

No. 614,303.

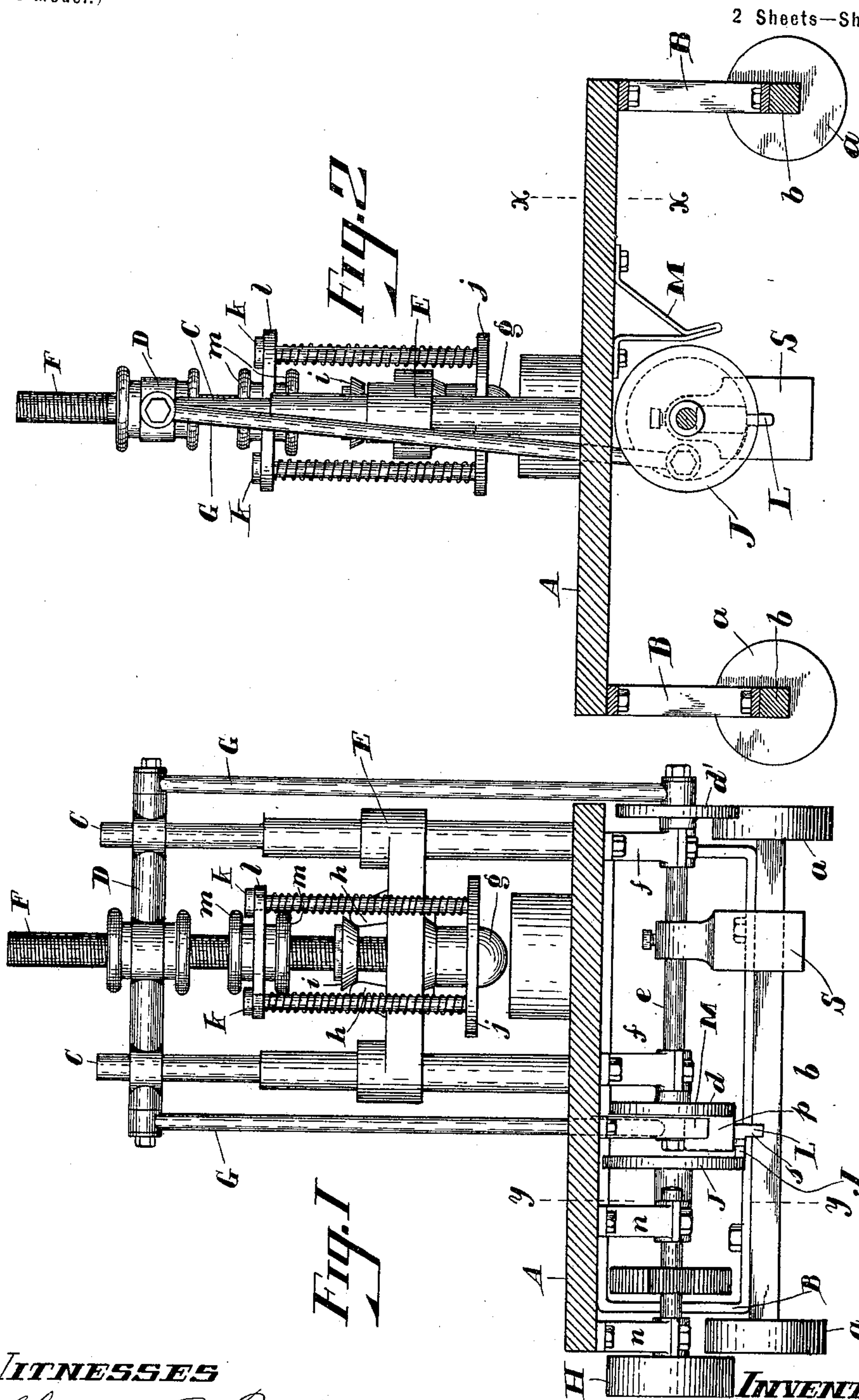
R. G. HEMINGRAY.
GLASS PRESS.

Patented Nov. 15, 1898.

(No Model.)

(Application filed Jan. 31, 1898..

2 Sheets—Sheet 1.



WITNESSES

Sherwood R. Taylor
George Kidman

INVENTOR

Ralph G. Hummray
By Arthur Stein
Attorney.

No. 614,303.

Patented Nov. 15, 1898.

R. G. HEMINGRAY.

GLASS PRESS.

(Application filed Jan. 31, 1898.)

(No Model.)

2. Sheets—Sheet 2.

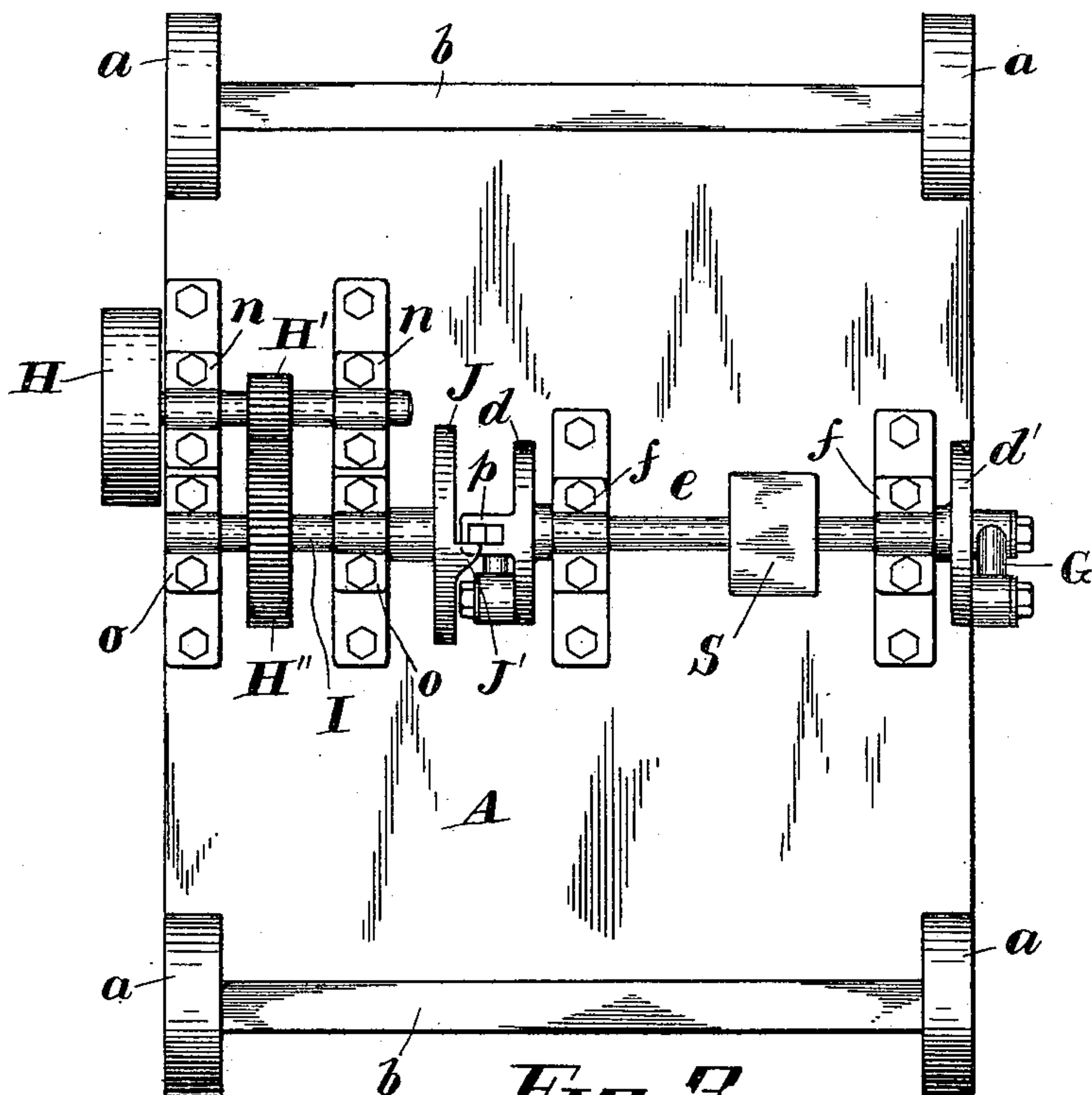


Fig. 3

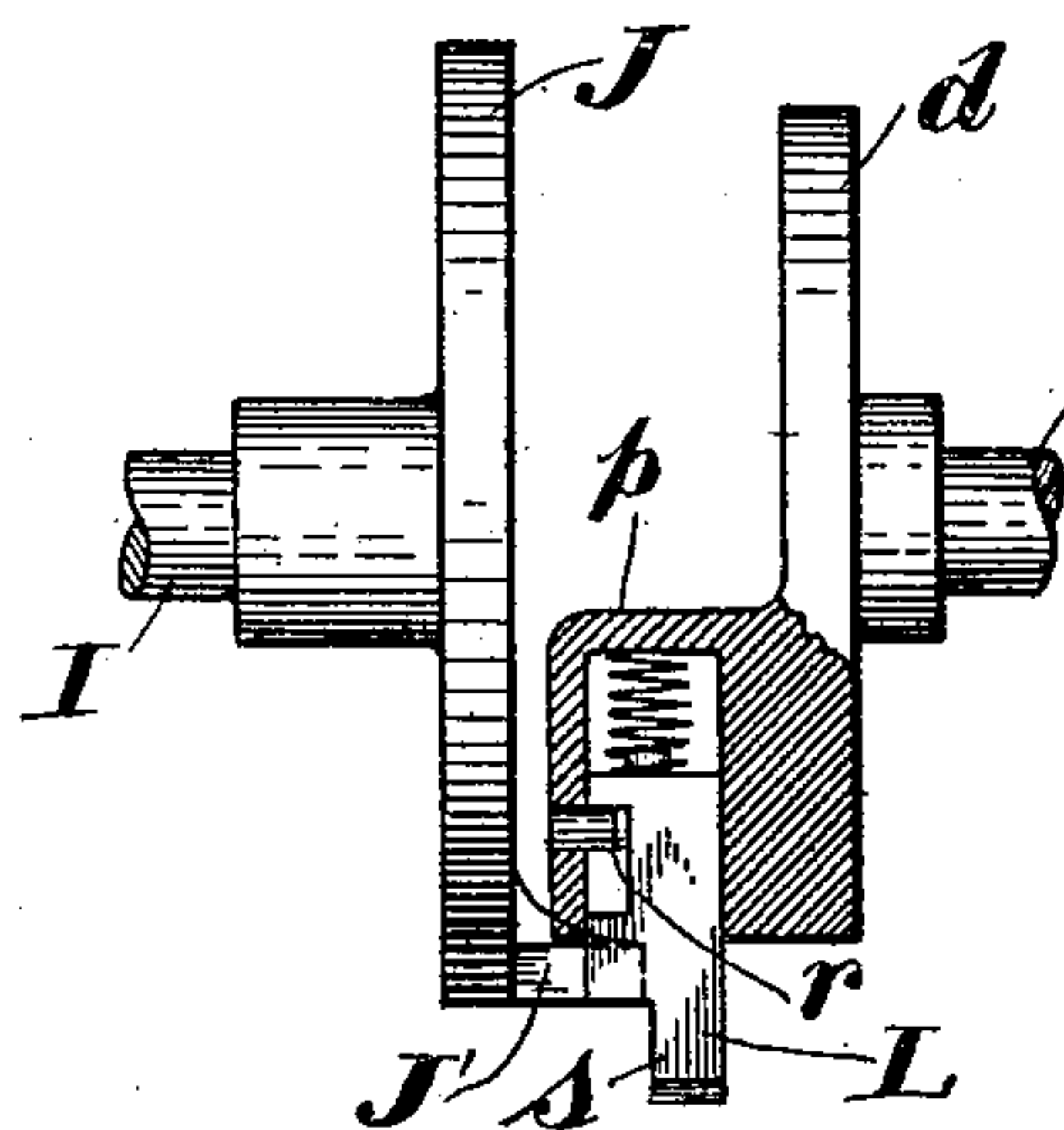


Fig. 4

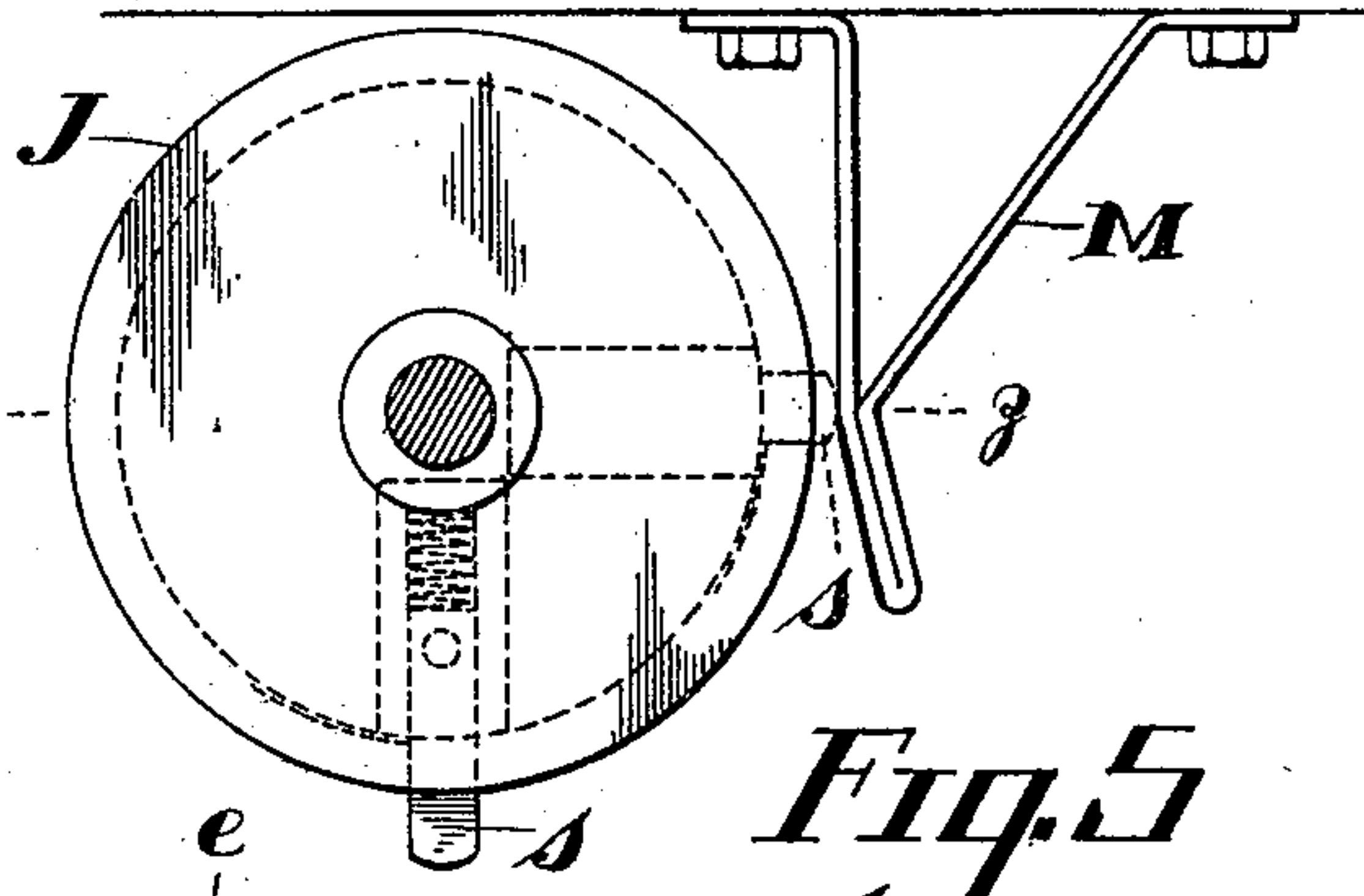


Fig. 5

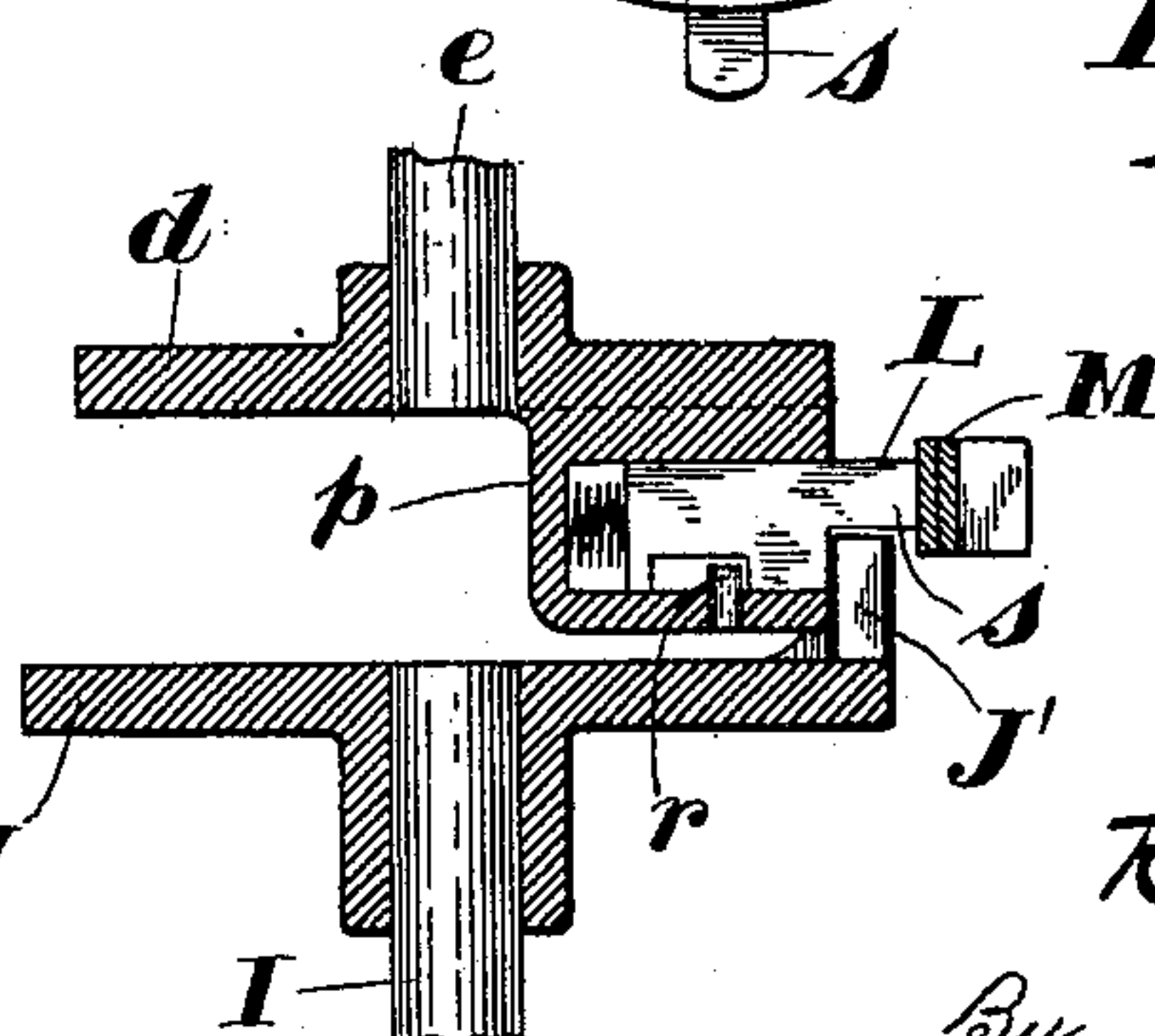


Fig. 6

WITNESSES

Sherwood R. Taylor
George Heidman.

INVENTOR

Rufus G. Huntington
By Amos Stark
Attorney.

UNITED STATES PATENT OFFICE.

RALPH G. HEMINGRAY, OF MUNCIE, INDIANA.

GLASS-PRESS.

SPECIFICATION forming part of Letters Patent No. 614,303, dated November 15, 1898.

Application filed January 31, 1898. Serial No. 668,559. (No model.)

To all whom it may concern:

Be it known that I, RALPH G. HEMINGRAY, a citizen of the United States, and a resident of 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 an improvement in glass-presses, and has more particularly to do with the means for imparting motion to the plunger of the press.

Heretofore where the press was operated by power a disk was provided to which the rod or shaft connected with the yoke or collar actuating the plunger-rod was attached at such a point on the disk so that when the plunger had entered the mold the required distance the same would be on a "dead-center" and the further revolving of the disk would lift the actuating rods or shafts, which in turn returned the plunger to its normal position. In presses of this character, however, very great care as to the exactness in the point of connection of the rods connecting the plunger-yoke and disk is necessary, so that the distance the plunger is to be depressed in the mold will not be less than the distance the eccentric has to revolve before it arrives at its dead-center in order to avoid the complete crushing of the mold or breaking of the press, as would of course be the case if the adjustment were inaccurate. Furthermore, in power-operated presses as heretofore constructed the time required for the piston or shaft attached to the eccentric and connected with the plunger-yoke, after passing the dead-center, to reach the point of again depressing the plunger was not more than about half a revolution of the eccentric, during a portion of which time the operator must replace the mold operated on by another or be compelled to stop the press a sufficient length of time to enable him to replace the mold. It is to overcome these difficulties that my invention is devised and to produce a press which more nearly resembles a hand-operated press in effect and gives the operator more time within which to refurnish or supply the press with molds to be operated on, as will

more fully hereinafter be set forth and described.

In the drawings, Figure 1 is a front elevation of a power-operated press, taken on the line X X of Fig. 2, to more clearly show my improved power-imparting mechanism. Fig. 2 is a side elevation of the same, taken on the lines y y of Fig. 1. Fig. 3 is an inverted plan view of a press with my improvement. Fig. 4 is a detail view of my improved power-imparting mechanism. Fig. 5 is a side detail view of the power-imparting mechanism with the trip for disengaging the power-imparting mechanism, showing in dotted lines the power-imparting mechanism when in contact with the trip. Fig. 6 is a detail of the same, taken on the lines z z of Fig. 5.

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

A is the bed-plate; B B, the supporting-frame, which is bolted or riveted to the bed-plate, to which the axles b b are attached in the usual way, the axles of course being provided with the usual wheels a for moving the press from place to place, as desired.

C C are the uprights or standards, which act as guides or sliding supports for the yoke D and cross-head E, which in turn support and actuate the plunger-rod F.

Pivotally attached to the yoke D are rods or connecting-bars G G, the other ends of which are bolted to disks d d' on a uniting-shaft e, the shaft being supported by journal bearings or hangers f f, which are bolted to the bottom of the bed-plate A.

g is the plunger-base, which is held to the plunger-rod F by dogs or catches h h, which are pivotally connected to the cross-head E and are controlled or wedged into position by a wedging-nut i. The plunger-base g passes through an opening in the spring-plate j, which fits on top of the mold, this spring-plate being held by rods k k, which pass through a collar l and are fitted with coiled springs. The collar l is held in place on the plunger-rod, which is screw-threaded, by nuts m m.

All of the parts thus briefly described are constructed and operate in the usual well-known manner and form no part of my improvement.

H is an ordinary belt-pulley attached to a shaft held by hanger n. On this shaft is at-

tached a gear H', which meshes with gear H'', attached to shaft I, this shaft being held by hangers o o, fastened to the bottom of the bed-plate A. Rigidly attached to the other end of this shaft I is a disk J. The disk d, to which is attached the connecting-bar G, is provided with boxing or housing p, containing a spring-actuated trigger L. This trigger L has a cut-out portion, in which enters a pin r to hold the trigger L in the housing and prevents it sliding too far either way. The outer end of this trigger L has an elongated portion s, which portion comes in contact with the trip mechanism M, which may consist of a piece of metal bent as shown in the drawings and bolted to the bed-plate. It will be understood, however, that any device attached so as to bring it sufficiently close to the disk containing the trigger may be used, so that when the disk is revolved it will depress the trigger until it has passed away from this trip mechanism. On the disk J is a pin or stud J', which engages with the shorter side or portion of the trigger L. As the disk J is revolved, the pin or stud J' being in contact with the trigger L, the disk d is also revolved, thus operating the press.

The trigger housing or boxing is so placed on the disk d that the distance it will revolve before the trigger L comes in contact with the trip mechanism M is equal to the distance the plunger has to descend to enter the mold the required distance. When the elongated portion s of the trigger L comes in contact with the trip mechanism M, the trigger is depressed into the housing p sufficiently to disengage the pin or stud J' on the disk J with the short side of the trigger, and thus permit the disk J to continue its revolution, whereas the disk d, to which the housing p is attached, turns back to its normal position by reason of a weight S, which is bolted or fastened to the shaft e, to which the disks d and d' are rigidly attached.

When the disks d and d' are in their normal position, as shown in Figs. 1 and 2, the plunger is lifted by the yoke D, operated by the connecting-rods G G, and the mold under the plunger may be replaced by another.

By my construction much the same sensitive cushioning effect of a hand-press is retained and ample time is given the operator to replace the mold with another, as the plunger can be so adjusted and the housing placed at such a point on the disk d that only a quarter of a revolution of the disk d will bring the trigger in contact with the trip mechanism M, when the disk d will return to its normal position, giving the operator the time required for the disk J to make the remaining three-quarters of a revolution within which to replace the molds without the necessity of stopping the press.

In power-operated presses as heretofore constructed, where the connecting-rods G G were attached to an eccentric which was driven or revolved by means of pulley or gear-

ing and the eccentric compelled to make a complete revolution, the same being so adjusted that when the plunger had descended the required distance the eccentric would have reached a dead-center, the plunger of course is raised by the continued revolution of the eccentric and the time given the operator for replacing the mold operated on by another is very short, as he is compelled to wait until the plunger has almost completed its ascent before he can withdraw the mold to be replaced. With my improved device, however, this difficulty is obviated, as the housing containing the trigger is placed on the disk or eccentric d at a point to correspond with the distance the plunger has to descend before it is tripped, when by reason of the use of the weight S, attached at any convenient place on the shaft e, (or it might be attached to the disk d' at a proper point,) the shaft, with the disks or eccentrics d and d', is instantly thrown back into its normal position, thus permitting the immediate removal of the mold and the placing of another into place, entirely obviating the necessity of waiting for the plunger to have almost completed its ascent, as in the construction of presses heretofore used.

It will of course be understood that in place of the weight S a spring might be used to return the shaft with the disks to their normal position. I have shown in the drawings a weight, as this is the simplest method. I do not wish, however, to limit myself to the exact construction shown and described; but

What I claim, and desire to secure by Letters Patent, is—

1. In a press for molding glassware, the disks actuating the plunger by connecting-rods, provided with mechanism to engage with a power-controlled disk, and means for tripping the engaging mechanism to disengage same and permit of the complete revolution of the power-controlled disk and the return to their normal position of the plunger-actuating disks, substantially as and for the purpose described.

2. In a press for molding glassware, the combination of spring-actuated mechanism provided on the disk actuating the plunger by connecting-rods to engage with a power-operated disk, with means for tripping the engaging mechanism to permit the disk actuating the plunger to return to its normal position, substantially as and for the purpose described.

3. In a press for molding glassware, the combination of a disk actuating the plunger by connecting-rods, said disk provided with a spring-actuated trigger to engage with a stud on the power-controlled disk, with trip mechanism for disengaging the spring-actuated trigger from the power-controlled disk, substantially as and for the purpose described.

4. In a press for molding glassware, the combination of a disk controlling the plunger by connecting-rods provided with housing con-

5 taining a trigger held outward by spring-pressure, said trigger engaging with a stud or pin on the power-controlled disk, with mechanism for tripping said spring-actuated trigger when said disks have revolved a predetermined distance, thereby disengaging the trigger with the power-controlled disk, permitting said disk to complete its revolution and the disk operating the plunger to return to its normal position, substantially as and for the purpose described.

10 5. In a press for molding glassware, the combination of spring-actuated mechanism provided on the plunger-actuating device, to engage with a power-operated disk, with means for tripping the engaging mechanism on the plunger-actuating device, said plunger-actuating device being under pressure to immediately return it to its normal position, substantially as and for the purpose described.

20 6. In a press for molding glassware, the combination of a disk attached to the plunger-actuating rod, said disk provided with housing containing a trigger under spring-pres-

sure, said trigger engaging with a stud on the power-controlled disk, with mechanism for tripping said spring-actuated trigger, the plunger-actuating disk weighted to immediately return it to its normal position upon the tripping of said trigger, substantially as and for the purpose described.

7. In a press for molding glassware, the combination of disks attached to the plunger-actuating rods, said disks also rigidly attached to a uniting-shaft provided with a weight, one of said disks provided with spring-actuated mechanism to engage with a power-operated disk, with means for tripping the spring-actuated mechanism on said plunger-actuating disk, said disks being immediately returned to their normal position by the weighted shaft, substantially as and for the purpose described.

RALPH G. HEMINGRAY.

Witnesses:

GEORGE HEIDMAN,
H. G. EDWARDS.