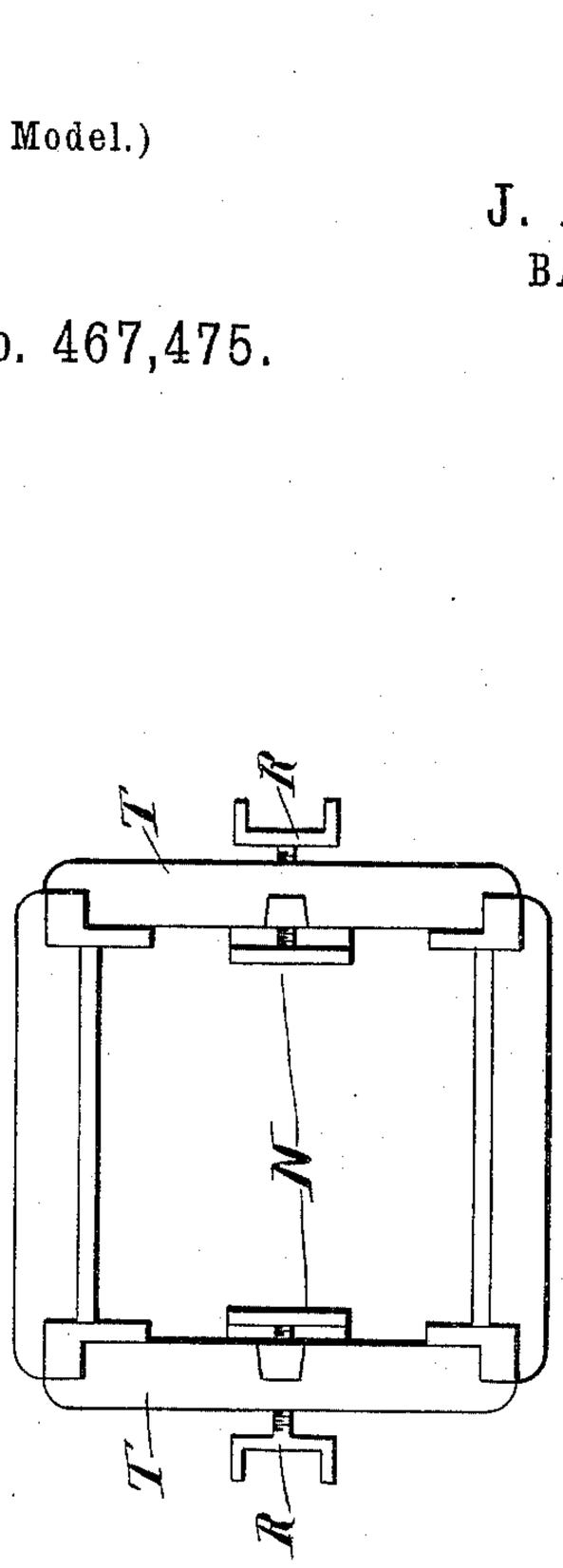
(No Model.)

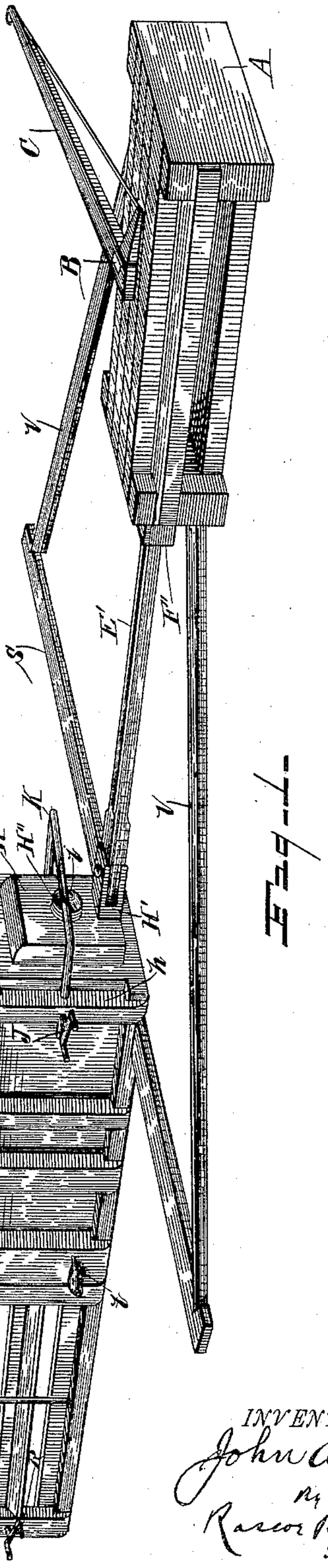
3 Sheets—Sheet 1.

J. A. WRIGHT.

BALING PRESS.

No. 467,475. Patented Jan. 19, 1892.





WITNESSES

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(No Model.)

3 Sheets—Sheet 2.

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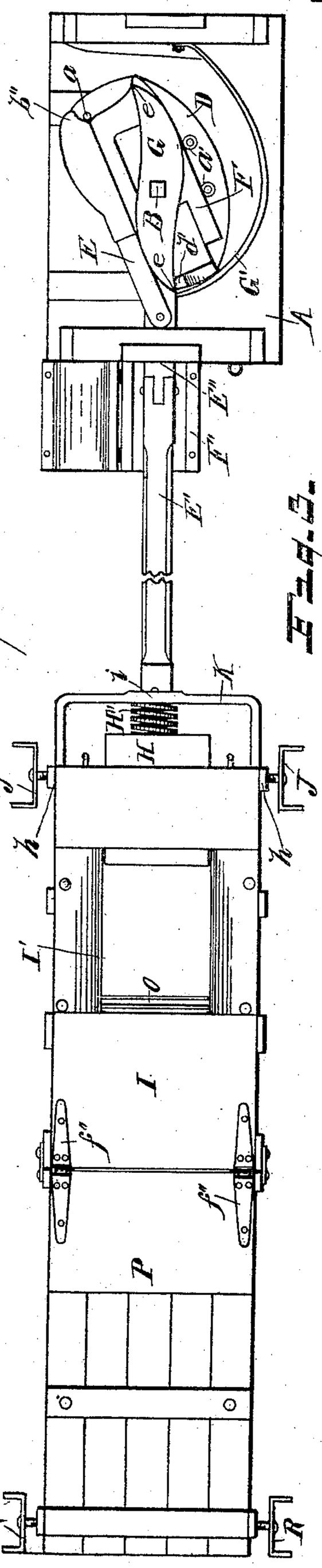

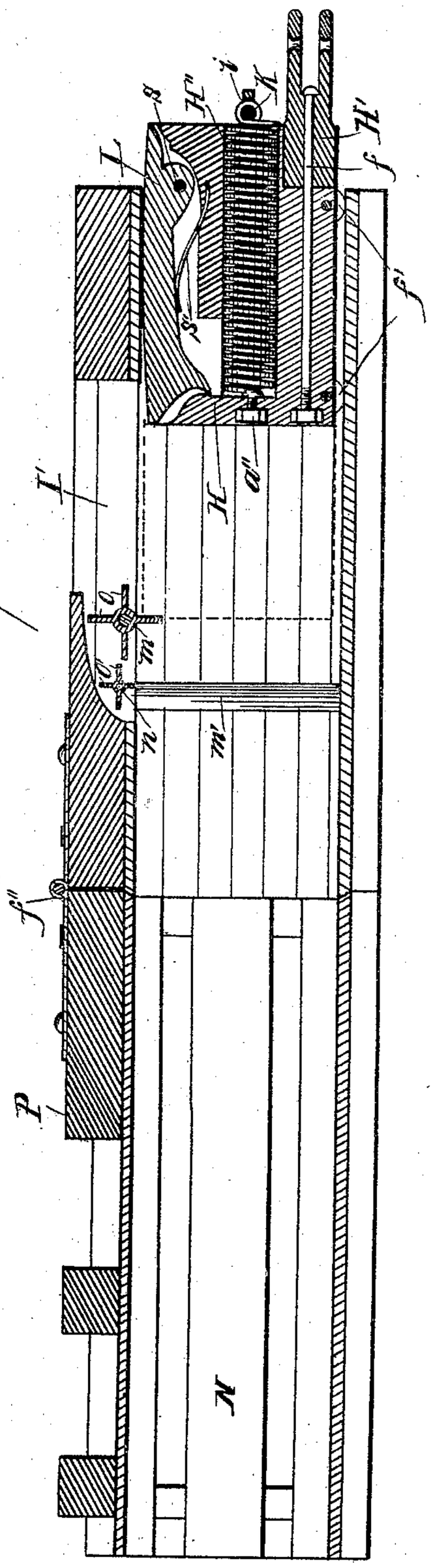

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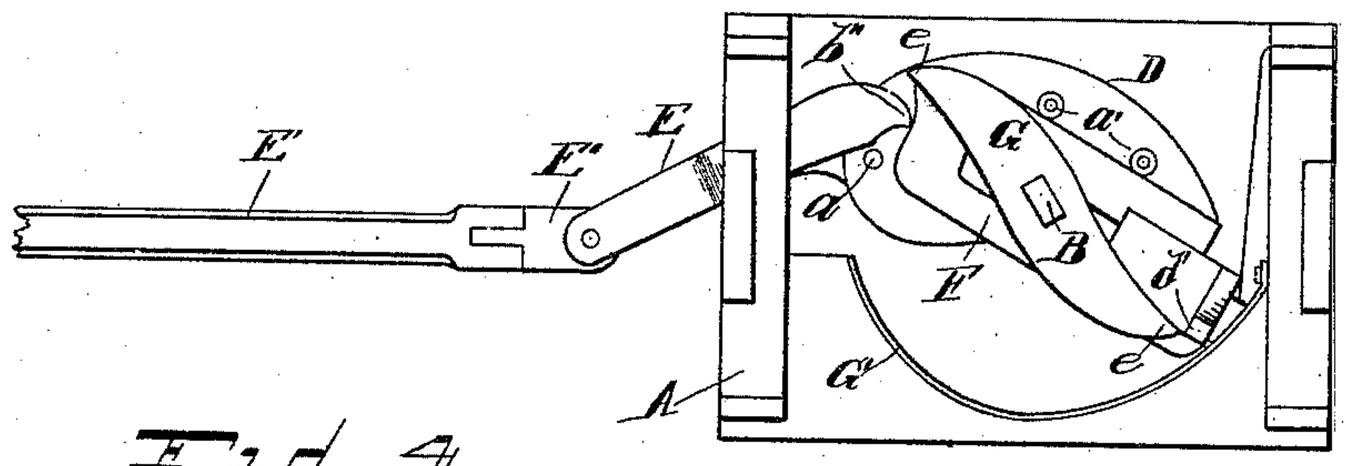

Fig. 4.

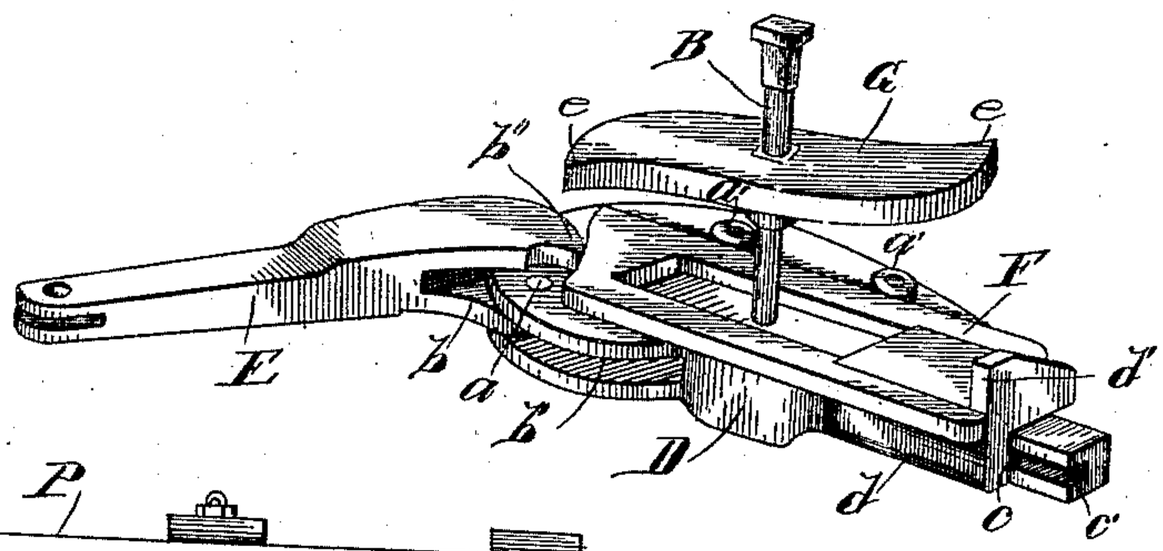

Fig. 5.

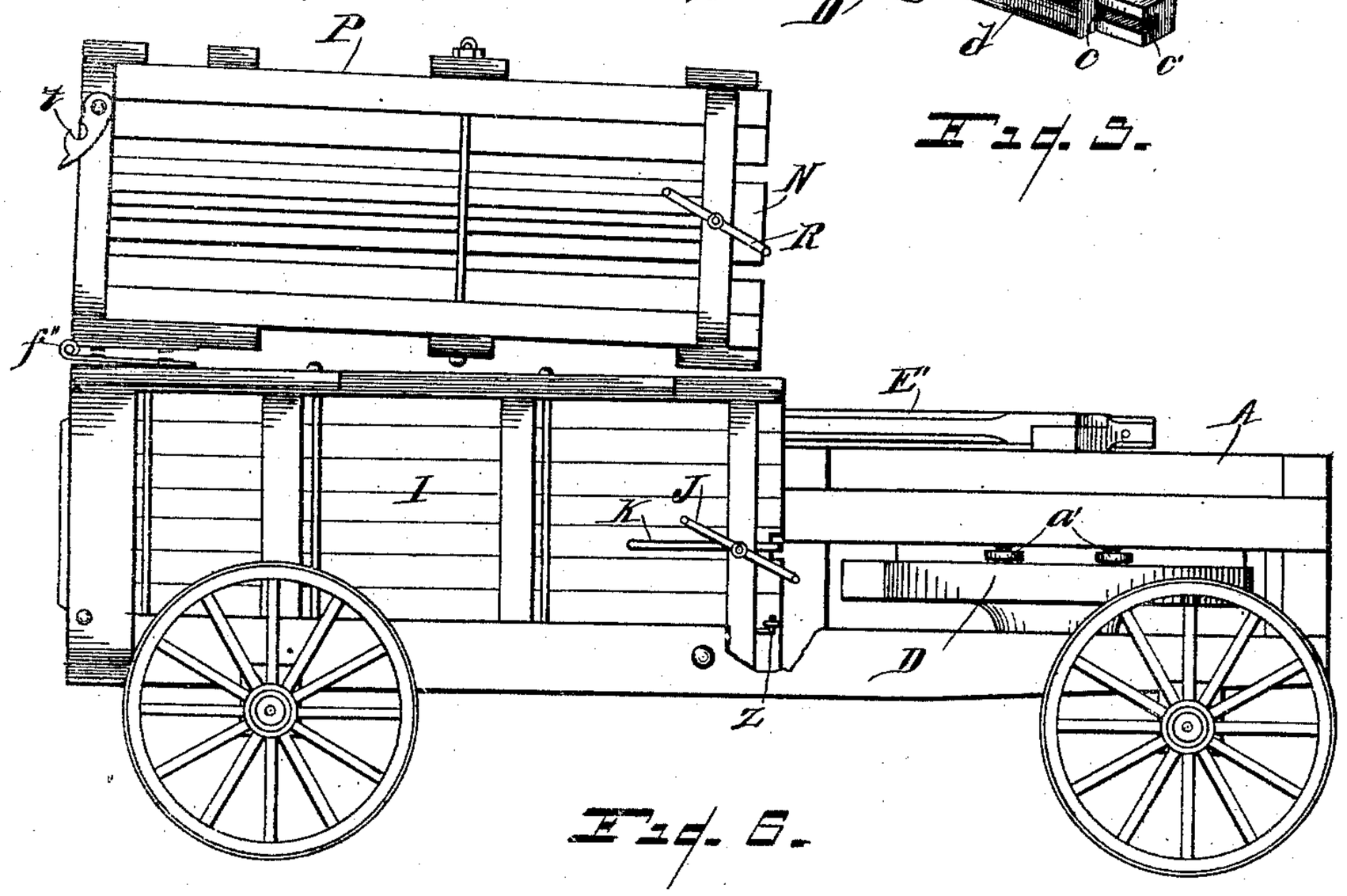

Fig. 6.

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UNITED STATES PATENT OFFICE.

JOHN A. WRIGHT, OF GRAYLING, MICHIGAN, ASSIGNOR OF ONE-HALF TO JAMES K. WRIGHT, OF SAME PLACE.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 467,475, dated January 19, 1892.

Application filed June 24, 1891. Serial No. 397,296. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. WRIGHT, a citizen of the United States, residing at Grayling, in the county of Crawford and State of Michigan, have invented certain new and useful Improvements in Hay-Presses; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in hay-presses; and it consists in a certain construction and arrangement of parts, as hereinafter more fully set forth, the essential features of which being pointed out particularly in the claims.

The object of the invention is to provide a hay-press that is simple in construction, rapid and effectual in its operation, and in which the arrangement of parts is such as to permit of the folding together of the press-box and bale-frame and the close coupling of the power-frame thereto, enabling the entire device to be mounted on a single truck for transportation. This object is attained by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my improved hay-press in position for operation. Fig. 2 is a plan view of the same, a portion of the plunger-beam being broken out and the lid of the guide-box on the power-frame through which said beam passes being turned back and the top of the power-frame being removed, showing the operative mechanism. Fig. 3 is a central longitudinal section through the bale-frame, press-box, and plunger, the coiled spring in said plunger showing in elevation. Fig. 4 is a plan view of the power mechanism in position the reverse of Fig. 2. Fig. 5 is a perspective view of said mechanism removed from the power-frame, the curved arm being raised to better show the construction and position of parts. Fig. 6 is a view of the device mounted for transportation. Fig. 7 is a rear end elevation of the bale-frame.

Referring to the letters of reference, A indicates the power frame or case, through which passes the vertical shaft B, that is journaled at its ends in the upper and lower faces, respectively, of said frame. The upper end of said shaft extends through the frame A and is secured to the inner end of the sweep C, as shown in Fig. 1, by means of which said shaft is revolved. Located in said frame A is an oscillating base D, adapted to swing horizontally, and which is pivotally mounted on the vertical shaft B, that passes through said base at or near its geometric center (See Fig. 5.)

E indicates a coupling-bar that connects the plunger-beam E′ with the oscillating base D, one end of said bar E being pivoted to said base by means of the lip or flange *b*, extending horizontally from the under face of said bar, and which enters the slot *b′* in the base and is secured therein by the bolt or rivet *a*, said bar E also having the nose *b″* extending from the upper face thereof and which projects onto the base D when the parts are in the position shown in Figs. 4 and 5. Lying upon the upper face of the base D is a plate F, adapted to slide longitudinally thereon and having a rectangular opening through its center through which the shaft B passes loosely. *d* indicates a flange depending from the under face of said plate F, said flange being provided with a tongue *c*, extending from the side thereof and adapted to lie in the groove *c′* in the edge of the base D, (see Fig. 5,) by which means the plate F is secured in place on the base and permitted to slide thereon when acted upon by the nose *b″* of the bar E, as hereinafter described. One edge of said plate in its operation bears against the friction-rollers *a′*, mounted on the base D, which conduce to overcome the friction between said parts. The plate F is also provided at one end with the vertical shoulder *d′*, extending from the upper face thereof, adapted to be engaged alternately by the ends *e* of the curved arm G, mounted on the shaft B and revolving therewith.

The plunger-beam E′ is coupled at one end to the bar E by means of the coupling-head E″, (shown in Fig. 4,) and is adapted to pass through the guide-box F′, secured to the frame A, the opposite end of said beam being coupled,

through the medium of the head H′, to the plunger H, adapted to reciprocate in the press-box I, (clearly shown in Fig. 1,) said head H′ being secured in the plunger H by means of the bolt *f*, passing through said head and plunger, as shown in Fig. 3.

Located within the plunger H is a coiled spring H″, one end of which is secured to the forward end of the plunger, as shown at *a″* in Fig. 3. The opposite end of said spring extends through the rear end of said plunger and is secured at *i* to the yoke or bail K, that extends across the front of the press-box I. The ends of said bail pass through the posts *h* on each side of said box, in which they are adapted to be secured by the hand-screws J, that engage the ends of said bail within the posts *h*, by which means the bail K may be adjusted out or in to obtain the desired tension on the spring H″, the office of which is to return the plunger and plunger-beam after an inward or press stroke has been made.

The upper face of the plunger H is formed of a depressible plate L, mounted on said plunger, the rear end of said plate being pivoted to the sides of the plunger, as shown at *s*, the forward end of said plate being supported by the spring *s′*, that bears against the under face thereof. (Shown in Fig. 3.) By this arrangement the plate L is permitted to yield, thus preventing the wedging of the plunger in the press-box I. The under face of the plunger is provided with the friction-wheels *f′*, on which said plunger rides when reciprocating in the press-box I.

In the upper face of the press-box I is the usual opening I′, through which hay is fed into said box ahead of the plunger H. Located slightly below the rear edge of the opening I′ in the box I is a shaft *m*, the ends of which are journaled in the sides of said box and on which are mounted the diametrical wings *o*, that revolve as the hay is forced under them by the stroke of the plunger H, (shown by dotted lines in Fig. 3,) and assist to carry the hay into the press-box and prevent its clogging against the rear edge of the opening I′. In the rear of the shaft *m* is located a smaller shaft *n*, carrying the wings *o′*, that revolve as the hay passes under them and prevent the clogging of the hay in the rear of the shaft *m*. The interior of the press-box on each side thereof is provided with the vertical recesses *m′*, that extend from the top to the bottom. Said recesses engage and retain the pressed hay, preventing it from springing back when the plunger is withdrawn.

P indicates the bale-frame, into which the hay is forced from the press-box by the action of the plunger, and in which the hay is divided into bales and wired to retain it in form, as is commonly practiced. The bale-frame is secured to the rear end of the press-box by means of the hinges *f″* and by the hooks *t*, coupling the sides thereof. This arrangement permits the bale-frame to be folded onto the press-box for convenience in transportation. The side bars N of the bale-frame that extend longitudinally thereof are secured at their forward ends only, the rear ends thereof being adapted to be sprung in and are actuated by the hand-screws R, that pass through the vertical posts T at the rear of the bale-frame and bear against the outer faces, respectively, of the spring-bars N, (clearly shown in Fig. 7,) whereby by operating the screws R the bars N may be sprung in to reduce the discharge-opening at the rear of the frame P, thereby offering a greater resistance to the action of the plunger and increasing the compactness of the baled product.

In Fig. 1, which shows the parts in position for operation, S indicates an anchoring-beam, to which the press-box I is secured. From the ends of said beam the braces V extend to the power-frame A, whereby said parts are braced and securely held in place. The braces V, as well as the plunger-beam E′, lie close to the ground, in which position of said parts they may be easily stepped over by the horses when said horses are hitched to the sweep C and are traveling around the power-frame A to operate the press.

Fig. 2 shows the normal position of the driving mechanism when ready for operation, in which position of parts when the shaft B is revolved one end *e* of the arm G will engage the shoulder *d′* of the plate F, which being slidingly attached to the base D, said base is thereby caused to swing, whereby the bar E, one end of which being pivoted at *a* to the base, is moved endwise, actuating the plunger-beam E′ and causing an inward stroke of the plunger H and expanding the spring H″. As the plunger reaches the end of its stroke the position of parts is such (see Fig. 4) that the nose *b″* of the bar E will bear against the end of the plate F and slide said plate, which will disengage one end *e* of the arm G from the shoulder *d′* of said plate, thereby releasing said arm from engagement with the sliding plate and the base D, when the contracting of the spring H″ will withdraw the plunger H, carrying back the beam E′ and bar E, which will swing the base D back to its former position. (See Fig. 2.) As the base swings back the curved guard G′ of the frame A will engage the end of the plate F and slide said plate back to the position shown in Fig. 2, when the opposite end *e* of the arm G will engage the shoulder *d′* of said plate and the base D will be again actuated to cause another stroke of the plunger H, and so on, the plunger making two strokes to every revolution of the shaft B, which is given a continuous rotation by the horses traveling around the frame A.

When it is desired to transport the press, the beam S and braces V are removed and the plunger-beam E′ detached from the plunger H and the bar E. The hooks *t* are uncoupled and the bale-frame P folded over onto the press-box I, when the entire device may be mounted on a truck, as shown in Fig. 6,

the power-frame A being attached to the press-box I by means of the hooks *z*, thereby securely retaining said parts in place, in which position they occupy but a small compass and may be easily transported.

Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the power-frame, the oscillating base, the plate slidingly mounted thereon and having the shoulder *d'*, the vertical shaft, the sweep and curved arm mounted on said shaft and made fast thereto, the coupling-bar pivotally coupled to said base and having the nose engaging with the sliding plate, and the curved guard mounted on the power-frame, for the purposes specified.

2. In combination with the power-frame having the curved guard, the oscillating base, the plate having the shoulder *d'* slidingly mounted on said base, the shaft, the sweep and curved arm made fast to said shaft, the coupling-bar pivotally attached to said base and having the nose engaging with the sliding plate, the press-box, the rebounding plunger, and the plunger-beam coupling the plunger to the coupling-bar, substantially as specified.

3. In combination with the press-box, the plunger, the bail adjustably attached across the forward end of the press-box, the coiled spring located in the plunger, having one end attached thereto, its opposite end being secured to said bail, and the plunger-bar coupled to the plunger, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN A. WRIGHT.

Witnesses:

C. D. BECKWITH,

R. W. BUSBY.