

(No Model.)

2 Sheets—Sheet 1.

D. B. HENDRICKS.
BALING PRESS.

No. 431,166.

Patented July 1, 1890.

Fig. 2.

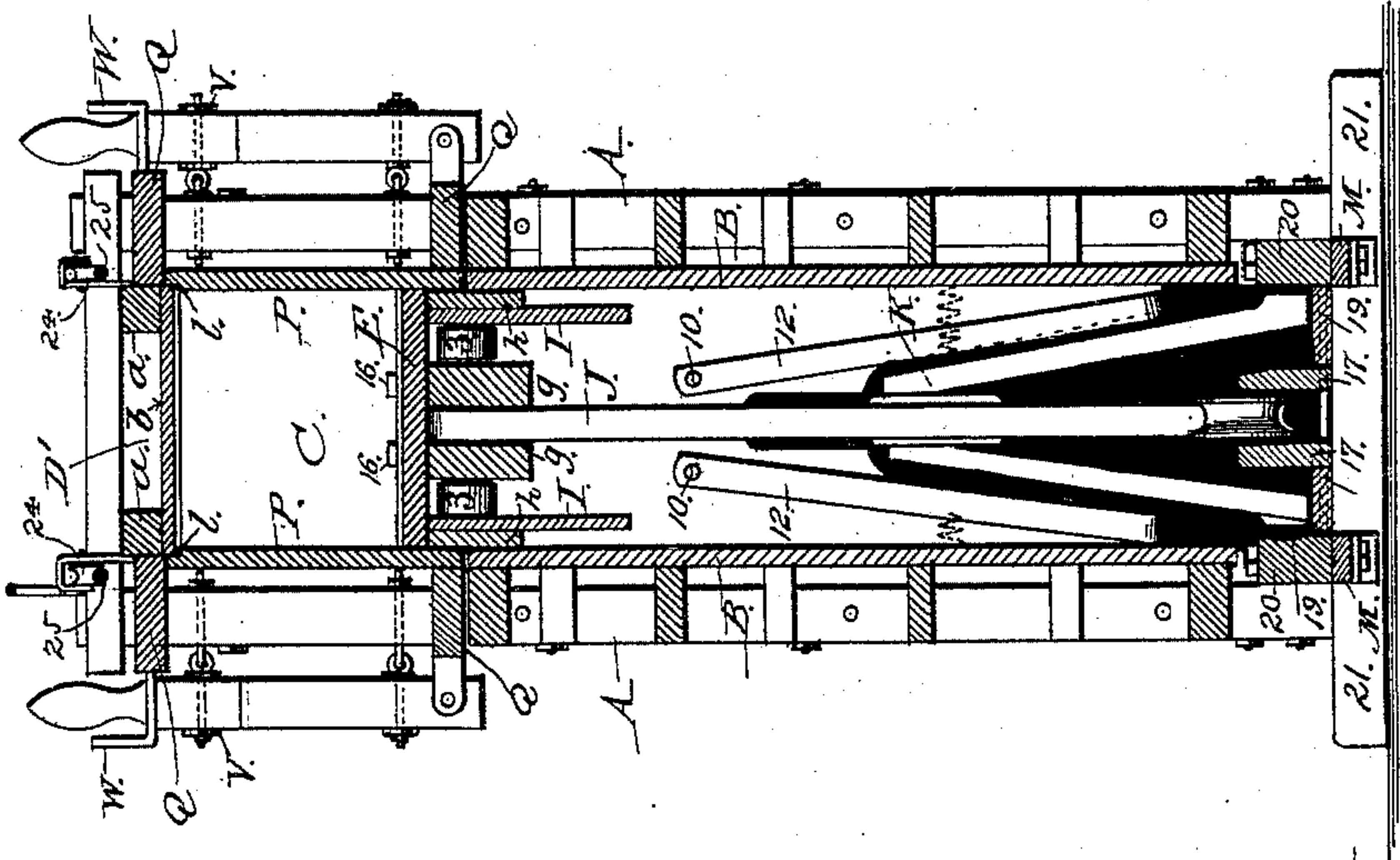
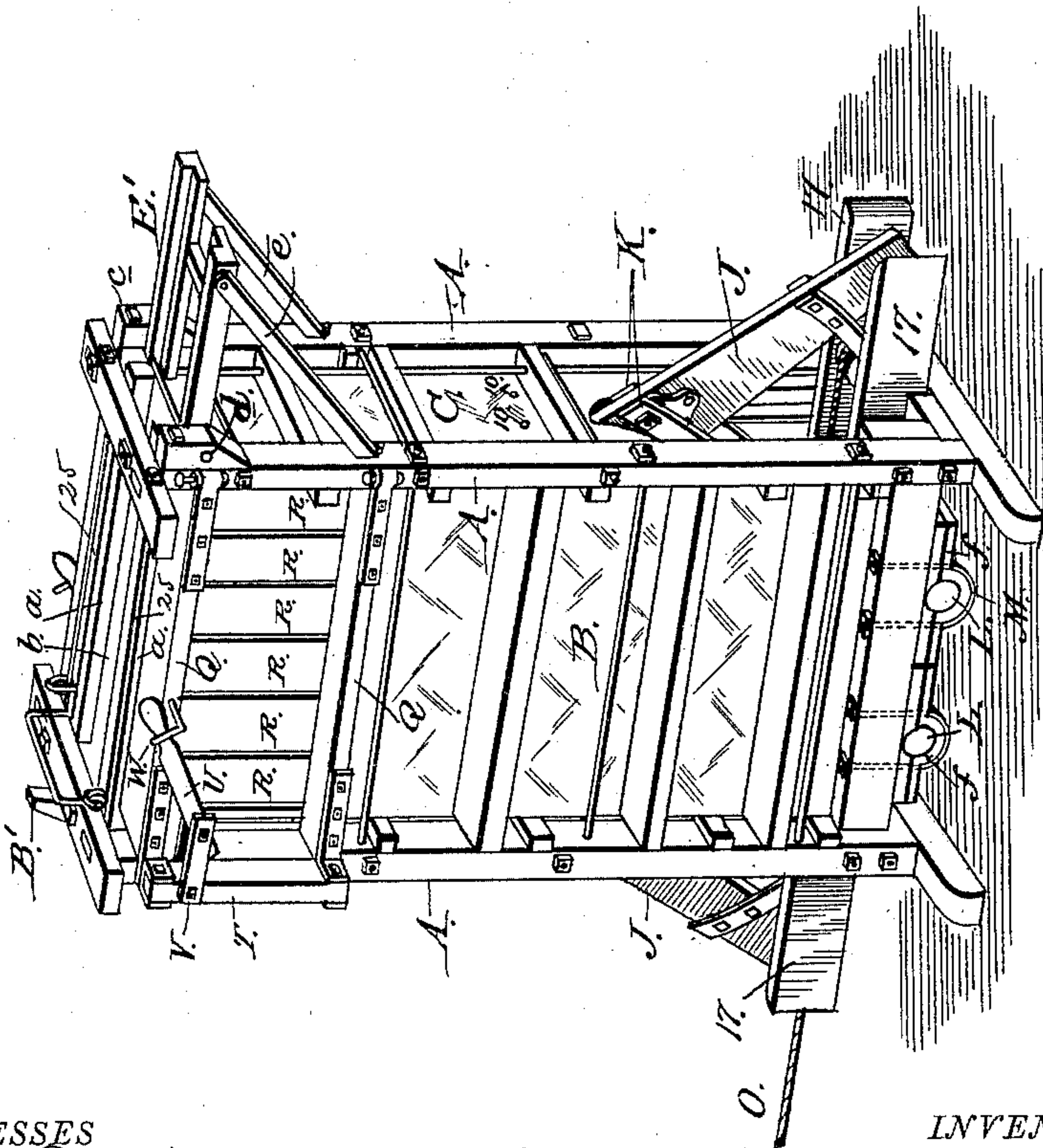


Fig. 1.



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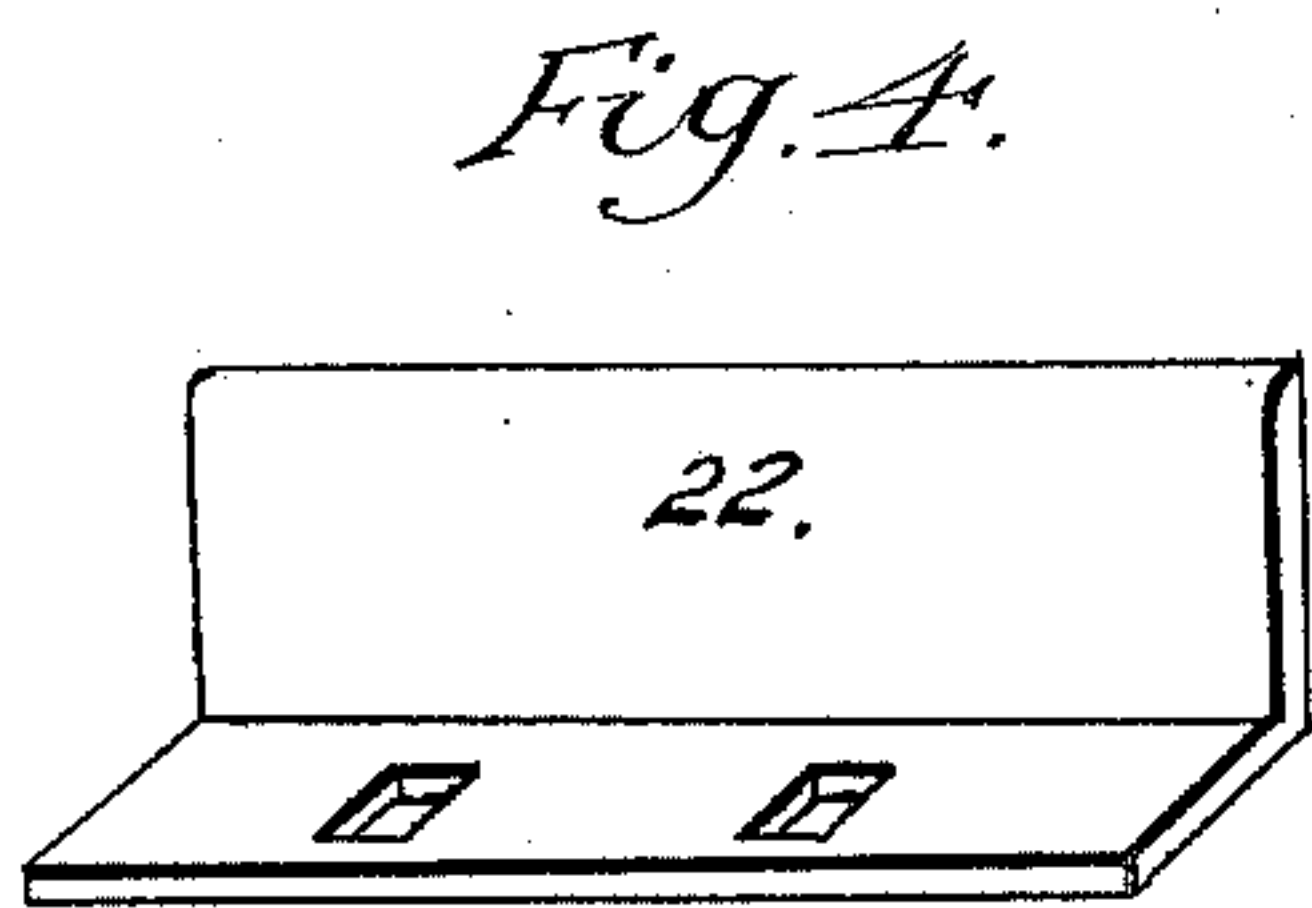
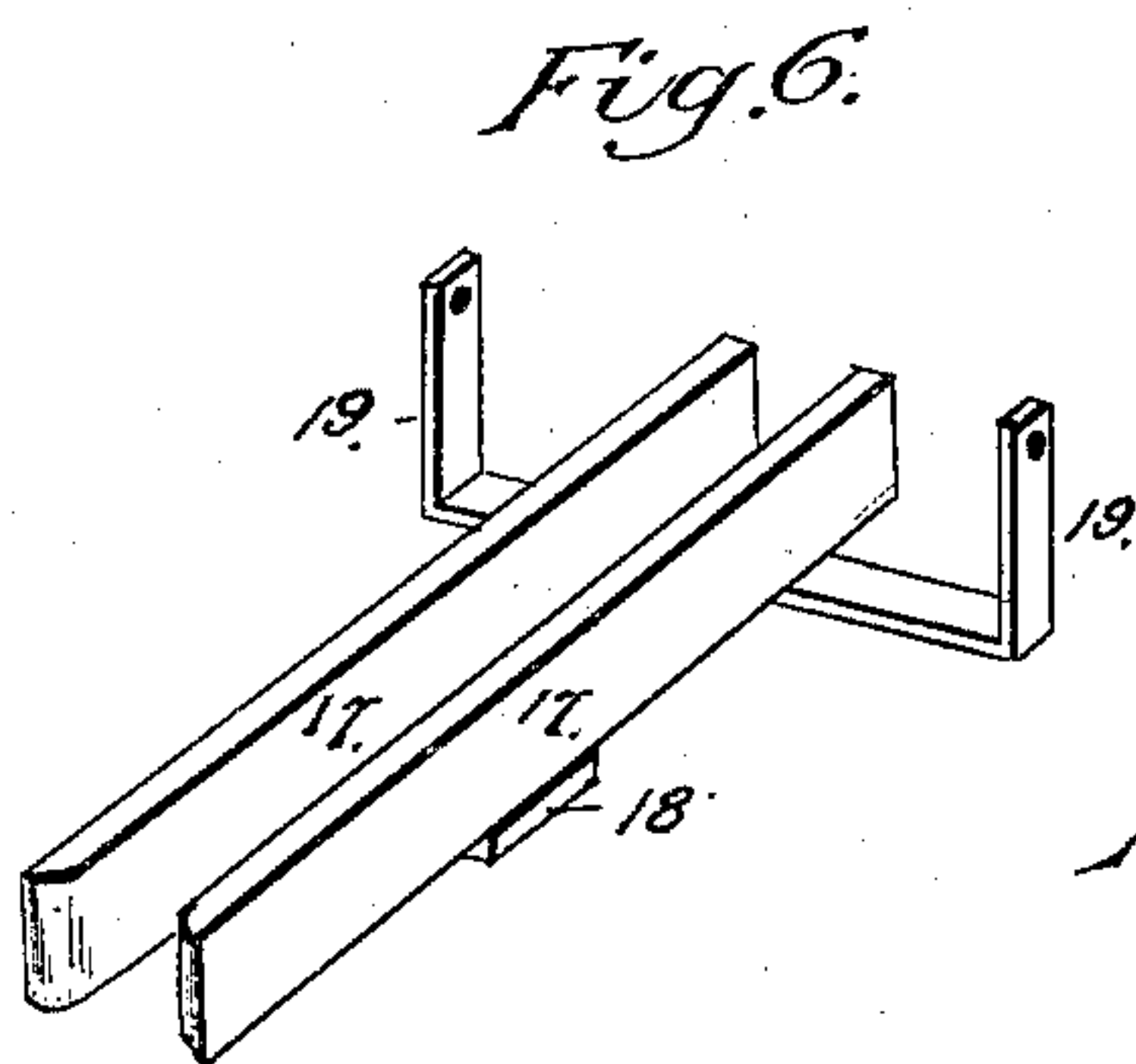
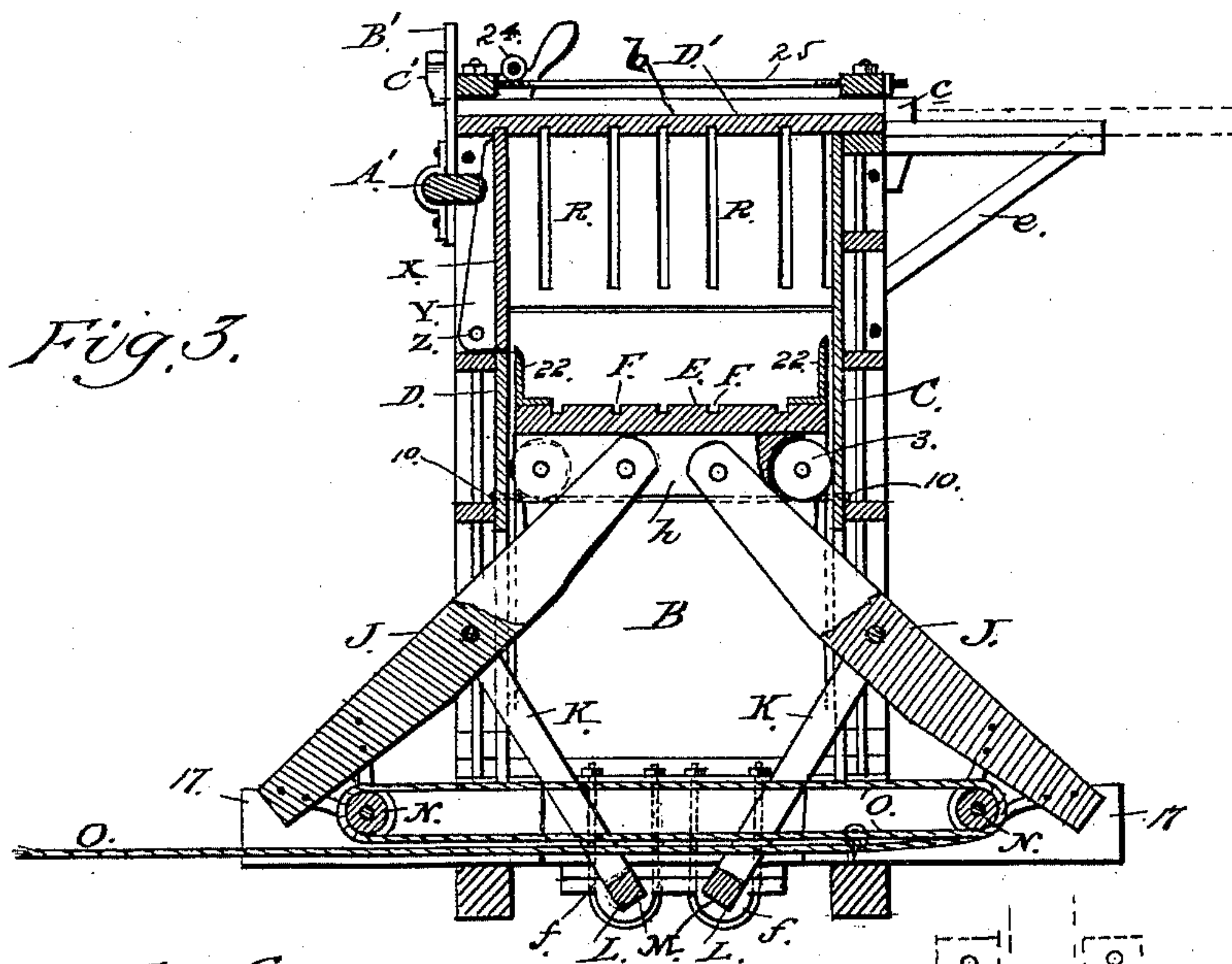
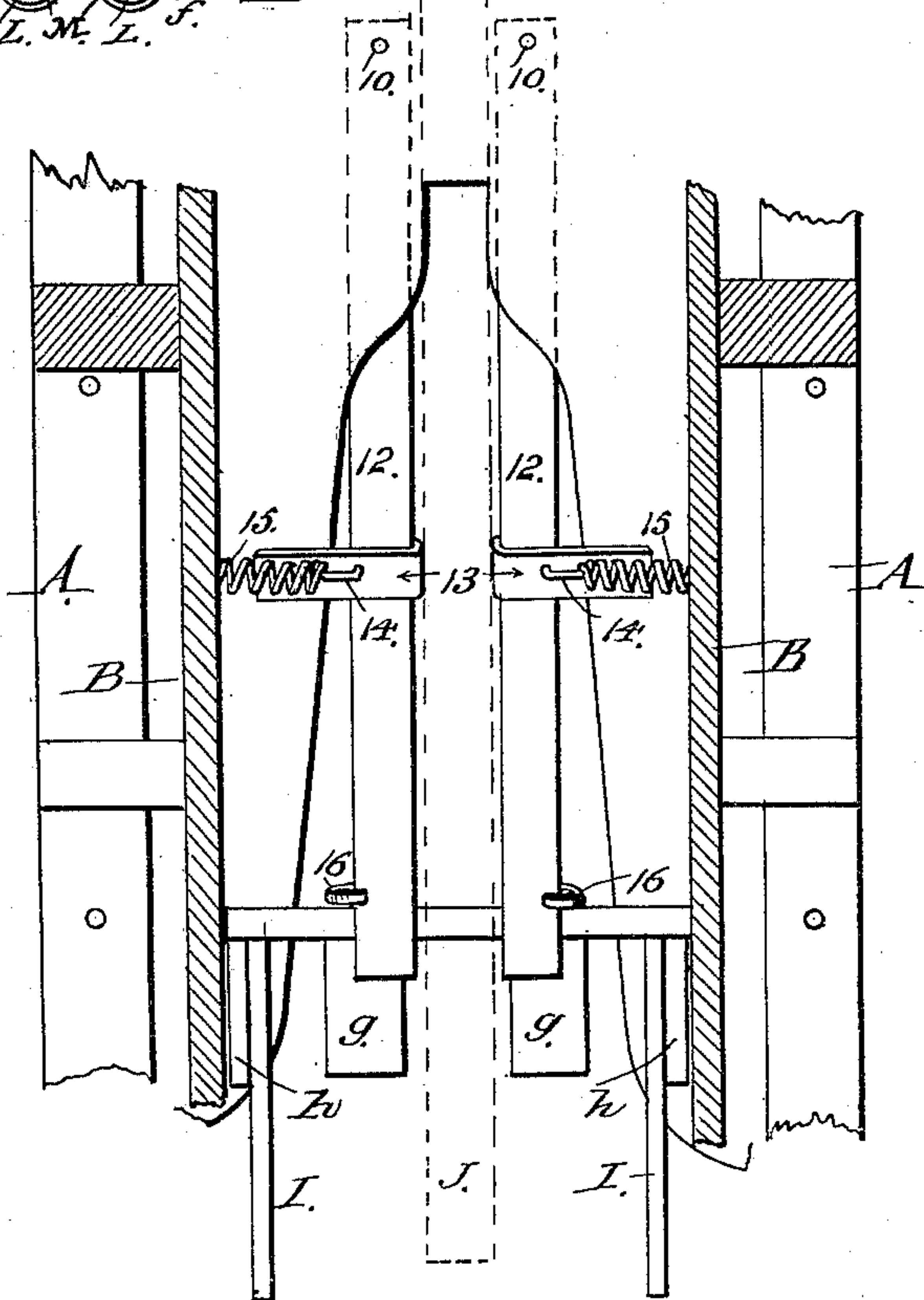


Fig. 5.



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UNITED STATES PATENT OFFICE.

DAVID BRODHEAD HENDRICKS, OF KINGSTON, NEW YORK.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 431,166, dated July 1, 1890.

Application filed January 14, 1890. Serial No. 336,937. (No model.)

To all whom it may concern:

Be it known that I, DAVID BRODHEAD HENDRICKS, a citizen of the United States, residing at Kingston, in the county of Ulster and State of New York, have invented certain new and useful Improvements in Baling-Presses; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my improved baling-press. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a vertical cross-section. Figs. 4, 5, and 6 are details to be referred to.

Similar letters and numerals of reference indicate corresponding parts in all the figures.

My invention has relation to that class of baling-presses in which the plunger or follower travels upward operated by toggle-levers, and it is an improvement on the press for which Letters Patent No. 295,122 were granted to me March 11, 1884, and No. 303,847, granted to me August 17, 1884.

In the accompanying drawings the letter A indicates the upright rectangular frame, the wider sides of which are closed by walls B, extending from the lower end to a distance from the top of the frame about one-fourth of the height of the frame, being thus left open at the upper end of the same. The narrower sides or ends of the frame are covered by walls C and D, one wall C of which extends to the top of the frame and has a slot at its lower end, allowing the toggle-levers to be extended, while the other side D may extend to the same height as the wider sides or walls, and is slotted at its lower end in the same manner as the opposite wall.

E is the plunger or follower, the upper side of which is grooved transversely at F for the insertion of the wires or hoops used in tying the bale. The under side of the follower is provided with four longitudinal beams *g* *h*, the two inner ones having between them and the outer ones rollers 3, which travel up and down against the inner sides of the box or frame. The two outer beams *h* are provided

with downwardly-projecting arms I, one at each corner of the follower, for guiding the follower and lessening the friction of the same in passing up and down in the press. 55

Pivoted by two bolts at the points 10, just inside of each end of the main frame or casing and near the slots or openings in said ends, are two depending parallel bars or plates 12, which are designed to practically close the openings in the ends of said casing or bale-box, and thereby prevent the hay, straw, or like material from pressing out at these end openings when the follower is being forced upward. The plates 12 have rigidly secured to them, by welding or otherwise, laterally-projecting arms 13, (see Fig. 5,) provided with hooks 14, or like devices, to each of which one end of a spiral spring 15 is secured, the said springs having their outer ends secured to the corner-posts or other parts of the casing or main frame in any suitable manner, whereby they tend to draw the plates 12 toward the sides of the casing when the follower is up, and this follower E is provided with catches 16—two on each end—which project outward far enough to receive and travel against the sides of the plates 12, as shown in Figs. 2 and 5. 65

The upper ends of the long toggle-arms J are pivoted between the longitudinal beams *g* at the under side of the follower and near the longitudinal center of the same, and the said toggle-arms are also pivoted at their centers between the upper ends of two pairs of lower toggle-arms K, the lower ends of which are secured to cross-pieces L, forming trunnions at their ends, journaled in transverse bearings M in the lower end of the press-frame, near the middle of the same, as shown in my said former patents. 80

The trunnion-blocks *f* are formed, preferably, in two pieces and secured by heavy U-shaped rods with threaded ends, and which pass into the base-timber and secure all the parts together, while nuts on the rods regulate the bearing of the trunnion by raising or lowering the blocks each independent of the other. 85

In the lower part of the frame A are two parallel beams 17, separated from each other about four inches and serving as guides for 90 100

the movement of the levers J, whose lower ends travel between the inner walls of the beams or tracks 17, thereby preventing the levers from lateral movement and strain and insuring their movement in the same vertical plane at all times and not liable to bind. The beams or tracks 17 are located at each end of the frame and extend beyond the outer walls thereof through the end openings suitable distance—say about eighteen inches—and they are bolted to blocks 18 and U-shaped bars 19, (see Fig. 6,) the latter being near the inner ends of the beams and having bent outer ends, which are pivotally bolted to longitudinal beams 20, extending along the lower sides of the frame A. By this construction it is evident these tracks may be swung upon their pivots and turned up in the box or casing when the press is not in use, and when in use these tracks may be turned down upon the base-sills, as shown in Figs. 1 and 3.

To the top of the follower, one on each end, I secure angular plates 22, which are carried by the follower, and as the follower moves up and down these plates closely hug the inner end walls of the bale box or frame and serve to partially or wholly close the end openings of the frame for a purpose similar to that previously described by the plates 12.

Two sheaves N are journaled at the outer or lower ends of the long toggle-arms, and a rope O, secured at one end to the frame, passes over these sheaves and may be attached to a capstan or similar means for drawing it at its other end, the rope serving to draw the ends of the long toggle-arms together between the beams or tracks 17, thereby raising the follower.

The open sides of the upper portion of the press box or frame are closed by two hinged doors P, opening to the sides, which doors are composed of two longitudinal bars Q, hinged to the posts of the frame, as shown in my former patents, and a number of vertical slats R, secured to the inner sides of the longitudinal bars, having spaces between them for the insertion of the tying wires or hoops. The free ends of the longitudinal bars of the doors rest against the outer sides of the corner-posts, and the said ends are secured or locked by means of a vertical locking-bar T, (which is provided with a bearing-plate at each end, as shown,) hinged upon the outer side of the corner-post, swinging over the ends of the longitudinal bars, and an arm U, pivoted at one end between two lips V, projecting from the locking-bar, is adapted to be held in a hook or catch W upon the outer side of the door, preventing the locking-bar from swinging out from the ends of the door. A plate X, having two or more vertical re-enforcing bars Y, is pivoted at its lower end above the upper end of the side D of the frame upon a rod Z, passing transversely through the re-enforcing bars and secured at its ends in the corner-posts, so as to have a small amount of play for its upper end, and a cross-bar A' is pivoted trans-

versely upon the corner-posts of the frame, near the upper end of the pivoted plate, and has a pivoted handle B' at its upper side, which may be caught in a hook C' upon the upper end of the frame, the said cross-bar serving to force the upper end of the plate inward when the handle is released, allowing the compressed bale to expand longitudinally, and release the bale.

Near the upper edge of the doors and on their inner sides the slats are cut away a portion of their length, so as to form shoulders l, upon which rests the top of the press. This top, which I have designated in the drawings as D', consists, as in my patent, No. 303,847, before referred to, of two longitudinal bars a, joined together by means of a partition or bottom b, the sides of which rest upon the shoulders l formed on the slats. The lower face of the top is grooved transversely in such manner that the said grooves, when the top is closed, will align themselves with the spaces left between the slats R of the hinged doors P and also with the grooves in the follower, and upon the upper surface of the top may be secured a bail or handle 20, also two hanging rollers 24, traveling on tracks 25, to assist in sliding the said top endwise.

Upon one end C of the frame A, I secure two bearings c, in which are journaled the pivot-pins d of a swinging frame or platform E', which consists of two side rails or guides and a cross-bar, the side rails being formed with ways on which travels and upon which is supported the top D' when the said top is drawn from its normal position. Near the outer ends of this platform are pivotally secured two arms or braces e, and on the frame are lugs or stops, against which the braces e bear when the frame is raised in the position shown in Fig. 1. When not in use, the frame and braces are permitted to drop down to the side of the press. When the press is to be used, the sides and top of the press-box are opened, and the hay or other product to be pressed is packed into the lower portion of the box until it reaches the open sides, when the doors are closed and locked and the pivoted side piece forced inward. The remainder of the box is now filled and the top closed and secured, when draft is applied to the rope, which draws the ends of the long toggle-arms together along the tracks, raising the follower and causing the plates 12 to close or partially close the end openings of the box. When the follower reaches to a level with the upper edges of the rigid side pieces of the frame, the wires or hoops are inserted through the grooves of the follower and of the top piece, passing through the openings between the slats of the doors, through which the ends may be drawn and secured together while the follower is completing the pressing of the bale, when the doors may be opened, the side piece released, and the top opened immediately after the completion of the stroke of the follower, the tying being completed at the same time as the

pressing, with all the sides of the press closed, and the bale may be removed and the follower allowed to drop down again, when the same operation may be repeated.

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

10 1. The press-frame, the follower, and the toggle-arms, and means for operating the same, in combination with the beams mounted in the lower part of said frame and projecting beyond its ends, and a pivotally-secured support or hanger in which the inner ends of the beams are mounted, whereby said beams may
15 be elevated out of the way when the press is not in use, substantially as described.

20 2. The press-frame, the follower, and the toggle-arms, and means for operating the same, in combination with the beams 17, separated from each other to form a track between their

inner sides for the lower end of the toggle-arms, the bars 19, secured to said beams and having bent ends pivotally secured to the timbers of the press-frame, whereby the beams may be raised and lowered, substantially as
25 described.

3. The press frame or casing having its ends open or slotted, the toggle-arms, means for operating the same, and the follower, in combination with the plates 12, pivoted at their
30 upper ends to the inner walls of the ends of the press-frame and adapted to close or partially close the openings in said ends, arms extending laterally from said plates, and springs connecting said arms with the press-
35 frame, substantially as described.

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Witnesses:

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