

(Model.)

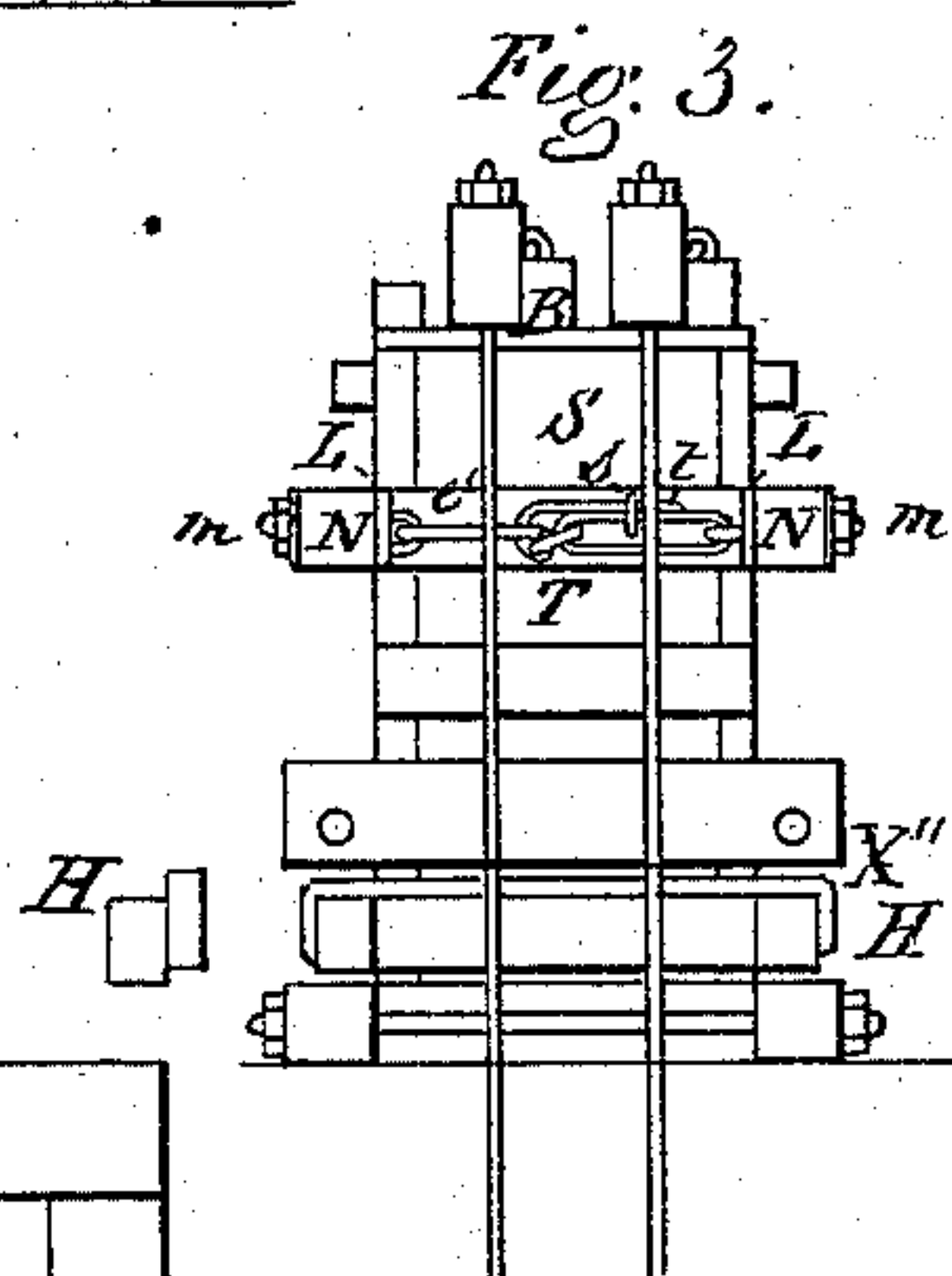
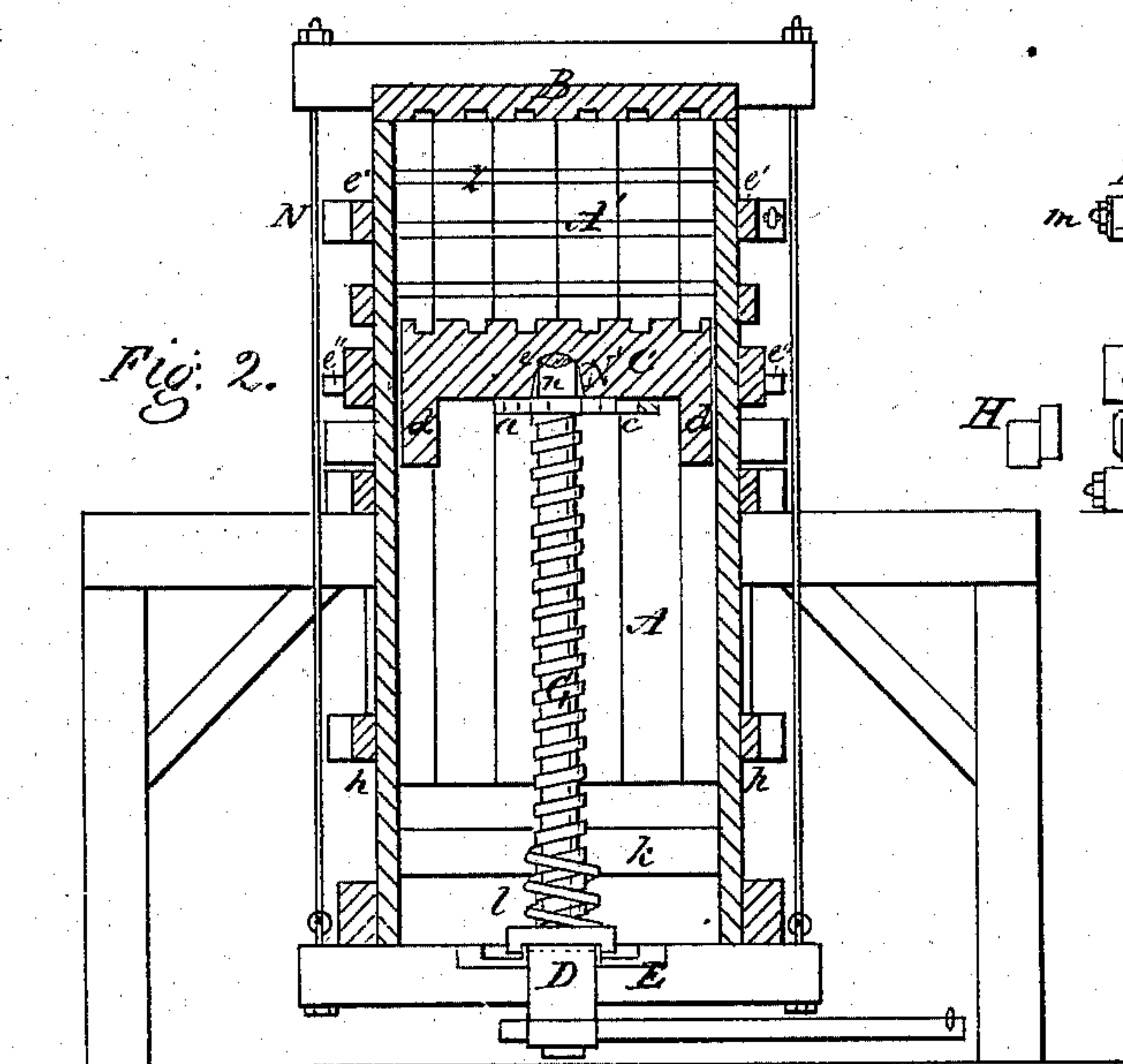
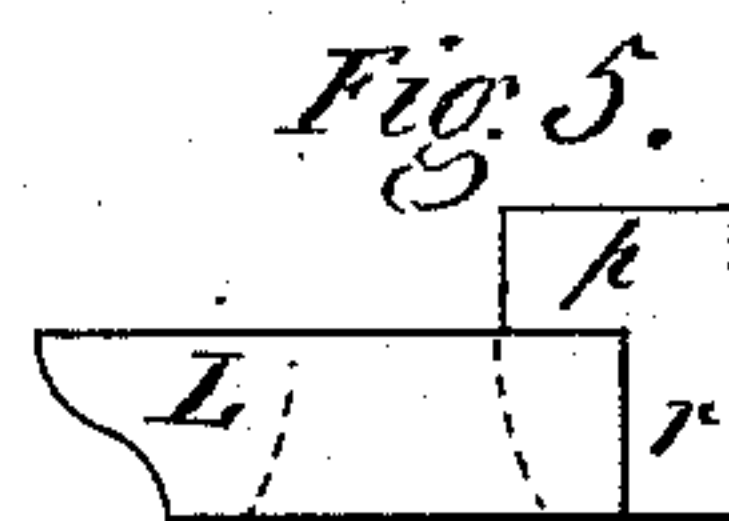
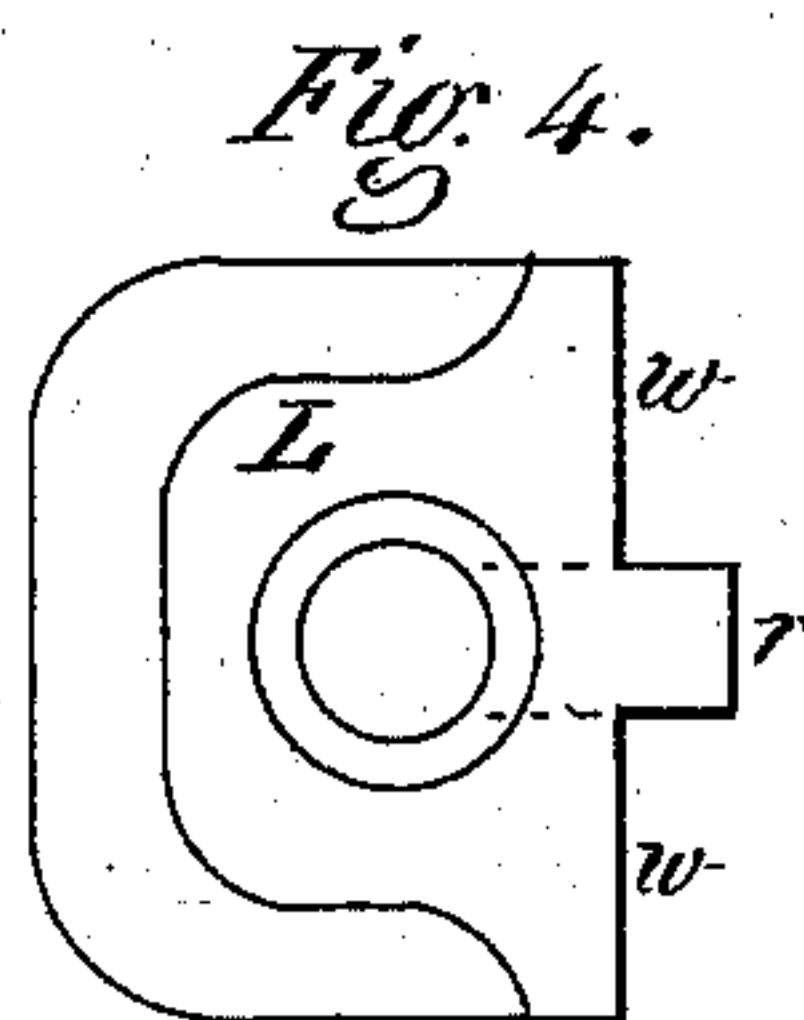
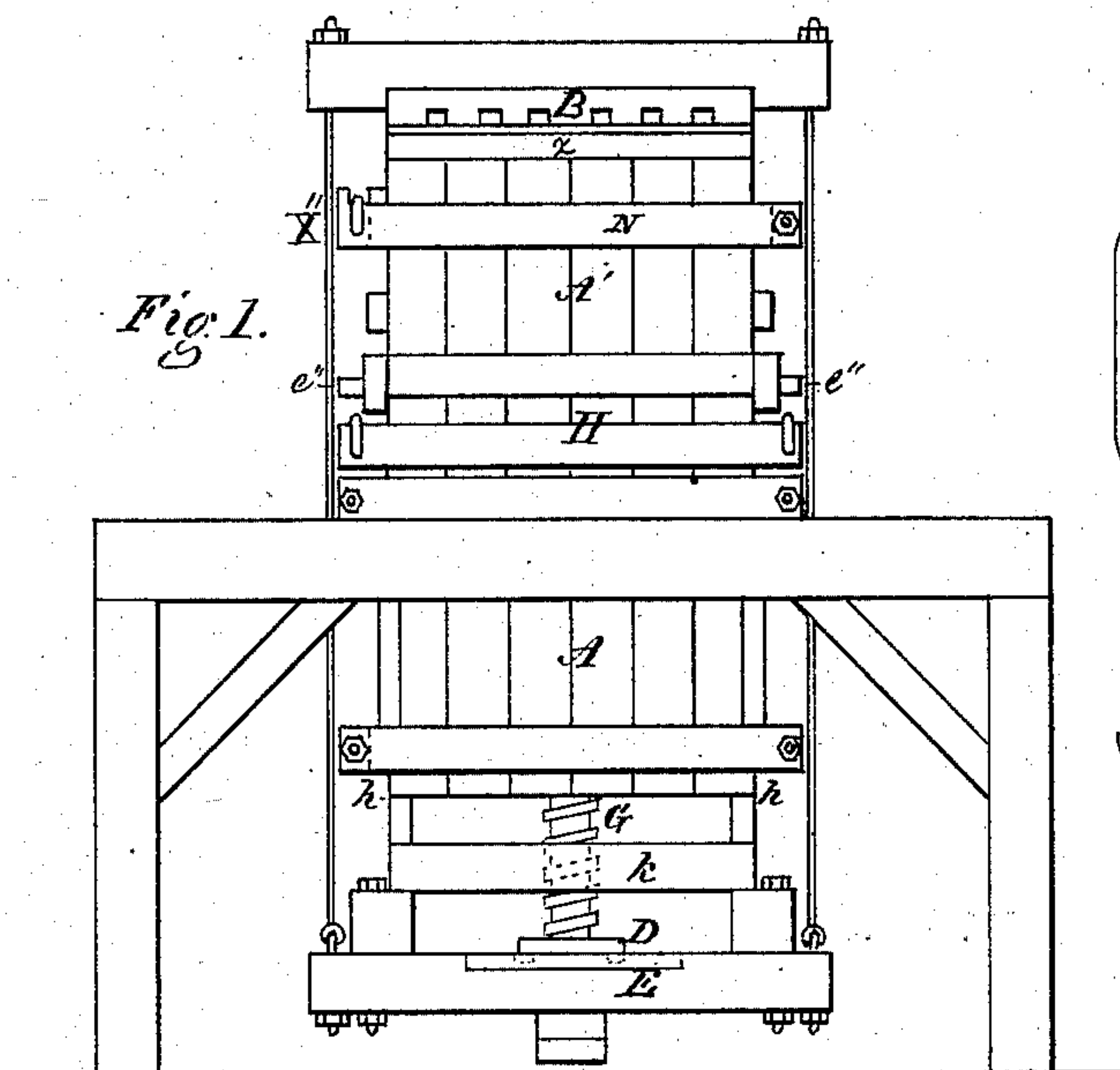
2 Sheets—Sheet 1.

E. M. IVENS.

COTTON PRESS.

No. 284,208.

Patented Sept. 4, 1883.



Witnesses:

A. W. Eastlack
J. R. Wheat

Inventor:

Edm. M. Ivens
by W. Morris Smith Atty

(Model.)

2 Sheets—Sheet 2.

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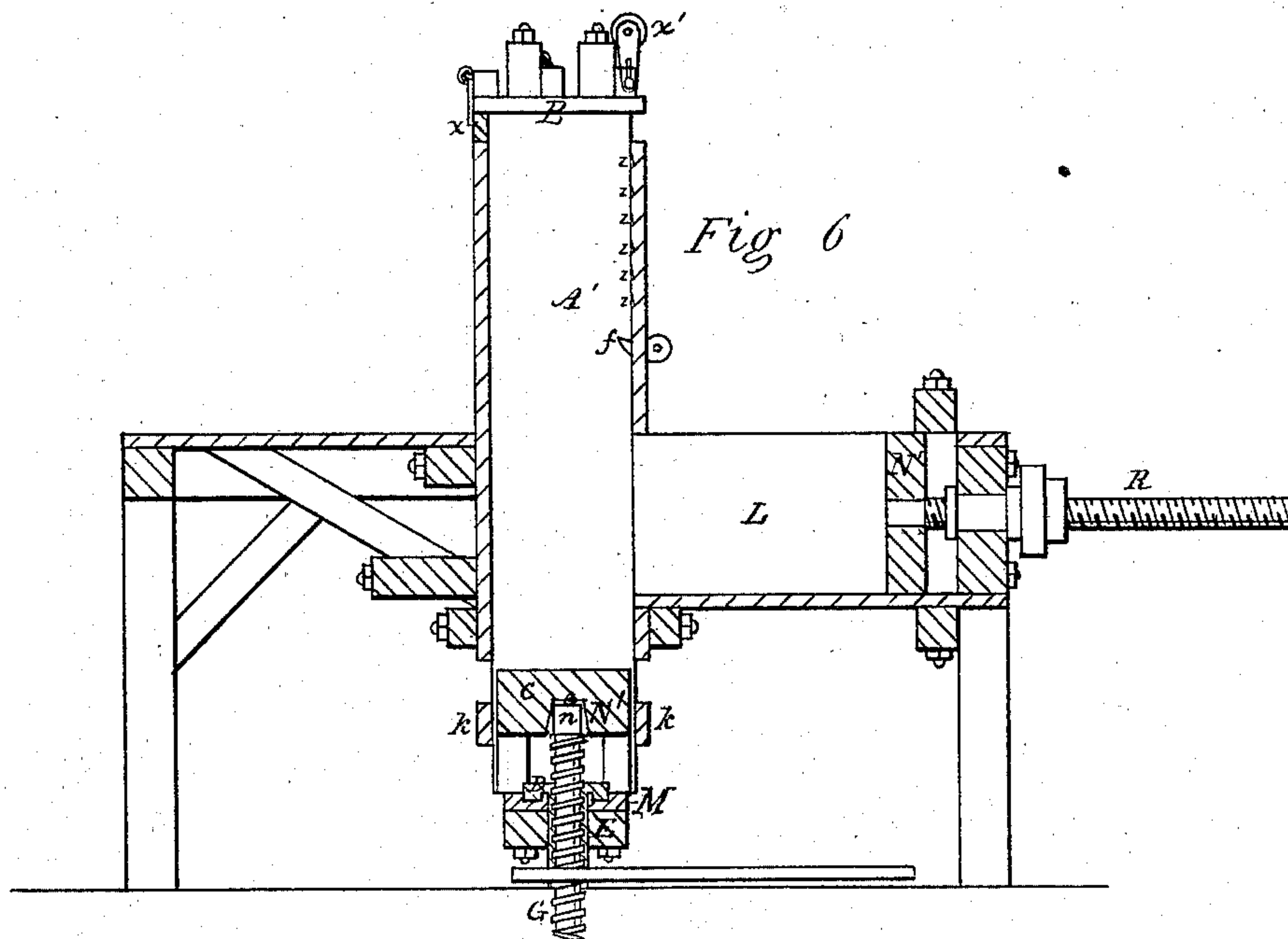


Fig 7.

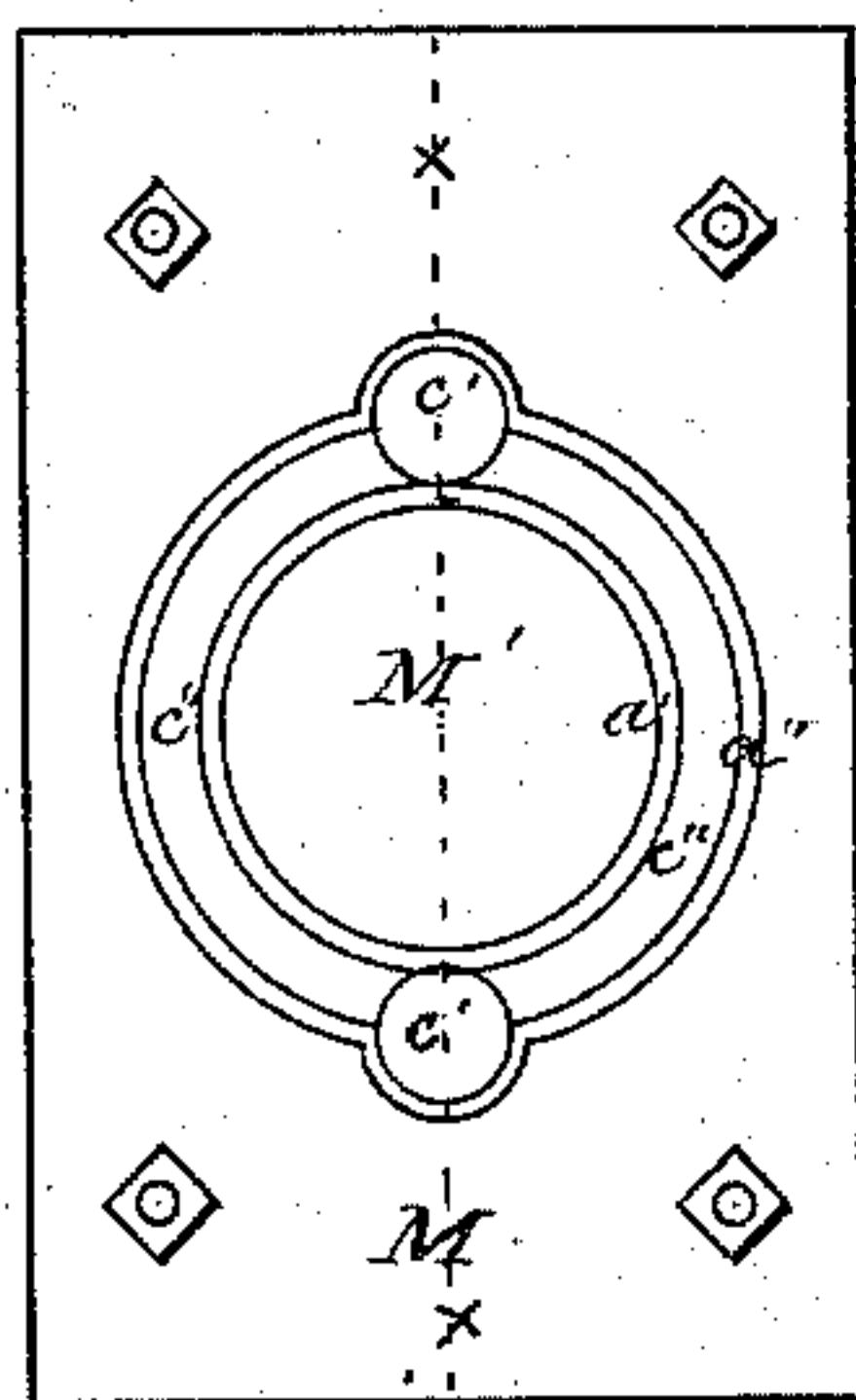
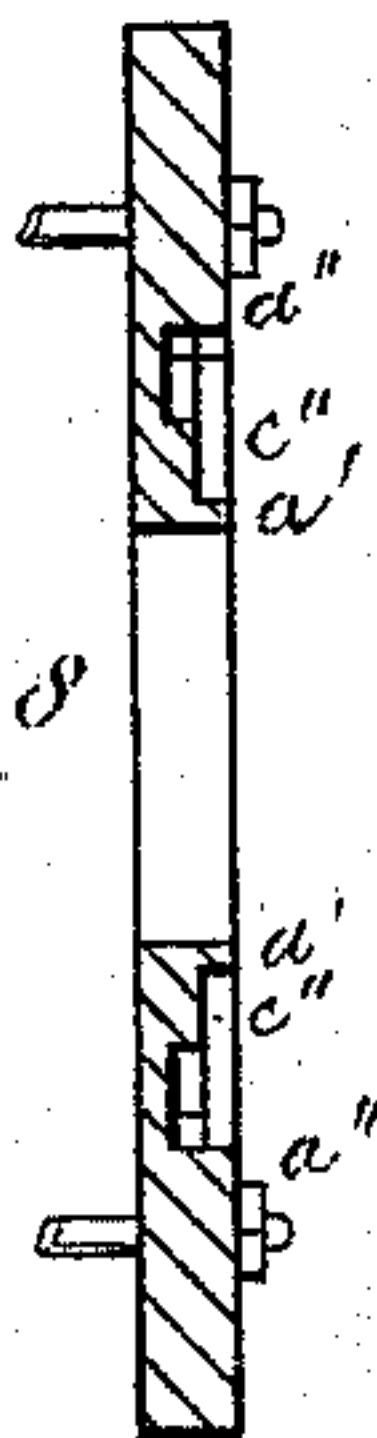


Fig 8



WITNESSES

A. W. Eastlack
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UNITED STATES PATENT OFFICE.

EDMUND M. IVENS, OF NEW ORLEANS, LOUISIANA.

COTTON-PRESS.

SPECIFICATION forming part of Letters Patent No. 284,208, dated September 4, 1883.

Application filed August 2, 1881. (Model.)

To all whom it may concern:

Be it known that I, EDMUND M. IVENS, of New Orleans, in the parish of Orleans and State of Louisiana, have invented Improvements in Cotton-Presses, of which the following is a specification.

These improvements consist, first, in the combination, with the upper platen, of mechanism hinged to the said platen in such manner as to admit of their being turned upward to leave space for the introduction of the bagging, and afterward turned down to fill the space between said platen and the upper edge of the side doors, to prevent the latter from rising by the friction of the cotton thereon while being pressed upward; secondly, in the formation of the socket on under side of the follower slightly conical, in combination with a cylindrical end of the screw, to avoid springing or bending of said screw in case of uneven filling of the cotton-chamber, making one end of the bale heavier or thicker than the other; thirdly, in a novel construction of the pressure-plate on which the collar or flange of the screw-nut revolves, forming an oil-basin to prevent cutting and waste of oil; fourthly, in a lock-chain fastening to the strain-beams on the main doors of the compression-chamber, in combination with tenoned washer-plates on said strain-beams, for purposes hereinafter described.

Referring to the accompanying drawings, Figure 1 represents a front elevation of a press, showing some of my improvements. Fig. 2 is a vertical section of the same, with the screw in elevation. Fig. 3 is a side view of the upper portion of the cotton-box or compression-chamber. Fig. 4 is a face view, on an enlarged scale, of one of the washer-plates attached to the strain-timbers at each corner. Fig. 5 is an edge view of the same. Fig. 6 is a section showing the lateral supply-chamber and follower. Fig. 7 is a top or face view of the pressure-plate, forming an oil-well for the screw-nut to revolve in, and admitting of its extension through the strain-beam for the attachment of the draft-beams. Fig. 8 is a central section of the same on the line $x x$ on Fig. 7.

The same letters occurring on the several figures indicate like parts.

A represents the cotton-box, and A' its up-

per portion or compression-chamber, which is provided with a platen, B, at its upper end, and a follower, C, which is operated by rotating the nut D, resting on a stationary strain-beam, E, thus causing the screw G, supporting the follower C, to rise in the cotton-chamber in the usual manner, the screw being prevented from turning by a ratchet-wheel, a , and pawl c , connecting it with the follower, as in my Patent No. 213,334. After the fill of the cotton-box has been thus run up into the compression-chamber the ratchet-wheel a is released by disengaging the pawl c , when the screw G, having a steel washer, e , intervening between its upper end and the socket in the follower to reduce the friction, will immediately run down by its own gravity, the compressed cotton being retained in the upper part, A', of the box by any suitable means.

A lateral chamber, L, extending from the broad side of the lower half of the cotton-box A, is provided with a follower, N, and screw R. After the first filling of cotton has been run up into the compression-chamber A' and the follower run down, the lateral follower N, which forms one side of the baling-box, is run back, when said box, with its lateral extension, may be filled with cotton from the ordinary condenser, and the follower N run in to close the side of the baling-box, after which the main follower C may be run up, as before, to compress the cotton into the chamber A'. This may be repeated until the cotton in the compression-chamber is tightly packed. By this means all tramping of the cotton is entirely dispensed with.

x' represents a roller loosely hinged to the platen B, so that it may be turned upward, as shown at x' , Fig. 6, for the insertion of the bagging, and afterward lowered between said platen and the upper edge of the doors of the chamber A', to prevent them from rising by the friction of the cotton being pressed upward.

x represents a rectangular strip which may be substituted for the roller x' ; but I think the latter preferable.

The main follower C is provided with four angle-posts or guides, d , and the cotton-box is cut off on both sides on the line $h h$, Fig. 1, leaving space between the strain-beams E and

bottom of the box for the follower to descend clear of the latter, to admit of the insertion of the bagging previous to running the follower up for the last time; and in order to prevent any possibility of the follower getting out of line with the cotton-box I put a bar, *k*, on each side, about midway between the bottom of the box and the strain-beam *E*.

The socket *M'* in the under side of the follower *C* is made conical, slightly larger at its outer than at its inner end, where it is exactly the same diameter as the end of the cylindrical nose *n* of the screw. This is to avoid the liability of springing or bending the screw by the follower being depressed more at one end than at the other, owing to uneven packing of the cotton while baling.

The pressure-plate *M*, (represented in Figs. 7 and 8,) on which the collar or flange of the screw-nut *D* rotates, is formed with a central hole, *M'*, of sufficient size for the lower portion of the nut to pass freely through for connection with the draft-beams. Around this hole *M'* is an upwardly-projecting collar, *a'*, fitting in an annular groove around the shank portion of the nut, and in the under side of its flange portion, outside of this collar *a'*, is a plain surface, *c''*, on which the flange portion of the nut *D* rotates, and at the outer periphery of this flange is another rim or collar, *a''*, for the most part concentric with the nut *D*, but having radial extensions at two opposite sides, encircling the oil-wells *c'*, which sink slightly below the level of the bearing-surface *c''* and across the latter, so that when said wells are filled with oil they afford a continual supply to the bearing of the nut, the collars *a'* and *a''* preventing its escape and waste.

Another feature of my invention consists in a novel method of securing the main doors of the compression-chamber, in which *L L* represent washers, (shown more clearly in Figs. 4 and 5,) which are secured to the inside of each end of the strain-beams *N* by eyebolts *m*. These washers are provided with a projection or tenon extending from its face and edge. The portion *p* is let into the strain-beam to

prevent it from turning, and the portion *r* fits in a mortise in the cross-bar *e'* on the end doors, *S*, to prevent them from slipping up or down, while the edge *w* forms an abutment to bear the strain on side doors. The eyebolts *m* are then connected by the coupling-chain *T*, which is formed with a hook, *t*, and sliding link *s*, which latter, being slipped off the point of the hook *t*, instantly liberates the doors, while there is no liability of the latter being freed, whether under pressure or otherwise, unintentionally.

The old method of fastening is shown at *X''*, Figs. 1 and 3, as applied to the supplemental doors *H*. This plan is very objectionable, as the strain in packing is liable to spring the box and throw the hooked bars off, which not only injures the press, but is dangerous to the operators.

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

1. The hinged mechanism *x x'*, substantially as described, in combination with the platen *B* and doors of the compression-chamber *A'*, substantially as and for the purpose set forth.

2. The conical socket *N'* on the follower *C*, in combination with the cylindrical nose *n* of the screw *G*, for the purpose specified.

3. The pressure-plate *M*, having a central hole, *M'*, with collar *a'* around said hole, in combination with the nut *D*, having an annular groove in the bearing portion of said nut, around its shank, to prevent the escape of oil, substantially as shown and described.

4. The washer-plates *L*, constructed with projections *p* and *r* and abutment-edge *w*, and secured to the ends of the strain-beams *N* by eyebolts *m*, in combination with the slip-link fastening *T*, all constructed and operating substantially as described.

EDMUND M. IVENS.

Witnesses:

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J. M. ELLIOTT.