

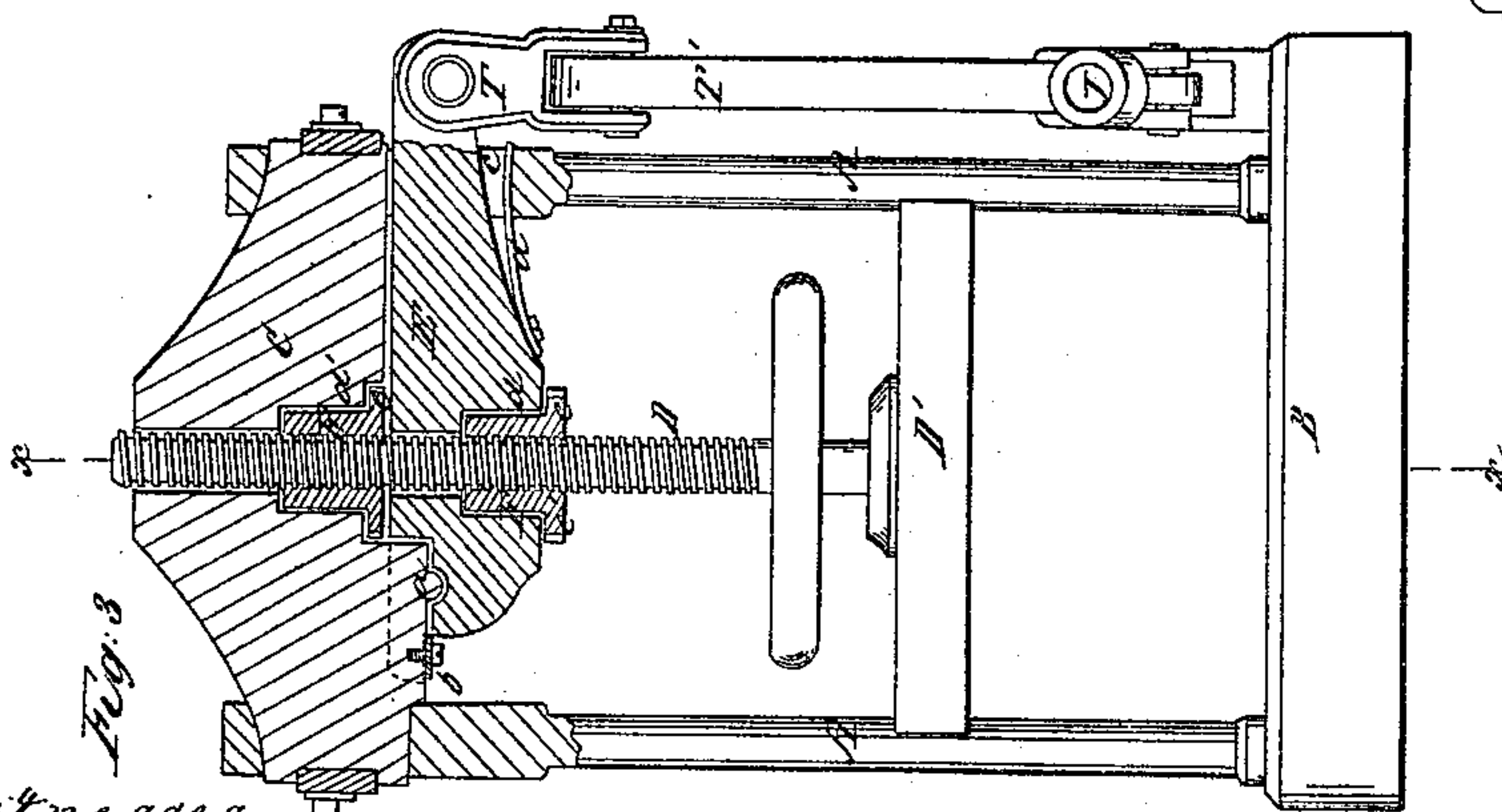
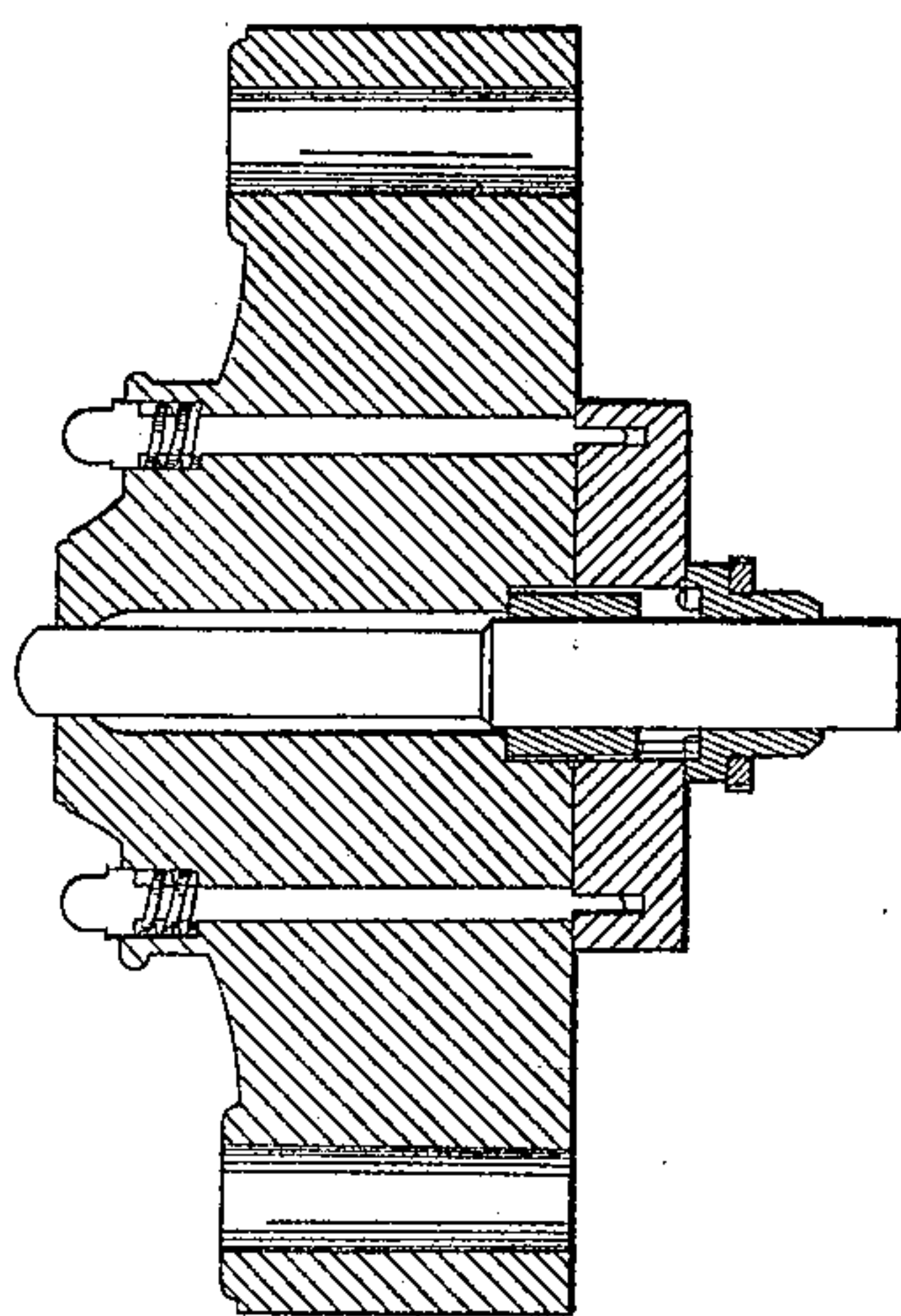
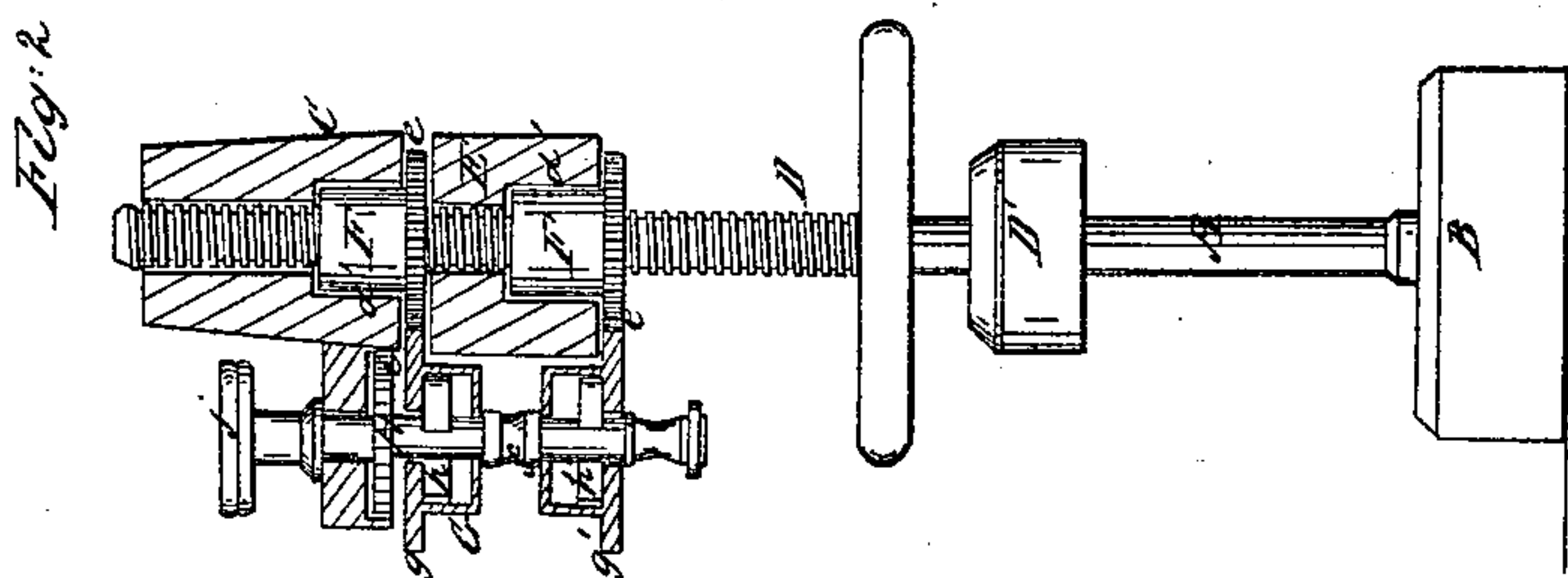
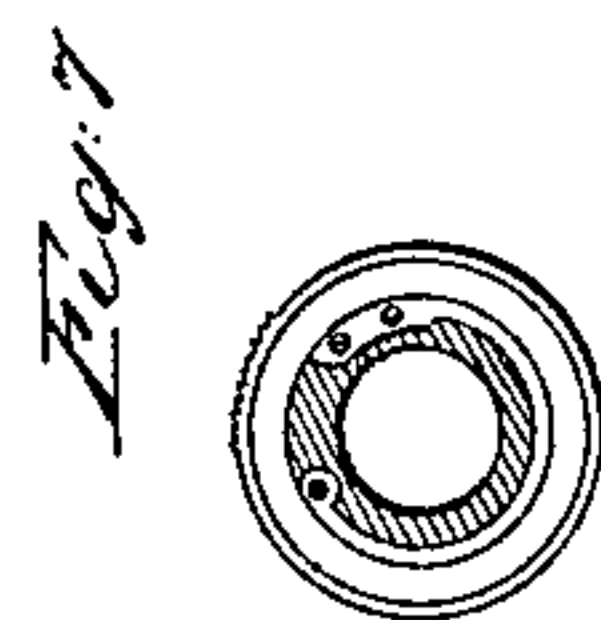
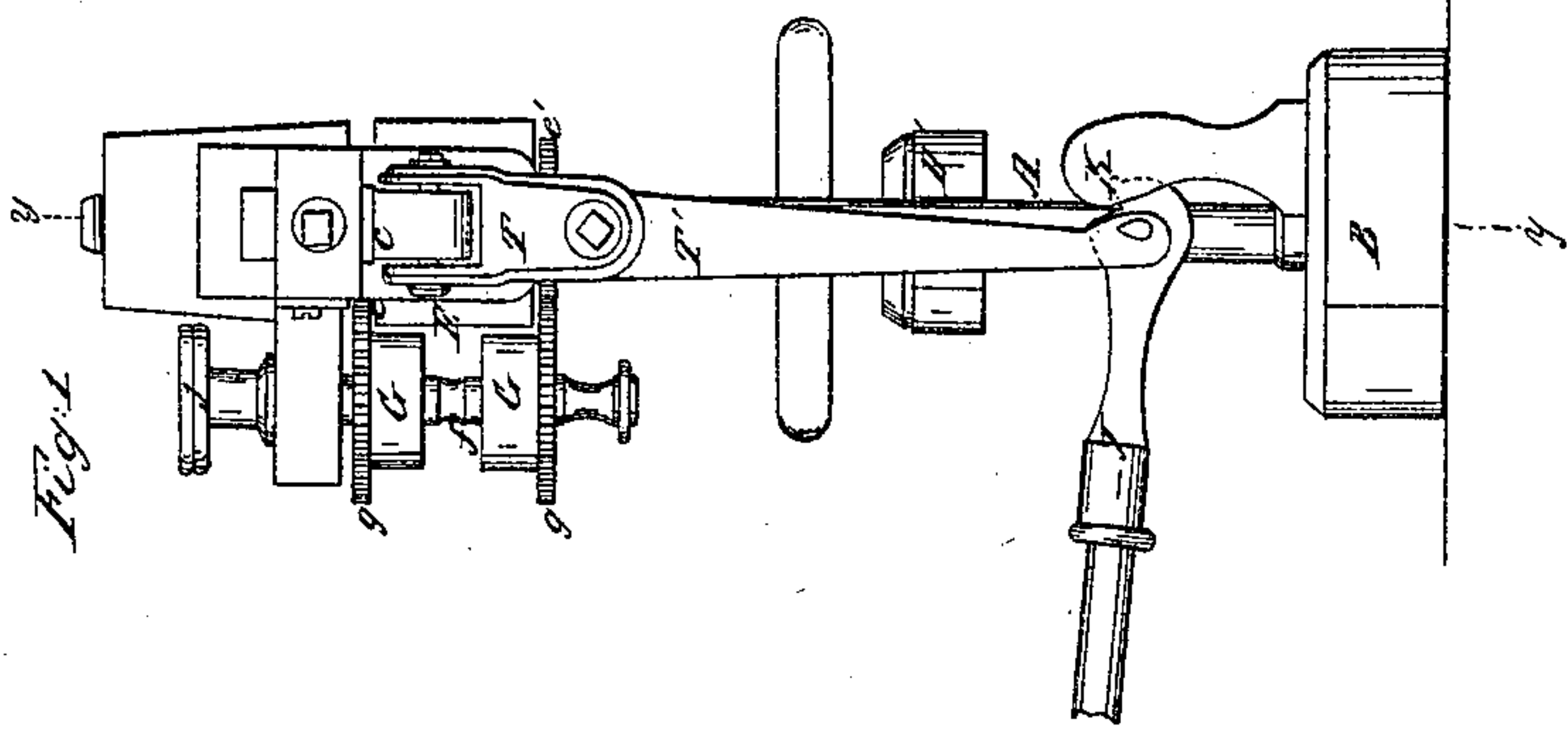
T. R. Hopkins,

2 Sheets. Sheet 1.

Cotton Press.

N^o 25,195.

Patented Aug. 23, 1859.



Witnesses.
Thos. S. Pleasant
J. Van Holmash

Inventor.
Thos. R. Hopkins
3

2 Sheets. Sheet 2.

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Fig. 4.

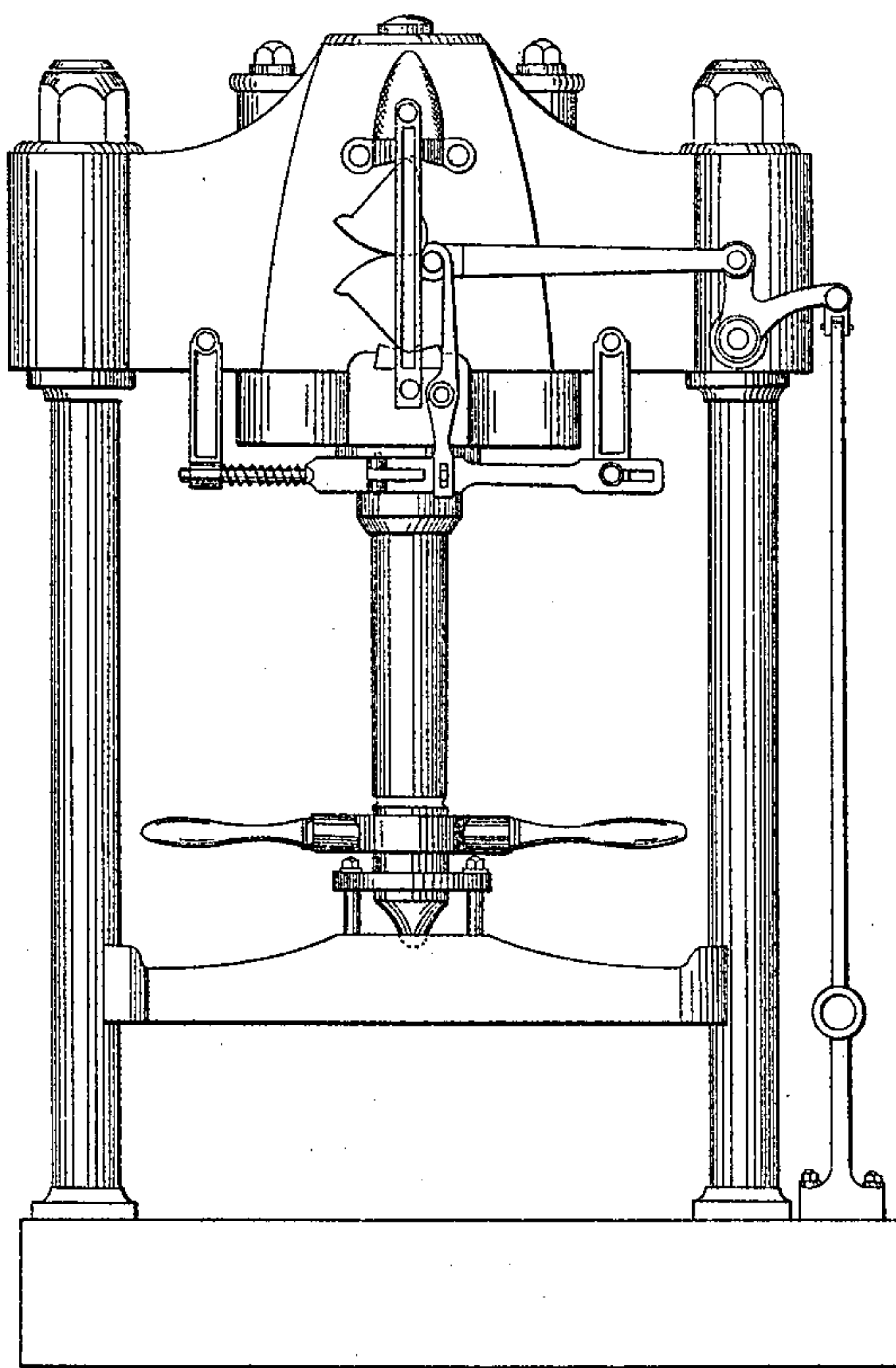
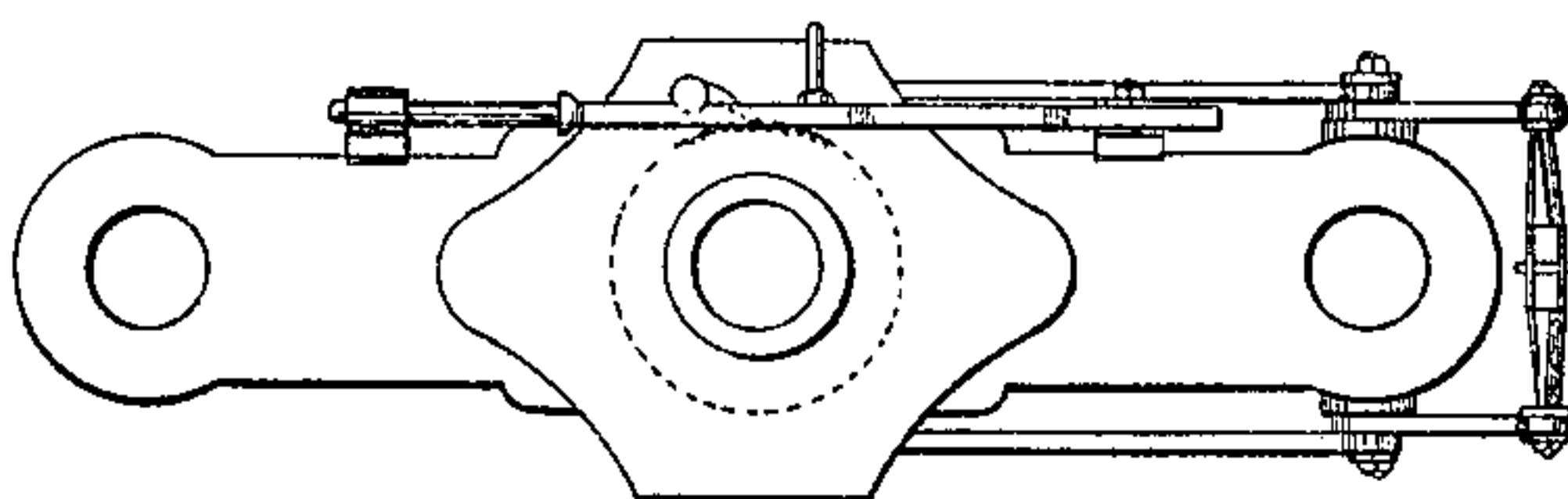


Fig. 5.



witnesses
Thos. J. Pleasant
J. Van Holmash

Inventor
Thos. R. Hopkins

UNITED STATES PATENT OFFICE.

THOMAS R. HOPKINS, OF PETERSBURG, VIRGINIA, ASSIGNOR TO HIMSELF
AND R. E. ROBINSON, OF SAME PLACE.

IMPROVEMENT IN SCREW-PRESSES.

Specification forming part of Letters Patent No. 25,195, dated August 23, 1859.

To all whom it may concern:

Be it known that I, T. R. HOPKINS, of Petersburg, in the county of Dinwiddie and State of Virginia, have invented a new and useful Improvement in Compound Screw and Lever Presses; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation of my improved press. Fig. 2 is a vertical central section in the line *x x* of Fig. 3. Fig. 3 is a vertical central section in the line *y y* of Fig. 1. Figs. 4, 5, 6, and 7 represent a modification of my press.

Similar letters of reference in each of the several figures indicate corresponding parts.

The nature of my invention consists in operating the power-screw of a press or other machine by means of two nuts, which are fitted to gear with the thread of said screw, and so arranged and operated upon that the upper one remains stationary while the lower one revolves, and vice versa, this arrangement thus effecting a gradual progression of the screw without causing the same to revolve with both the back and forward movement of the actuating device.

As my invention is capable of being employed in combination with various styles of presses, and with different mechanical arrangements for causing the upper nut to remain stationary while the lower one revolves, and vice versa, I have deemed it proper, for the better protection of my interest, to show two methods of employing the same. I, however, shall only describe the plan represented on the No. 1 Sheet.

A A represent two upright pillars connected together by a base-plate or stationary platen, B, and an upper cross-piece, C.

D is a vertical screw. It extends down through the top cross-piece, and has a follower, D', attached to its lower end, said follower moving up and down between the pillars, being kept in place by means of concave sockets formed in its ends to receive the circumference of the pillars.

E is a pivoted lever fitted loosely over the screw and turning on a fulcrum at *a*, said

lever being held up to the fulcrum by means of a spring, *b*, and guided at *c* by means of a slot in one of the pillars. A spring, *d*, is attached to the front part of the lever, and arranged so as to bear against the bottom of the slot *c*. This spring keeps the lever, always in operative condition, and acts against the upper nut in a manner to keep it cramped.

F F are two screw-nuts fitted over the power-screw, and constructed to gear with the same. These nuts are cylindrical, and fitted loosely in sockets *d' d'* of the lever E, and are furnished each with a toothed flange, *e e'*, of greater diameter than the sockets.

G G are two spring-barrels hung loosely on an arbor, *f*. These barrels are provided each with a toothed flange, *g g'*, which gear with the toothed flanges of the nuts, as shown. The barrels have each a scroll-wound spring, *h h'*, arranged in them, said springs being attached by one of their ends to the inner circumference of the barrels, and by their other ends to the arbor *f*.

H is a ratchet-wheel arranged on the upper part of the arbor, and *i* a click or pawl for taking hold of the teeth of said ratchet. By turning the arbor with the knob *j* on its upper end the springs will be wound up so as to give out power, and said power will be retained so far as the revolution of the arbor is concerned by means of the ratchet and pawl T.

T' is a jointed connecting-rod attached to the loose end of lever E, and J is a long-hand lever pivoted to the lower end of said rod, and having its resistance at K, as shown in the drawings.

From the above description of parts it will be evident, if the springs of the barrels are wound up and the upper nut is cramped by the action of spring *h*, that when the main or hand lever is depressed the auxiliary lever E will descend with it, so as to cramp the lower nut and uncramp the upper one. As soon as this occurs, the upper nut will be free to revolve, and the force of the spring in the upper barrel will cause it to turn and move down the screw a certain distance. By this time the main and auxiliary levers will have been elevated to their original position, and consequently the upper nut cramped, and the

lower nut uncramped and left free to revolve, which it will be caused to do by the force of the spring in the lower barrel in a manner to continue the descent of the screw. Thus the operation continues until the follower has been caused to descend the required distance to give the requisite pressure to the substance under it.

Having thus described my invention, I will, before stating my claim, remark that I do not limit myself to any particular means for actuating the nuts; but

I claim as my invention and desire to secure by Letters Patent—

The use, in combination with a power-screw

of a press or other machine, of two revolving nuts, F F, which are fitted to gear into the thread of said screw, and so arranged and operated upon in order to give motion to the screw that the upper one remains stationary while the lower one revolves, and vice versa, substantially as and for the purposes set forth.

The above specification of my improved compound screw and lever press signed by me this 19th day of July, 1859.

THOS. R. HOPKINS.

Witnesses:

THO. S. PLEASANTS,
JOS. VAN HOLLNASH.