

(No Model.)

3 Sheets—Sheet 1.

E. C. RIDLEY,
MATTRESS PRESS.

No. 456,162.

Patented July 21, 1891.

Fig. 1.

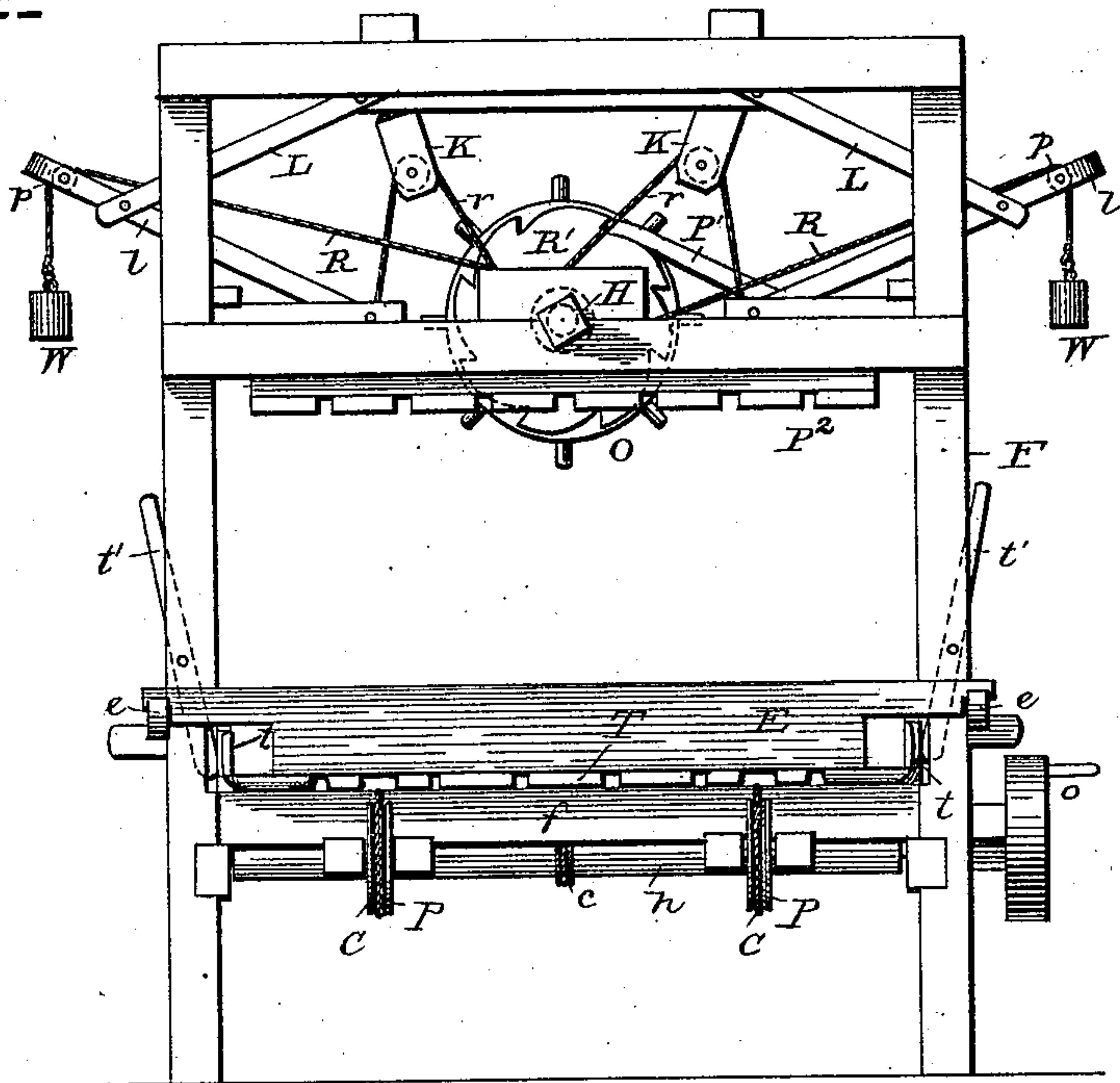
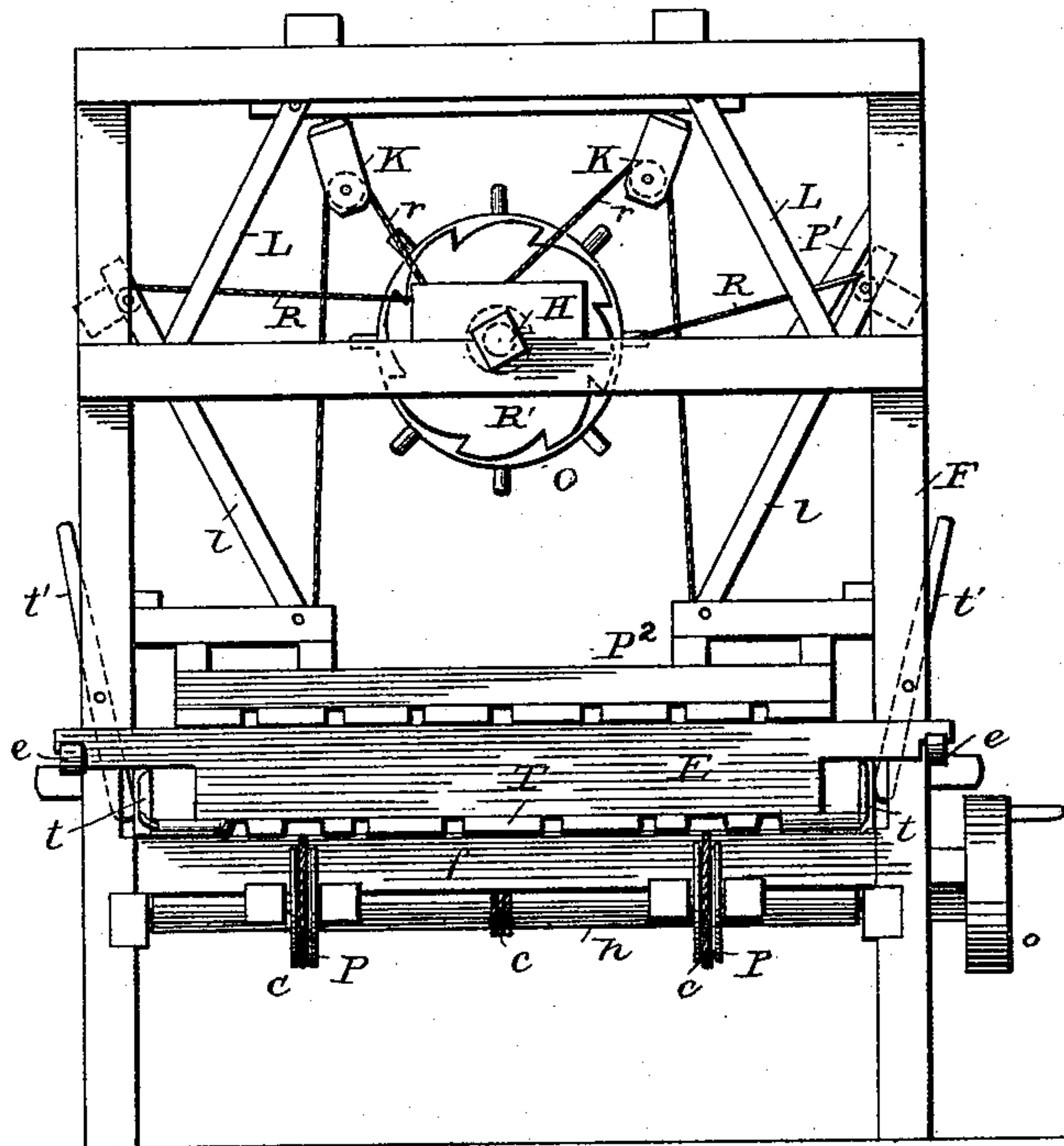


Fig. 2.



Witnesses

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By *his* Attorneys,

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Inventor

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Fig. 3.

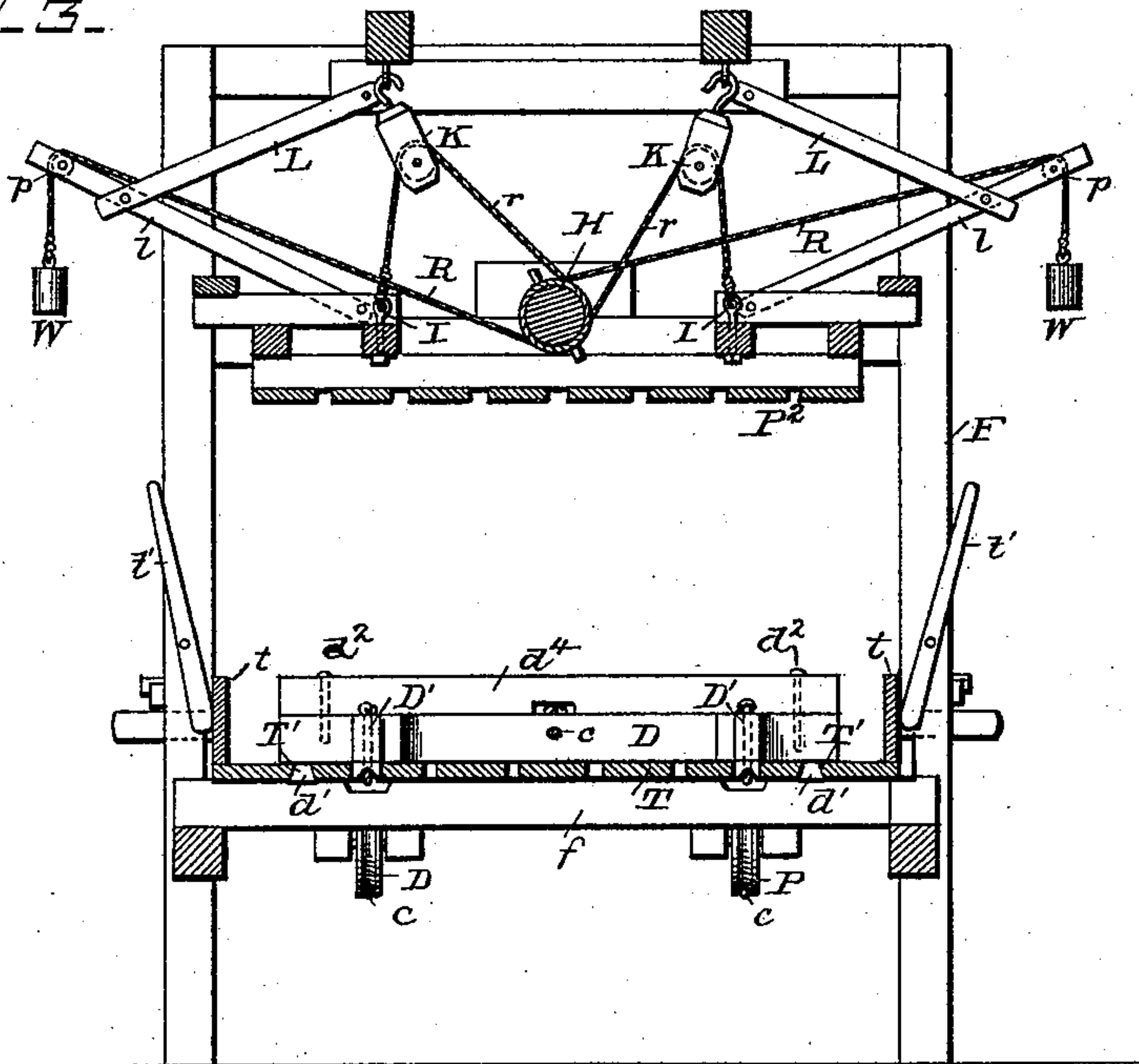
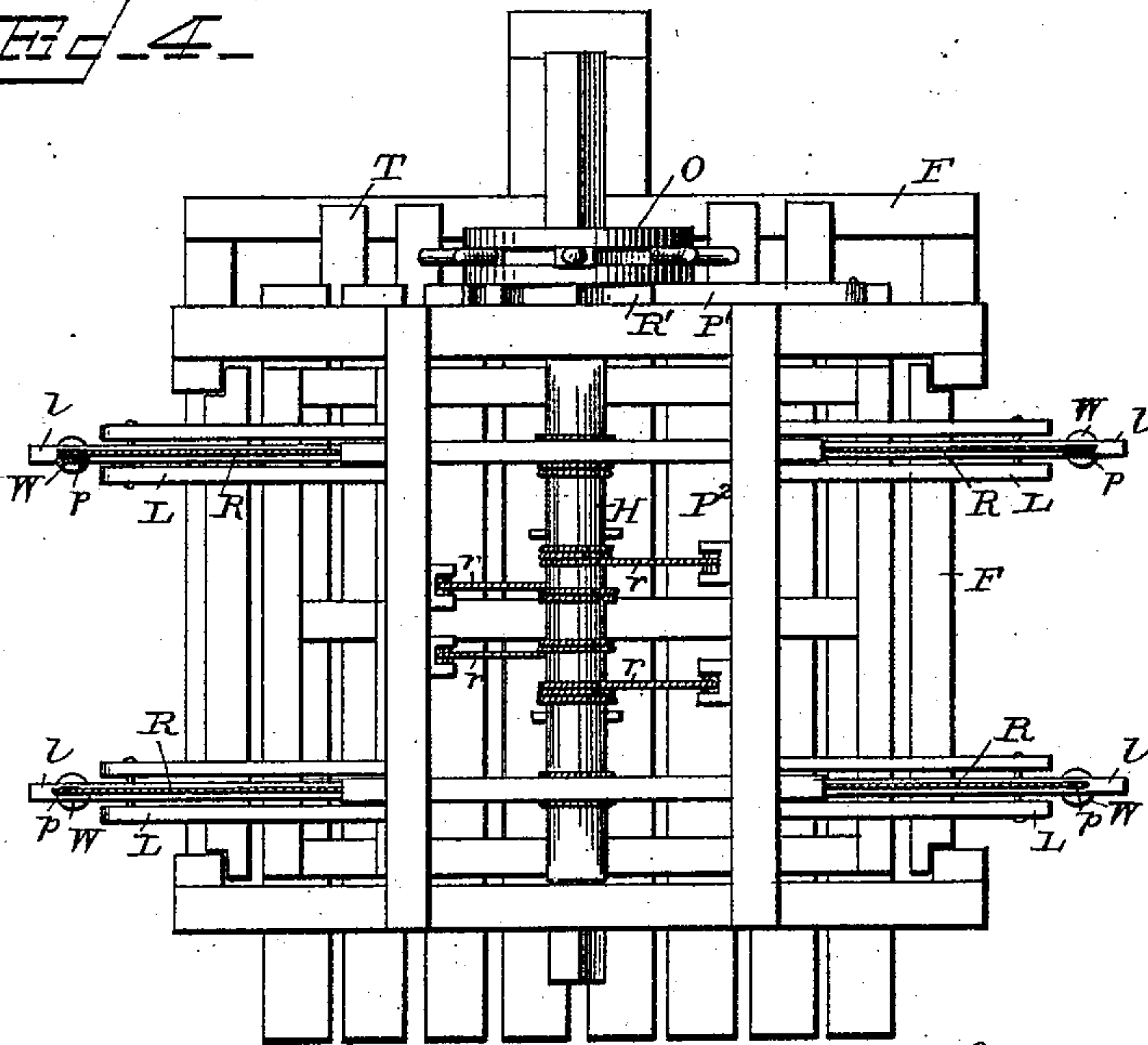


Fig. 4.



Witnesses

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Fig. 5.

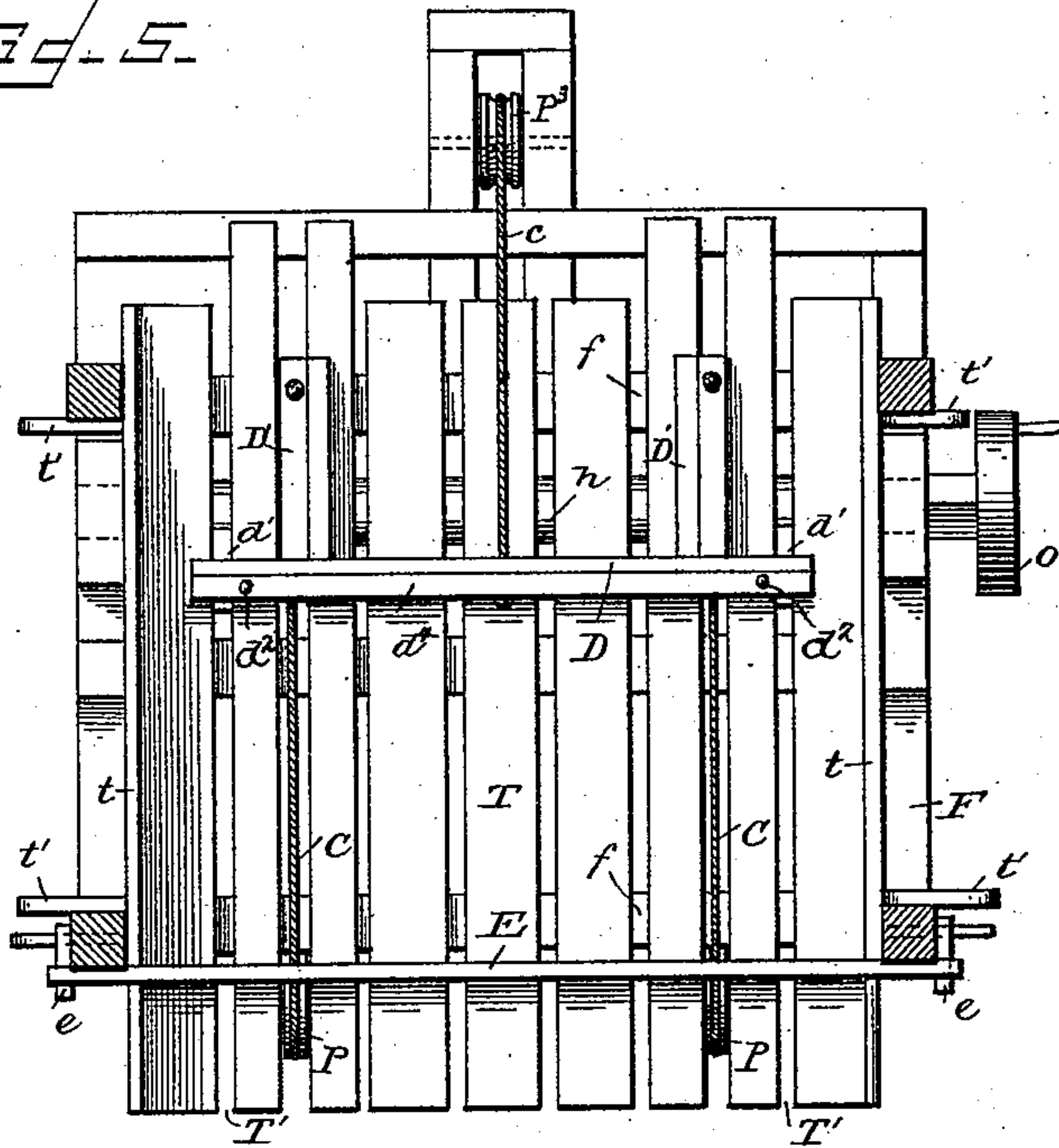
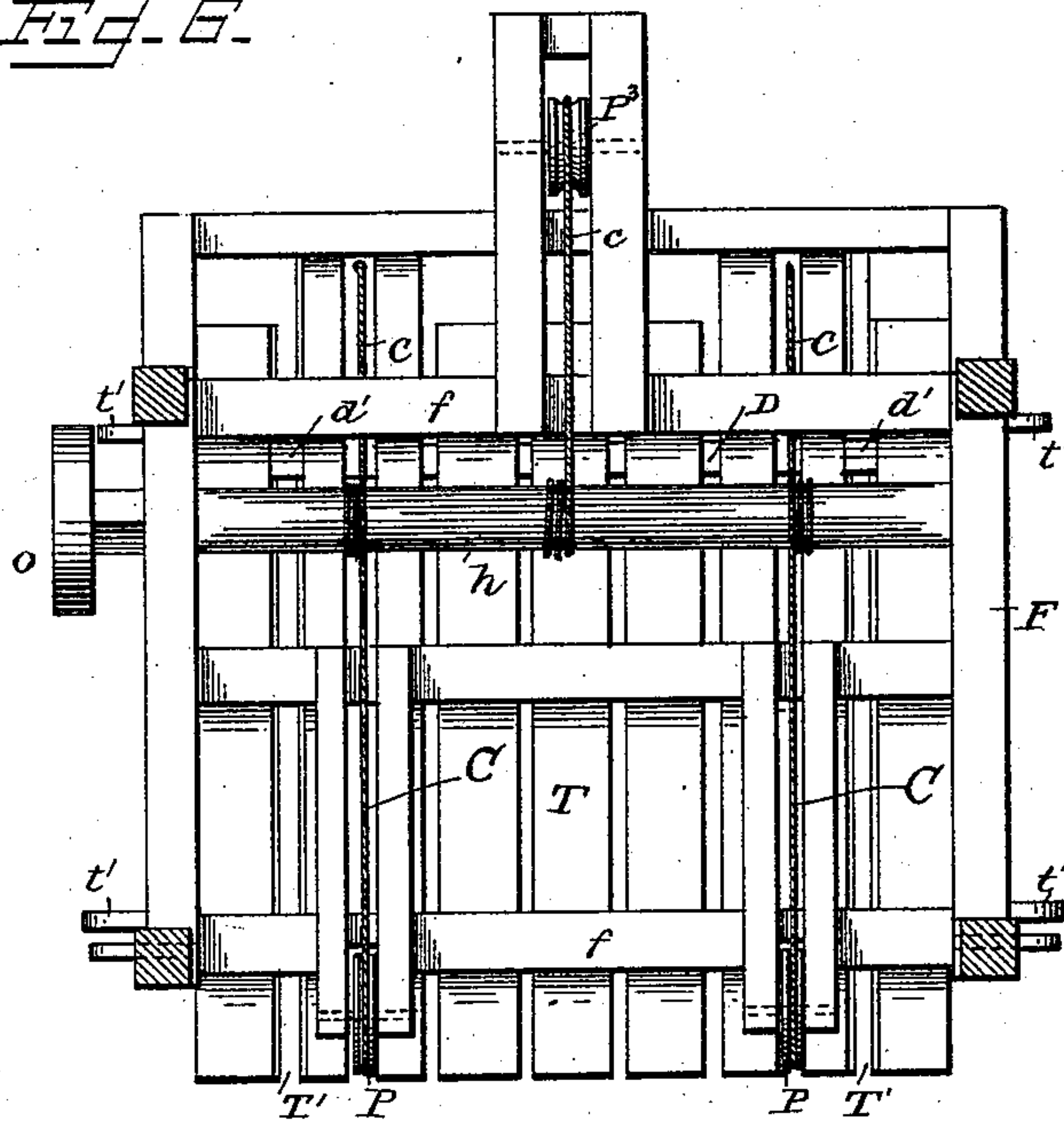


Fig. 6.



Witnesses

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UNITED STATES PATENT OFFICE.

EUGENE CHILTON RIDLEY, OF WEATHERFORD, TEXAS, ASSIGNOR TO
E. A. HARTMAN, OF SAME PLACE.

MATTRESS-PRESS.

SPECIFICATION forming part of Letters Patent No. 456,162, dated July 21, 1891.

Application filed July 3, 1890. Serial No. 357,640. (No model.)

To all whom it may concern:

Be it known that I, EUGENE CHILTON RIDLEY, a citizen of the United States, residing at Weatherford, in the county of Parker and State of Texas, have invented a new and useful Mattress-Press, of which the following is a specification.

This invention relates to presses, and more especially to that class thereof known as "toggle-joint;" and the object of the invention is to devise a press of this character in which mattresses can be made.

To this end the invention consists in the details of construction hereinafter more fully described, and illustrated in the drawings, in which—

Figure 1 is a front elevation of this machine with the platen raised. Fig. 2 is a similar view, with the platen lowered, showing a mattress being pressed therein. Fig. 3 is a vertical transverse section of the machine. Fig. 4 is a plan view. Figs. 5 and 6 are respectively top and bottom plan views of the table.

Referring to the said drawings, the letter F designates the frame-work, which may be of any suitable size, construction, and material, according to the work to be done by the machine, and upon cross-bars *f* near the lower end of this frame-work is supported a table T, composed of slats spaced at slight distances apart and provided with end pieces *t*, adapted to be moved by levers *t'*, pivoted to the upright bars of the frame-work, as shown. The front side piece E at right angles to the end pieces *t* is extended alongside the frame-work F and has its ends removably seated behind the hooks *e*, while the rear side piece or follower D has depending lugs *d'* moving in dovetailed guides T' in the table, as shown.

Extending rearwardly from the follower D are two blocks D', which also move in grooves between the slats of the table T, and leading from the rear ends of these blocks are cords or chains C, which pass along between the slats and the table over pulleys P, journaled beneath the same near its front edge, and back over a horizontal shaft *h*, journaled in the frame-work beneath the table and operated by a hand-wheel or crank *o* at one end, as shown. When this hand-wheel is turned in

the proper direction, the follower D is brought forward across the table T to deliver whatever is thereon from the table by pushing it off the same in the manner which will be readily understood; and to return this delivery-follower to its proper normal position at the back of the table I attach another cord *c* to the center of the follower D, lead it over a pulley P³, journaled at the rear end of the frame-work, and carry it along beneath the table to the shaft *h*, around which it is wound in the opposite direction to the two coils which lead over the front of the table. When the hand-wheel *o* is turned in the proper direction the follower D will be retracted in a manner which will be readily understood. The follower D has a removable extension *d''*, which may be attached thereto to make it of the same height as the end pieces *t* when desired.

P² is a platen suitably guided in the frame-work, and also composed of slats spaced at slight distances apart, and *l* L are toggle-levers, the lower ends of whose lower members *l* are pivoted to the platen P², as shown in Fig. 3. The upper member L of each toggle-lever comprises two bars, whose upper ends are pivoted to each side of a cross-piece of the frame-work and whose lower ends are pivoted to the lower member *l* at a point near its upper end.

H is a shaft journaled in bearings and standing longitudinally across the frame-work, and R are ropes wound upon this shaft in the same direction, leading outwardly between the two upper bars L, extending thence outwardly over pulleys *p*, journaled in the upper ends of the lower members *l* and provided with weights W at their outer ends. Another set of ropes *r* is connected to eye-bolts I in the upper side of the platen P², led thence upwardly over blocks K, depending from cross-bars at the upper end of the frame-work, and also wound around the shaft H in the same direction as each other, but opposite to that in which the ropes R are wound.

Upon one end of the shaft H is a large hand-wheel O, adjacent which are ratchet-wheels R', engaged by pawls P', pivoted on the frame-work. The hand-wheel O being turned to the right, the ropes *r* are drawn upon and the platen P² is raised, the pawl P'

engaging the ratchet-wheel R' and holding the platen in elevated position. The front piece E and follower D are set at the edges of the table T , and hair, excelsior, husks, cotton, or other material or materials are piled upon the table to the proper depth. The levers t' are then operated to move the end pieces t inwardly and compress the filling. The pawl P' is then disengaged from the ratchet-wheel R' and the platen allowed to descend upon the mattress filling. The hand-wheel O being then turned to the left, the ropes R are drawn upon, the upper ends of the lower members l of the toggle-levers drawn inwardly, and a strong downward pressure given the mattress-filling. The platen is then raised slightly and the hand-wheel o turned to move the follower D toward the front, whereby the mattress is pressed edgewise. The tick, which is made complete, excepting that one edge is left open, is then brought into place and the open edge is passed over the mouth of the press composed of the forward ends of the table, the platen, and the two end pieces t . The front side piece E is then removed longitudinally, the platen elevated slightly, and the hand-wheel o turned to the left to move the follower D across the table and push the completely-pressed filling into the tick. The latter is then sewed in a manner well-known in the art.

Mattresses for narrower beds than full width can be pressed in this machine by setting the follower D at or near the desired distance from the front side piece E before the filling is put in, as will be readily understood. The eye-bolts I may be turned to tighten the ropes r when they become loose. It will be noticed that the platen descends at the same rate of speed that the shaft H turns in unwinding the ropes r ; but the upper ends of the lower toggle members l do not move outwardly as fast as this shaft turns in unwinding the ropes R . Hence I have provided the pulleys p and weights W to take up the slack arising in this case. As the hand-wheel O is turned to the left the platen P^2 is allowed to descend and the toggle-levers of course straighten out. By the time that the platen rests upon the filling the weights W have been drawn by the shaft H and ropes R against the outer faces of the toggle members l , and further turning of the hand-wheel causes the upper ends of said members to be drawn forcibly inwardly to impart a strong pressure on the mattress filling. The great multiplying power of the toggle-lever as its members approach alignment is too well known to be enlarged upon here. The extension d^4 upon the follower D is removably connected thereto by pins d^2 , seated in holes in the follower, and the extension may be replaced by others of greater or less height or removed entirely, according to the thickness it is desired the mattress shall have, and the front side piece E may of course be replaced by others of less height for the same purpose.

One or both of the shafts may be provided with fast and loose pulleys in place of the hand-wheels or operating-cranks, above mentioned, and such shafts operated by power from a suitable source, as a steam-engine, without departing from the spirit of my invention. The utility of the blocks D' in the rear of the follower D is that they carry the points of attachment further to the rear and thus allow the follower to be moved completely to and even slightly beyond the mouth of the machine, while the pulleys P are journaled in the frame at a little distance in rear of the mouth, thus permitting the tick to embrace it without obstruction.

What I claim is—

1. In a press, the combination, with the platen and means for raising and lowering it, of the table having transverse grooves in its body and end pieces parallel with said grooves, the removable front side piece, the follower having lugs traveling in said grooves in the table, rearwardly-extending blocks carried by said follower, a transverse shaft journaled below the table, and cords leading from said shaft over pulleys journaled below the table near its front end, and thence in said grooves beneath the follower, and connected to said blocks near their rear ends, substantially as described.

2. In a press, the combination, with the platen and means for raising and lowering it, of the table having transverse grooves in its body and end pieces parallel with said grooves, the removable front side piece, the follower having dovetailed blocks traveling in said grooves in the table, extension-pieces detachably secured to said follower, a shaft journaled below the table parallel with the follower, cords leading from said shaft over pulleys near the front end of the table and connected with said follower below the level of the table, and another cord wound in opposite direction around said shaft, and leading thence over a pulley at the rear of the table and connected to the center of said follower, substantially as described.

3. In a press, the combination, with the table supported by a suitable frame-work and the platen guided vertically in said frame-work, of the toggle-levers, each comprising a single lower member pivoted at its lower end to the platen and a double upper member pivoted at its upper end to the opposite sides of a bar of the frame-work and at its lower end to opposite sides of the lower member near the upper end of the latter, rollers journaled in the upper ends of said lower members, a shaft journaled in the frame-work, pulley-blocks supported by the latter near its upper end, ropes leading from the platen over said blocks and in one direction around the shaft, and other ropes leading in the other direction around said shaft between the upper members of each toggle-lever and over the rollers journaled in the lower members thereof, and weights secured to the end of said ropes out-

side the rollers, the whole operating substantially as described.

4. In a press, the combination, with the table supported by a suitable frame-work and
5 the platen guided vertically in said frame-work, of the toggle-levers, each comprising a lower member pivoted at its lower end to the platen and an upper member pivoted at its upper end to the frame-work and at its lower
10 end to the lower member, a shaft journaled in the frame-work, and ropes leading from

said shaft and connected to the ends of the lower members, and weights suspended from the outer ends of the ropes, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in
15 presence of two witnesses.

EUGENE CHILTON RIDLEY.

Witnesses:

W. B. HARDEMAN,
CHAS. A. WINSTEAD.