(No Model.) 2 Sheets—Sheet 1.

R. G. HEMINGRAY.

GLASS PRESS.

No. 588,795. Patented Aug. 24, 1897.

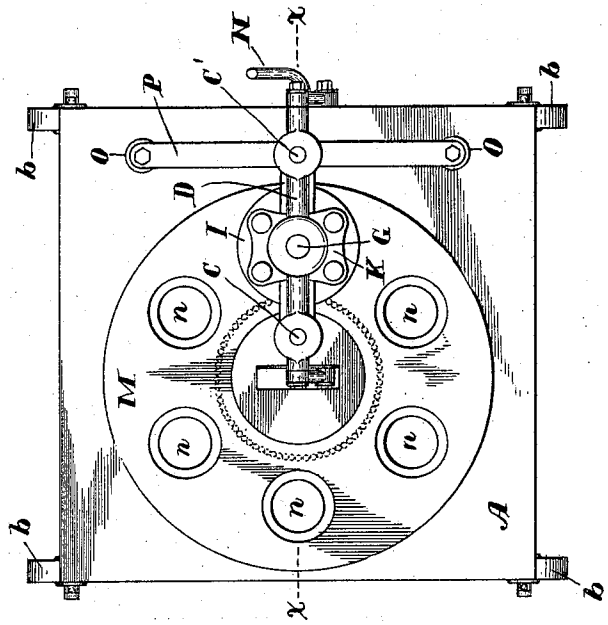


Fig. 2

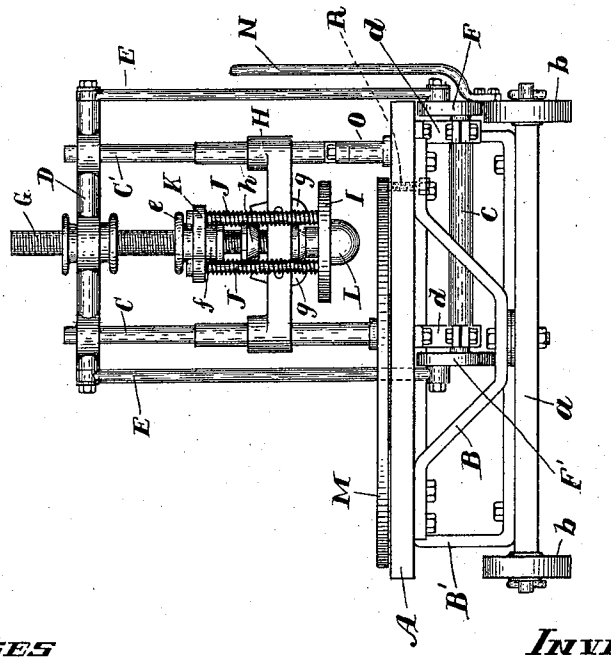


Fig. 1

WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

R. G. HEMINGRAY.

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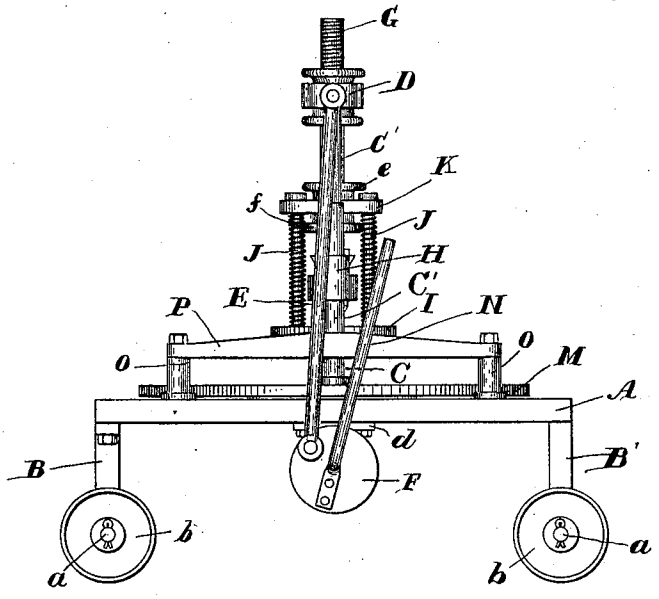


Fig. 3

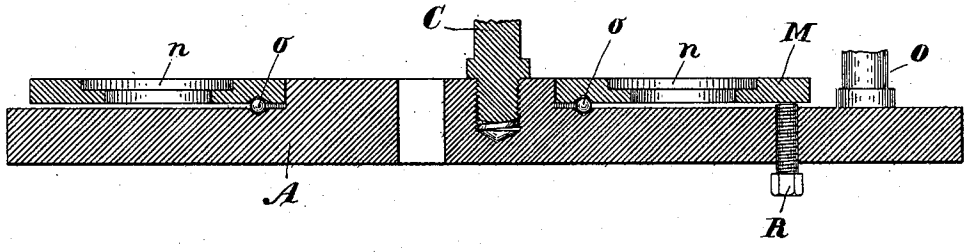


Fig. 4

WITNESSES

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UNITED STATES PATENT OFFICE.

RALPH G. HEMINGRAY, OF MUNCIE, INDIANA.

GLASS-PRESS.

SPECIFICATION forming part of Letters Patent No. 588,795, dated August 24, 1897.

Application filed April 21, 1897. Serial No. 633,103. (No model.)

To all whom it may concern:

Be it known that I, RALPH G. HEMINGRAY, a citizen of the United States, residing at Muncie, in the county of Delaware and State of Indiana, have invented certain new and useful Improvements in Glass-Presses, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to improvements in presses for molding glass, more particularly to the construction and arrangement of the mold guide-plate and the plunger-supporting uprights or standards. Heretofore presses of this character have been constructed either with sliding mold guide-plates or rotary mold guide-plates, which latter, however, are more or less impractical, owing to the construction of such presses.

The object of my invention is to produce what may be called a "multiple glass-press" and to overcome the disadvantages of the constructions heretofore in use, as will more fully appear and be understood from the following detailed description.

In the drawings, Figure 1 is a front view of my improved glass-press in elevation. Fig. 2 is a top plan view. Fig. 3 is a side elevation. Fig. 4 is a sectional view of the bed-plate and revolving plate, taken on line X X of Fig. 2.

Like letters of reference indicate identical parts in all the figures.

A is the bed-plate; B B′, the supporting-frame bolted or riveted to the bed-plate A, to which supporting-frame the axles *a a* are attached, the front axle being pivoted at its center to the supporting-frame to permit its wheeling or swinging movement in transporting the press from place to place, the axles of course being provided with wheels *b*.

C C′ are uprights or standards.

D is a yoke to which are loosely bolted rods or connecting-bars E, which connecting-bars are bolted to disks F F′, these disks being united by a shaft *c*. This shaft or journal has its bearings and is supported and held in place by journal bearings or hangers *d d*, which are bolted to the bed-plate A.

G is the plunger-rod; H, the cross-head, sliding up and down on the standards and supporting or bracing the plunger-rod.

I is the spring-plate, which fits on top of the mold.

J are pillars or posts to hold the spring-plate and are fitted with coiled springs. These pillars or posts J pass through a collar K. This collar K is held at the desired point on the plunger-rod G, which is screw-threaded, by nuts *e* and *f*.

L is the plunger-base or die which enters the mold, this die or plunger-base being held on the plunger-rod G by dogs *g*. These dogs pass through openings in the cross-head H and are pivotally connected to the cross-head, permitting them to oscillate.

h is a wedging-nut, which is screwed down on the plunger-rod between the upper end of the dogs *g*, thus wedging the upper ends apart, and consequently bringing the lower ends of the dogs closer together, thereby clamping the plunger-base or die L and holding it firmly.

All of these parts heretofore thus briefly described operate in the usual well-known way and form no part of my invention.

M is a revolving mold guide-ring or annular plate so placed on the bed-plate that a portion of it may pass under the plunger. This annular plate or mold guide-ring has equidistant sockets *n* to receive the molds, the number of sockets depending upon the size of the annular plate. This annular plate or mold guide-ring is formed with a groove on its under side corresponding with a groove formed in the bed-plate A, in which are placed small steel or metal balls *o*, thus making the annular plate ball-bearing.

Mold guide-plates heretofore have been either made to slide back and forth under the plunger, or where a rotary plate was used it was usually a solid plate revolving between the standards. The molds are placed in the sockets and the annular plate or mold guide-ring revolved until a mold is brought immediately beneath the plunger, which is then brought down, the power being obtained in any well-known way, though in the drawings I have shown a portion of a hand-lever N, which is fastened to the disk F and revolves the disk, thus reciprocating the connecting-

bars E, which, being attached to the yoke D, impart motion to the plunger.

It will be readily seen that with the ordinary and usual uprights or standards it would be impossible to use an annular plate and the usual form of molds, because these molds are provided with handles, and preferably for convenience when the mold is placed in the socket the handle extends in substantially the line of a radius from the center of the annular plate, and when the annular plate would be revolved in order to bring the mold beneath the plunger the handles of the mold would strike and come in contact with the upright C'. To overcome and obviate this difficulty, I have formed the upright or standard C' with a cross-bar P, which is bolted on top of the posts O, thus forming a yoke, the upright C' stopping and resting on the cross-bar P, as shown in Figs. 2 and 3. By thus constructing the standard C' with this yoke it permits the passage of the mold-handles, thus enabling the use of an annular plate with equidistant or multiple of sockets for the seating or reception of a number of molds.

By having the annular plate ball-bearing it is easily operated, the friction and wear being greatly reduced.

Unless means were provided to prevent it will be seen that when the plunger is brought down on the mold, immediately underneath, the mold guide-ring or annular plate would be depressed and come in contact with the bed-plate A and produce undesirable results. To prevent and overcome this difficulty, I provide a stud or set-screw R. This stud or set-screw is adjustable and is screwed up through the bed-plate to within close proximity of the annular plate, just near enough when the annular plate is in its normal condition—that is, when it is not acted on by the plunger—not to come in contact with the plate and permit its free rotation. When the plunger is brought down on the mold which has been placed in the socket in the annular plate, the pressure thus brought to bear upon the plate would of course have a tendency to tilt or bend it and necessarily place a strain upon it, making it liable to become broken. With this stud, however, the annular plate when under pressure will come in contact with and rest upon the stud, thereby relieving the strain and making this point of the annular plate firm, permitting an even and equal pressure on the mold.

I have heretofore described and shown in the drawings a single groove in the two plates for the metal balls, but I do not confine myself to a single groove, as it will be readily seen that it may be desirable to have a number of grooves, especially if the annular plate should be made very large.

In practice the molds are placed in the sockets in the annular plate and each mold in its successive turn brought underneath the plunger. Time, however, must be given for the glass and mold to cool sufficiently to permit the removal of the glass from the molds. With the use of an annular plate with a multiple of equidistant sockets a number of molds can be used, and by the time the plate has made a complete revolution the glass will have cooled sufficiently to permit its removal from the mold. With this construction I produce what might be termed a "multiple glass-press," considerably increasing its capacity.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a press for molding glassware, an annular plate encircling one of the standards and having a multiple of sockets, said plate so arranged that a portion passes underneath the plunger, in combination with a yoked upright or standard to permit the passage of the molds, substantially as and for the purpose described.

2. In a press for molding glassware, an annular plate encircling one of the standards and so arranged that a portion passes or lies underneath the plunger, said plate and the bed-plate provided with corresponding grooves to receive metal balls, in combination with a yoked upright or standard to permit the free passage of the molds, a stud for supporting and bracing the annular plate, substantially as and for the purpose described.

3. In a press for molding glassware, an annular plate or mold guide-ring encircling one of the standards and having a multiple of equidistant sockets, said plate being so arranged that a portion passes underneath the plunger, substantially as and for the purpose described.

4. In a press for molding glassware, an annular plate or mold guide-ring encircling one of the standards and having equidistant sockets, said plate being ball-bearing and so arranged that a portion passes underneath the plunger, in combination with a supporting-stud to brace and support said annular plate when under pressure, substantially as and for the purpose described.

5. In a press for molding glassware, the combination, of an annular plate or mold guide-ring encircling one of the standards and having ball-bearing and so arranged that a portion thereof passes underneath the plunger, with yoked standard or upright to permit the passage of the molds, and supporting-stud to support and brace said annular plate when under pressure, substantially as and for the purpose described.

RALPH G. HEMINGRAY.

Witnesses:
GEORGE HEIDMAN,
H. G. EDWARDS.