

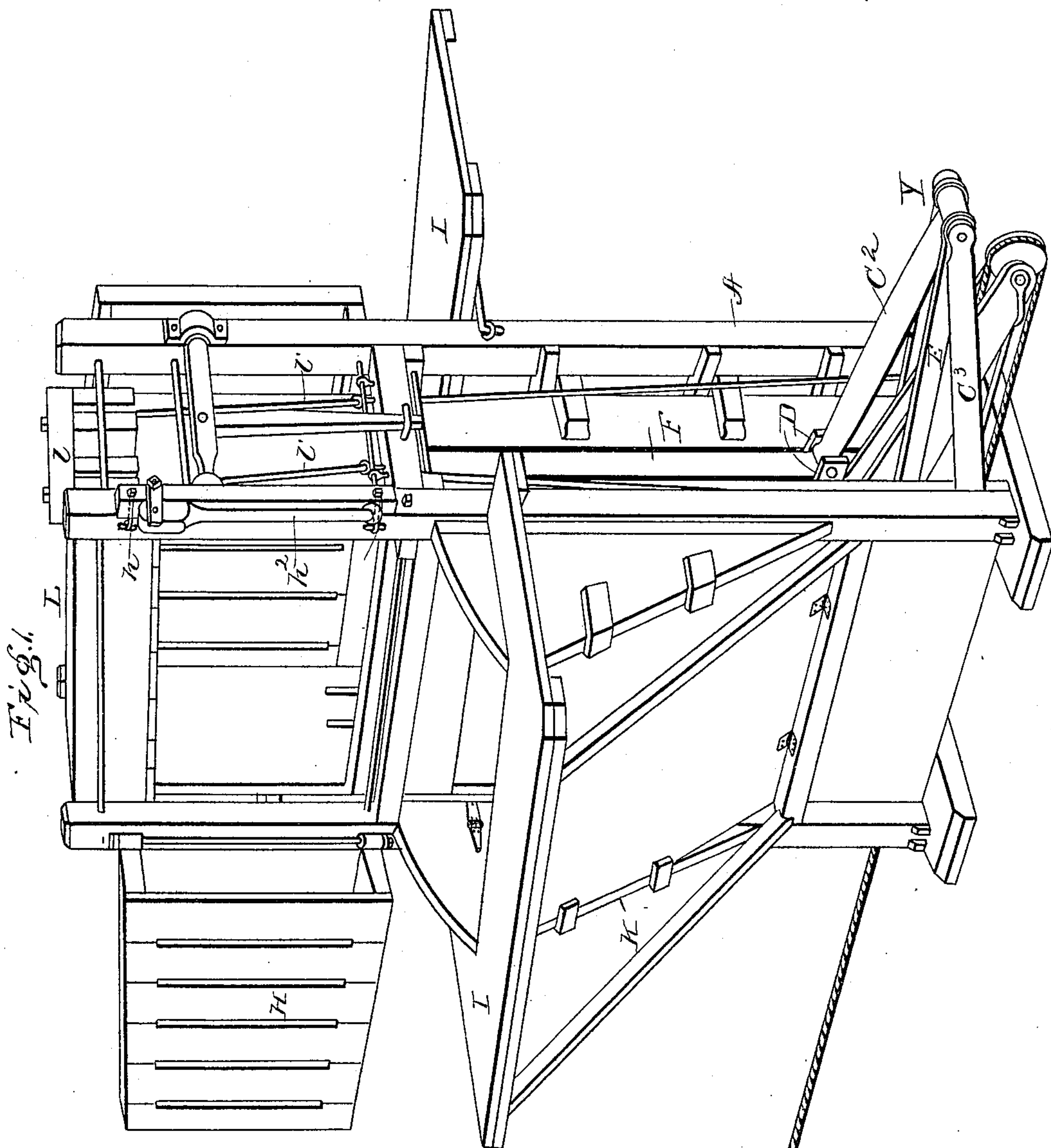
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3 Sheets—Sheet 1.

P. K. DEDERICK.  
BALING PRESS.

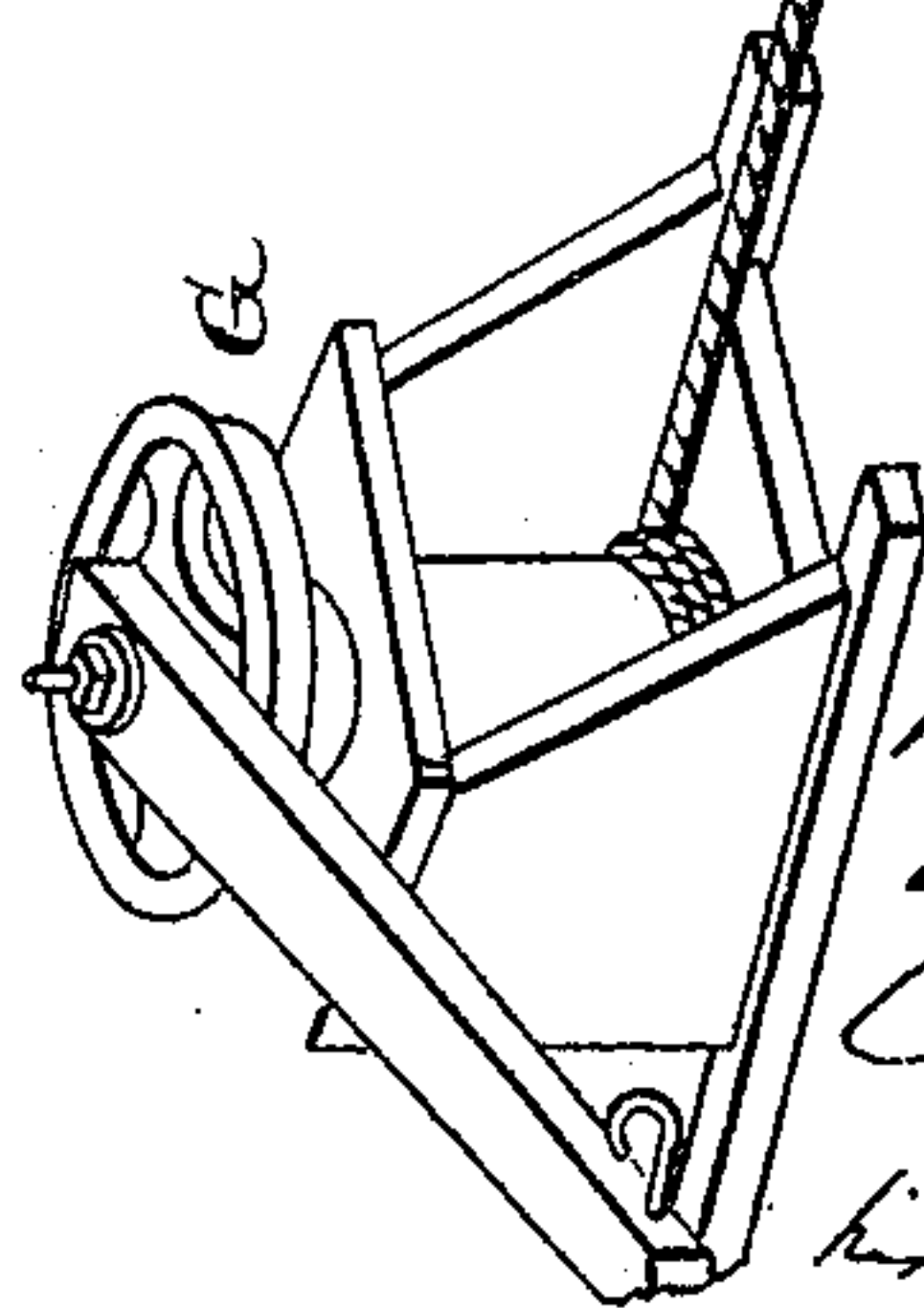
No. 583,461.

Patented June 1, 1897.



Witnesses:

J. M. Fowler Jr.  
A. J. Smart



Inventor.

Peter K. Dederick

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Attorneys.

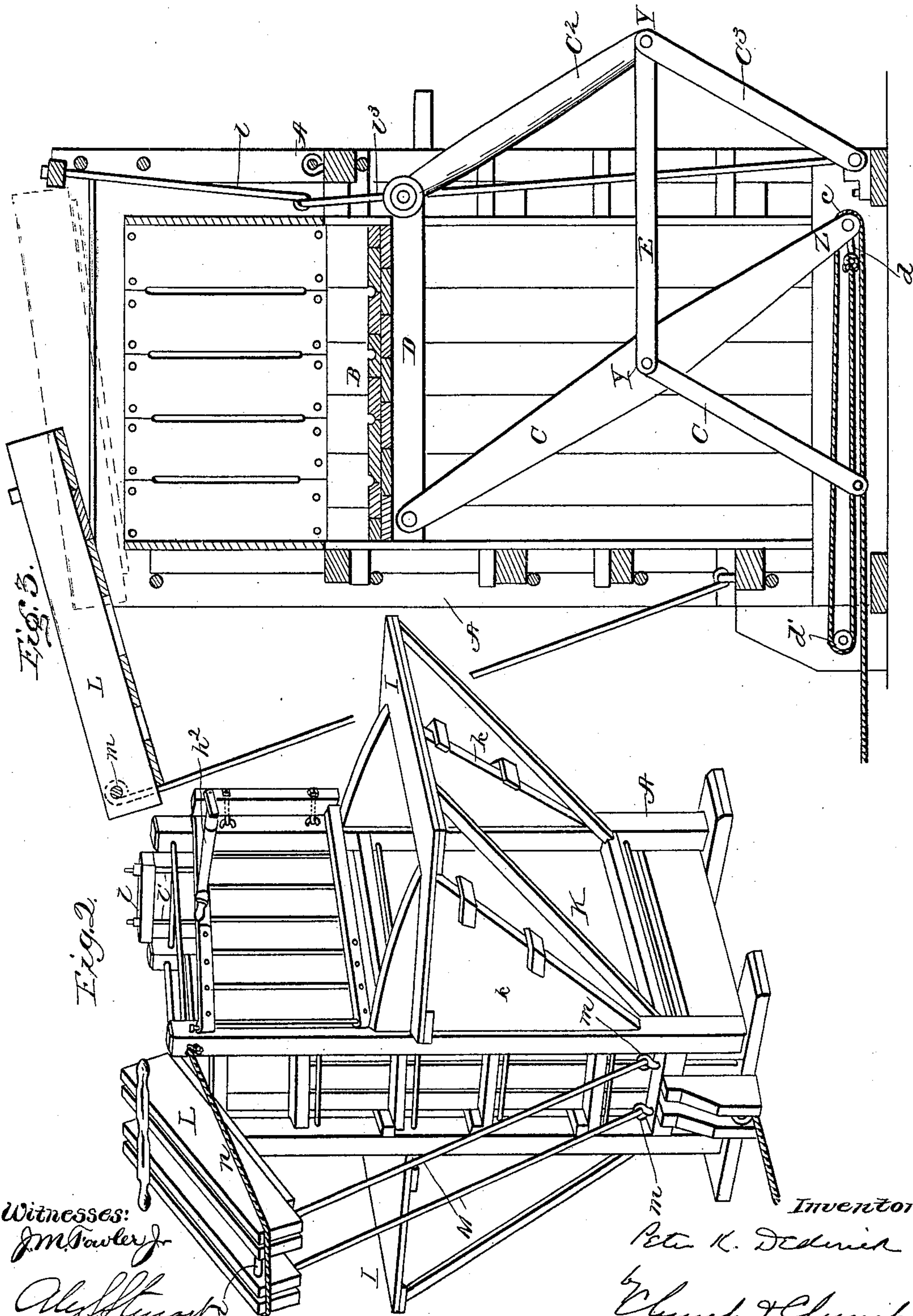
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Witnesses:  
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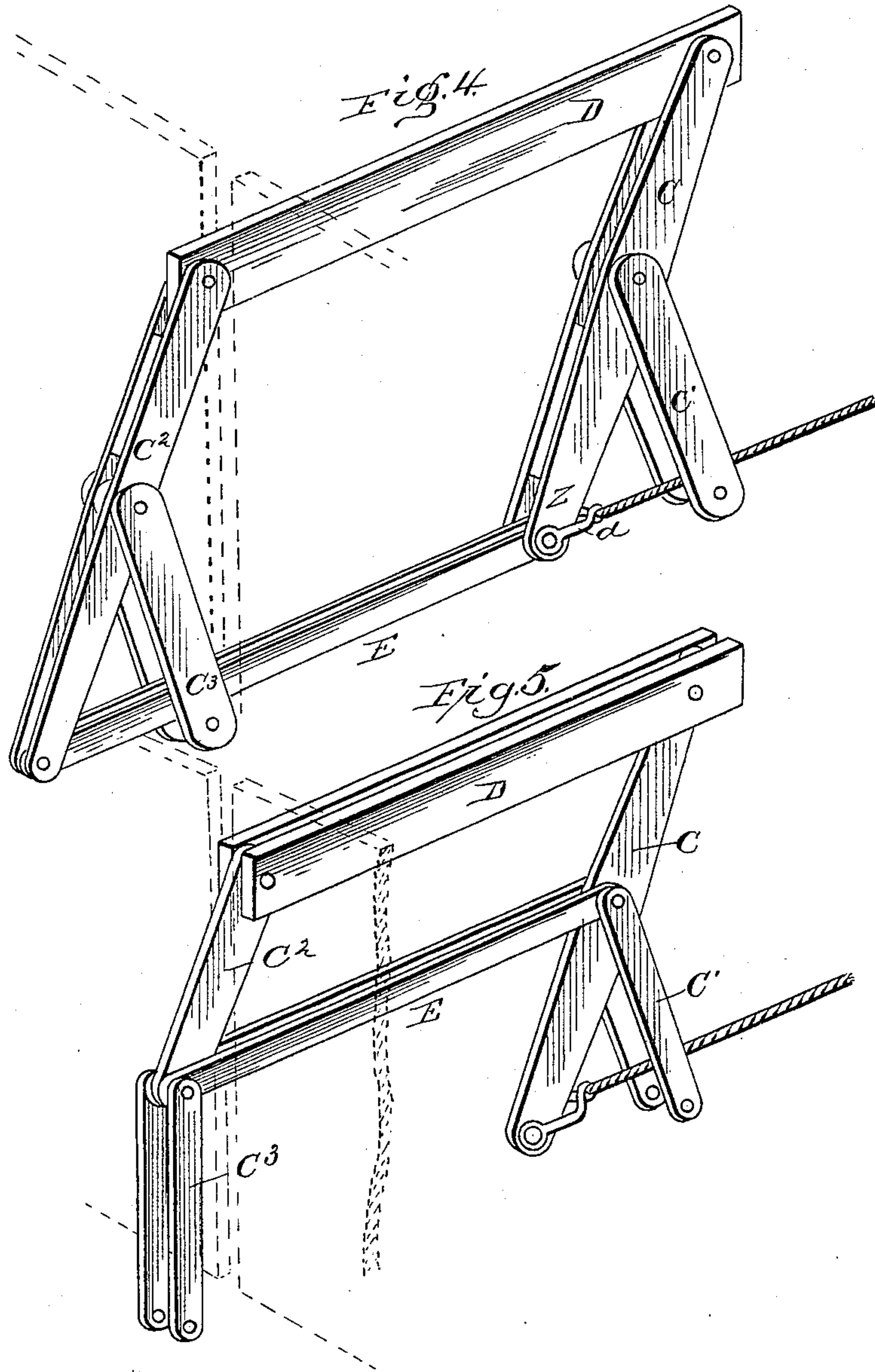
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Witnesses

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# UNITED STATES PATENT OFFICE.

PETER K. DEDERICK, OF LOUDONVILLE, NEW YORK.

## BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 583,461, dated June 1, 1897.

Application filed May 16, 1895. Serial No. 549,574. (No model.)

*To all whom it may concern:*

Be it known that I, PETER K. DEDERICK, of Loudonville, in the county of Albany, State of New York, have invented certain new and  
5 useful Improvements in Baling-Presses; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and  
10 to the letters of reference marked thereon.

This invention particularly relates to what is known as "box" baling-presses of the class in which the loose material is put into a box and pressed into one end of the same.

15 Referring to the accompanying drawings, Figure 1 is a perspective view of a baling-press constructed in accordance with my present invention with the follower down and the bale and feed-chamber doors open. Fig.  
20 2 is a similar view, taken from the opposite side of the press, with the said doors closed and the head open. Fig. 3 is a section longitudinally through the press, showing the power devices, the head connections, &c.  
25 Fig. 4 is an elevation showing a modification of the power-levers. Fig. 5 is a similar view showing the upper end of the outside levers working within the press.

Similar letters of reference in the several  
30 figures indicate the same parts.

The letter A indicates the frame of the press, formed by the usual uprights and transverse or horizontal girths joining the same, the whole being lined with suitable  
35 planking to form the box and cut to form openings for the operating mechanism, doors, head, &c., as will presently be described.

B indicates the follower working vertically within the press-box.

40 C, C', C<sup>2</sup>, and C<sup>3</sup> indicate the arms of a pair of toggle-joints Y Y, supported by the bottom of the frame and connected to the follower.

In all presses of this class it is necessary to make provision for allowing the arms of  
45 the joints to pass outside of the press-chamber at the bottom, inasmuch as in their movements they usually require greater space than the size of the press-box will permit, thus necessitating the removal or cutting away of a  
50 large portion of the press-box end and leaving an opening through which the material pressed obtrudes, requiring more power, and

resulting in rough bales. Now in the present device I overcome this difficulty by locating one of the pairs of arms and toggle-joint out-  
55 side of the press-box—to wit, the joint on the side toward which the power works—and I connect its upper end with the follower through a relatively narrow slot or slots extending vertically of the press-box. The  
60 manner of connection may be varied; but I prefer to extend thin metallic follower-beams through the slots in the walls of the press-box and attach the upper end of the outside arms  
65 to them, and which may be located outside of the press-box, as clearly shown in Fig. 1, where the upper end of the arm C<sup>2</sup> is jointed between the projecting ends D D of the plates of the follower, while its lower end is jointed  
70 to the upper end of the arms C<sup>3</sup>, which are jointed to the base-framing and together constitute a toggle-joint, as will be readily understood.

The lever C is jointed to the traverser within the press-box and preferably near its oppo-  
75 site end and extended past the pivotal joint or connection with the supporting-arms C', as shown at Z, thus forming a toggle-lever, with the arms C' pivoted to the supporting-  
80 base of the frame, as shown, and together being the power device for carrying the inner end of the follower. These two toggle-joints I connect together, preferably near or at the  
85 joint or center connection of the arms, in order to secure simultaneous movement, and such link or links I preferably attach so as  
to move in the slot or slots in the end of the press-box, through which the extended ends  
90 of the follower-plates D project, thus rendering it unnecessary to further open the press-box end. If the outside follower-arm is extended also, as shown in Fig. 4, then the connection may be at the foot of the extended  
95 ends, as shown; but this arrangement requires much more room for operation than when the connection is made at or near the joint, as heretofore explained, or between the arms of the two joints.

Where two projecting follower-plates D are employed, as thus far described, it is neces-  
100 sary to form two slots in the end of the press-box, and I support the narrow strip or tongue F between them by means of bearings on the follower-plates or the upper end of the arm



C<sup>2</sup>, either or both being constructed to bear against and support the part F. Where but a single follower-plate projects through the side of the press, as in Fig. 4, but one narrow slot need be made. This construction, it will be seen, enables me to form a complete press-chamber, with a suitable power, requiring but little room outside of the press for its operation as compared with presses heretofore used.

It is not absolutely necessary that the end of the upper arm of the outside joint should be attached to the follower-bars extended through the press-box, as the upper end of the upper arm may be made thin, of metal, and pass through the slot and be pivoted to the traverser within the press-box, as illustrated in Fig. 5, while the toggle-joint and other bulky parts remain wholly outside the press-box.

Journaled between the sides of the lower end of the extended lever C (see Fig. 3) is a pulley *c*, and the connection for operating the levers is in the form of a tackle constructed by connecting the end of the rope to the clevis *d* on the lower end of the lever, passing it thence around a pulley *d'* on the press-frame back around the pulley *c*, thence out to the capstan G, which is of the ordinary construction adapted to be operated by horse-power. With this arrangement the extended lever is drawn forward, and, being connected by the link or links E with the coöperating joint, hence both are caused to move simultaneously and elevate the traverser, maintaining it in its horizontal position.

The upper end of the press-chamber or bale-chamber proper is provided with the usual side doors H, hinged to the uprights of the frame and adapted to be held in closed position by the vertical bar *h*, having jointed links *h'*, connecting it with the frame, and the pivoted handle *h<sup>2</sup>*, by means of which it is swung into position over the ends of the door-frame, and the doors, as well as the follower and head to be presently described, are all slotted for the passage of the bands employed to bind and confine the bale after the pressing operation is complete.

Below the doors and in convenient position for the operators to stand upon are platforms or scaffolds I, and I preferably locate in the side of the press-chamber below the doors a second feed-orifice door K, hinged at the bottom and having side wings hinged to the press-frame, as clearly shown in Fig. 1. The upper end of this feed-door opens out above and down to the scaffold, so that hay or other material to be baled may be fed from the scaffold over it into the press-chamber below.

The hinged side wings are folded in when moving the press.

The upper end of the press chamber or box is open, and in order to close it and provide abutments against which to compress the bale a heavy head L is fitted to the upper end of the press-chamber, preferably between the

projections of the posts, and held in place at one end by a cross-piece *l*, pivotally hinged or connected by links *l'* to the rods *l<sup>3</sup>* with the bottom framing of the press. Thus when the cross-piece *l* is thrown over the head L the strain on the inner side of the head is distributed through the entire press-frame. If preferred, the end of the head might be slid under a stationary rigid cap or yoke supported by rods from the press-frame.

In order to provide means whereby the head may be readily swung off, so as to leave the end of the press open for filling, or swung over the press-box end, closing it and in position to press against, I mount it at one end of the press on the upper end of sway-bars M, Figs. 2 and 3, which are pivotally connected to eyebolts *m* near the bottom and connecting to the bottom framing of the press. The one end of the head may be rigidly mounted on these sway-bars or may be pivotally connected thereto, but in the preferred construction I form a hinge connection by passing a pin *m* through eyes formed in the ends of the sway-bars and allow a bottom cross-piece or stop on the head to come to a rest against the sway-bars, thus holding the head against downward movement, but allowing it to swing upward freely, as will be readily seen in Figs. 2 and 3. This head may be readily swung out to the position shown in Fig. 2 with practically no exertion on the part of the operator, as it rises up and away from the ends of the press, thus avoiding friction, and may be as easily swung back in position again, and, should occasion require, it may be grasped by the handle and raised up over and dropped down on material projecting above the top of the box or chamber, thus removing a troublesome feature in closing the heads of all other presses and whereby I am enabled to put much more material in the same depth of box.

Any suitable stop may be provided for limiting the outward movement of the head, and for convenience I have shown a rope loop *n*, passing around the end of the head and connected to the press-frame.

In using this press it will be noted that the feed-door below the hinged side door permits of the repeating process—that is to say, when a charge of material has been forced up against the head a second relatively large charge may be put through this feed-door and the door closed and fastened and the charge pressed up against the first, thus building the bale up of a few large sections.

Having thus fully described my invention, what I claim herein is—

1. In a baling-press the press case or box, having the narrow slot in one edge and the traverser adapted to work in the case or box, in combination with the extended toggle-lever pivoted to the traverser within the press case or box at one end and having the power applied to its vibrating end, fulcrum-arm C' pivotally connected to the lever to form a toggle working across the press box or case



and a second toggle connected with the traverser through the slot formed by arms  $C^2$ ,  $C^3$ , pivotally connected together with the joint outside of the press case or box when at the upper extreme of its movement, said toggles being connected together and working in the same direction; substantially as described.

2. In a press, the press-frame and the traverser adapted to work therein, in combination with the extended toggle-lever pivoted to the traverser at one end and having the power applied to its vibrating end, a fulcrum-arm pivotally connected to the lever intermediate the ends of the latter to form a toggle working across the frame, a second toggle formed by the arms  $C^2$ ,  $C^3$ , supporting one side of the traverser and a connection uniting the two toggles at the joints, whereby they are moved in unison; substantially as described.

3. In a press-power, the traverser and guide-frame, in combination with the extended toggle-lever pivoted to one end of the traverser and having the power applied to its vibrating end, a fulcrum-arm pivotally connected to the lever intermediate the ends of the latter to form a toggle working in a direction across the guide-frame, a second toggle supporting the other end of the traverser, formed by arms  $C^2$   $C^3$  pivoted together at their ends and an intermediate connection uniting the two toggles, whereby they are moved in unison; substantially as described.

4. In a baling-press, the press case or box having a narrow vertical slot therein and the traverser adapted to work in the case or box, of the two pairs of toggles working in the same direction, one formed with an ex-

tended end to which the power is applied and one located within and one without the press case or box and a link connecting the toggles for simultaneous movement working through the slot; substantially as described.

5. The combination with the press-box and reciprocating traverser, of the movable head  $L$ , the sway-bar attached to one end only thereof and pivotally connected at the lower end to the press box or frame, and a fastening for the opposite end of the head whereby the head is moved endwise over down onto and up off of the press-box, substantially as described.

6. The combination with the press-box and reciprocating traverser, of the movable head  $L$ , the sway-bar pivotally attached to one end only thereof and pivotally connected at the lower end to the press box or frame and a fastening for the opposite end of the head whereby the head may be lifted and dropped down on the material projecting above the top of the press-box; substantially as described.

7. The combination with the press-box, and reciprocating traverser, of the sway-bars pivotally connected at their lower ends to the press-box and the head pivotally connected at one end to the upper ends of the sway-bars and provided with rests cooperating with the sway-bars to raise the head as it is swung back to open the press-box and whereby the head may be lifted and dropped down on the material projecting above the top of the press-box; substantially as described.

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