633.

Patented Sept. 10, 1867.



Witnesses:  
*Wm. Andrews*  
*Samuel N. Piper*

Inventor:  
*Joseph Magoun*  
 by his attorney  
*R. W. Ralston*



# United States Patent Office.

JOSEPH MAGOUN, OF EAST CAMBRIDGE, MASSACHUSETTS.

*Letters Patent No. 68,633, dated September 10, 1867.*

## IMPROVED MOULD FOR MAKING GLASS GOBLETS, GLASSES, &c.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL PERSONS TO WHOM THESE PRESENTS MAY COME:

Be it known that I, JOSEPH MAGOUN, of East Cambridge, in the county of Middlesex, and State of Massachusetts, have invented an improved Mould for Making Glass Goblets, Wine-Glasses, or other articles of like character; and I do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a top view,

Figure 2 is a side elevation, and

Figure 3, a vertical and longitudinal section of such mould in a closed state.

Figure 4 is a top view of it as open and without the body-matrix, and

Figure 5 is a horizontal section taken through the stem-mould sections.

Figure 6 is an under side view of the operative annulus of the said stem-mould sections.

Figure 7 is a top view, and

Figure 8 a side elevation of the lower plunger, and its supporting foot and raising plate, and the cams of the latter.

Figure 9 is an under side view, and

Figure 10 a transverse section of the cammed chamber for receiving the said raising plate.

The main purpose of the mould is to so form a wine-glass or other article of like character and material, that the joint-marks of the mould may be at the edges and ends of the flutes or mouldings without being in the plane part of the body.

In the drawings, A denotes the base-plate of the mould, such plate being circular in shape, and having at its central part a foot-mould or matrix, B, such being a cylindrical or slightly conical hole extending within the plate and to an annular shoulder, *a*. A plunger, C, is employed with such matrix, and so as to extend up into it in manner as represented in fig. 3. This plunger projects upward from a circular plate or post, D, which is so fixed to a raising or cammed annulus or plate, E, as to enable the latter to be revolved independently of the post D, the purpose of such application of the said parts being that the plunger may not be revolved while the cammed annulus is in the act of being revolved in order to depress the plunger or elevate the mould with respect to it. Were the plunger to revolve it would be liable to break or injuriously affect the glass while being moulded. The said raising plate has a series of inclined planes or cams, *b b b*, applied to and extending up from its upper surface and into a cylindrical chamber, F, made in the base-plate. The said series of cams works against a series of counter-cams, *c c c*, extending from the top of the chamber F, the whole being so that when the cammed plate E may be in the act of being revolved in one direction by manual power applied to a handle, *d'*, the plunger will be elevated in the foot-mould or matrix and be depressed when the plate E may be in the act of being revolved in the other direction. On the base-plate, and applied thereto, so as to be capable of being slid thereon in radial directions, is a series of what I term stem-mould sections, G G G. When close together they form the matrix of the wine-glass stem and that part of the body of the wine-glass which is figured or fluted.

Figure 11 is a side elevation of a wine-glass as formed by the mould, the part H being cup-shaped and afterwards opened out flat, so as to constitute the foot of the article. The said part H is what is made within and by the matrix B, and by means of it and the plunger C. The stem-mould sections not only form the stem I, but the exterior surface of the lower or fluted part *d* of the body K. The remaining portion *e* of the said body is made by the separate body-matrix L, and the edge-forming annulus M applied thereto, as represented in the drawings. Each stem-mould section, instead of turning on a centre or joint as in other moulds, slides in a radial direction from a centre common to the series, and between guides N N N fastened on the base-plate. The movements of the stem-mould sections are produced by a mechanism consisting of an annulus or ring, O, provided with a handle, P, and a series of cams, Q Q Q, (see fig. 6.) These cams enter notches, R, made in the mould sections. The cammed ring O revolves within and is supported by the guides N N, its handle P being furnished with a hole, *f*, to receive a pin, *g*. This pin also enters another hole or socket, *h*, made within a projection, *i*, extended from the base-plate and over a handle, S, projected therefrom, and serving to enable a workman to hold the base-plate steady or in one position while he may apply power to either of the other



handles of the mould, for the purpose of operating the part or parts to which such may belong. The joint of the mould-sections G G G and the body-matrix L is along the upper termini of the flutes of the body, and the touching surfaces of such joint should be corrugated or formed so as to enable each of the sections G to be moved while the body-matrix is stationary in position. The corrugations of the surfaces of the joint are shown at k and l, in figs. 4 and 12, the latter figure being an under side view of the body-matrix.

Figure 13 is a side view of such body-matrix with its cams, handle x, finger y, the said finger, when the body-matrix is in place, going within a notched projection, z, raised on the platform U. The finger and notched projection serve to determine the proper position of the body-matrix. The body-matrix L rests directly upon the stem-mould sections, and is forced down thereupon by means of a ring, T, and certain inclined cams, m m m. The said ring T has a handle, n, extending from its periphery. It also has a series of projections, o o o, on its inner periphery, and another series of projections, p p p, extended from its circumference, the whole being as shown in Figure 14, which is a top view of such ring and its adjuncts, as described. The said ring rests on a stationary platform U supported on the mould-section guides, the projections p p p, while the ring is being revolved, being made to enter notched posts q q q raised on the platform U. While the ring may be in the act of being turned around horizontally, and its projections p p p are in the notched posts, its projections o o o will ride on the cams m m m, and by so riding on them will force the body-mould down closely upon the stem-mould sections. On turning the ring T backward, the body-matrix will be relieved from downward pressure so as to enable the mould-sections G G G to be moved laterally away from the vertical axis of the mould. The part or edge-forming annulus M rests on the body-matrix, and has a hole made in it for the reception of the upper plunger B', by which the glass is forced into the mould and the cavity of the body of the wine-glass is formed. Instead of arranging the clamp or annulus T on the platform U, and so as to clamp and hold the body-matrix only, the posts q may be elongated, and the said annulus may be placed on top of the edge-forming annulus M, and have the projections p made inclined on their upper edges, in which case the cammed annulus and posts may be used to hold down both the cap M and the body-matrix. I mention this as one of the modes in which I have contemplated the application of means for holding the body-matrix or the same and the cap M in place when the mould may be in use.

The mode of operating this mould will be readily understood by glass manufacturers and others skilled in the art of making glass-ware.

From the above, it will be observed that the matrix for forming the foot H, as well as that for forming the main or plain portion e of the body K, of the wine-glass, has no vertical joints to make seams in the glass when moulded. In other words, each matrix for forming each of such parts is entirely cylindrical, and is combined with a stem-mould made in sections, each of which is supported so as to be capable of being raised rectilinearly in radial directions from an axis common to all of them. The sections do not open apart in curves as they would were they jointed together in the ordinary way. This enables their joints to be arranged at the angles and termini of the flutes or in other parts where the seams made by them in the glass will be arranged to the best advantage for not being readily visible.

What I claim as my invention in the said mould, is as follows:

1. I claim the combination of the separate body-matrix L, (in one piece, as described,) and its holding mechanism, or the equivalent thereof, with the series of stem-mould sections G G G arranged together and applied to their supporting frame so as to be movable in radial directions, as specified.

2. I also claim the combination and arrangement of the foot-mould or matrix B with the separate body-matrix L, (in one piece, as described,) and the stem-mould sections G G G arranged so as to be movable in radial directions, as specified.

3. I also claim the foot-mould or matrix B as made in one piece without any vertical joint, when arranged and combined with a series of stem-mould sections G to open apart over the said foot-mould, as specified.

4. I also claim the combination for holding the body-matrix L down to the mould-sections directly underneath it, such combination consisting of the annular clamp T and its projections o p, the stationary recessed posts q, and the cams m, such posts being supported by the platform U, and the cams being applied to the body-matrix, as specified.

5. I also claim the combination and arrangement of the cammed annulus O with the mould-frame, the series of stemmed sections G G G, the body-matrix L, and its holding mechanism, substantially as described.

6. I also claim the combination of the lower plunger C and its supporting foot D with the raising plate or device E, so as to render the latter capable of being revolved independently of the said plunger and foot, as explained.

7. I also claim the combination of the edge-forming annulus or cap M with the body-matrix L and its holding mechanism, whether the latter be applied directly to the matrix or to the said annulus placed on the said matrix.

8. I also claim the combination of the finger y and notched projection z, with the mould-frame, and the body-matrix L, when the latter is combined and arranged with a series of stem-mould sections, G G G, to operate or move in radial directions, as described.

JOSEPH MAGOUN.

Witnesses:

R. H. EDDY,

F. P. HALE, Jr.