

No. 610,168.

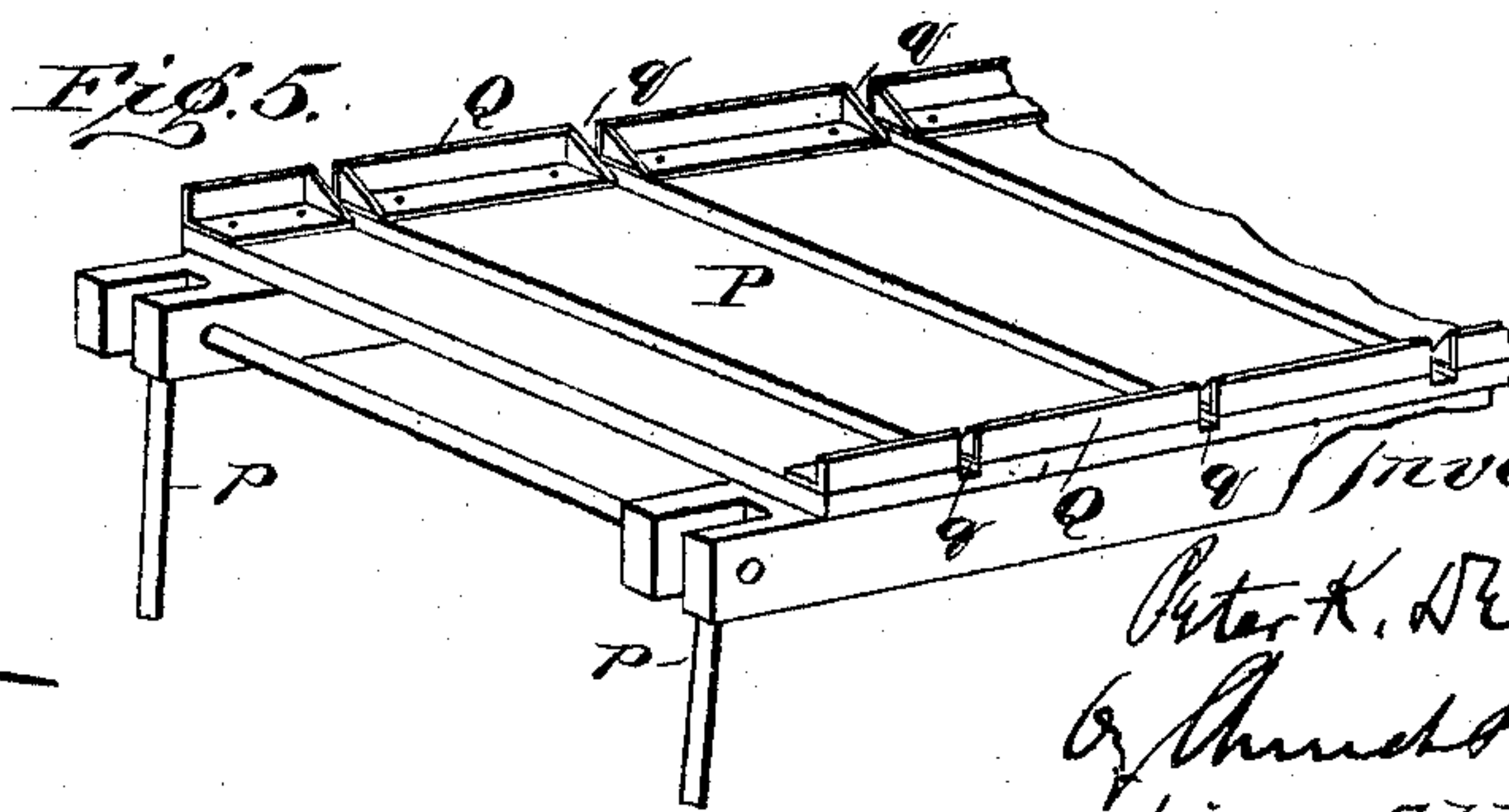
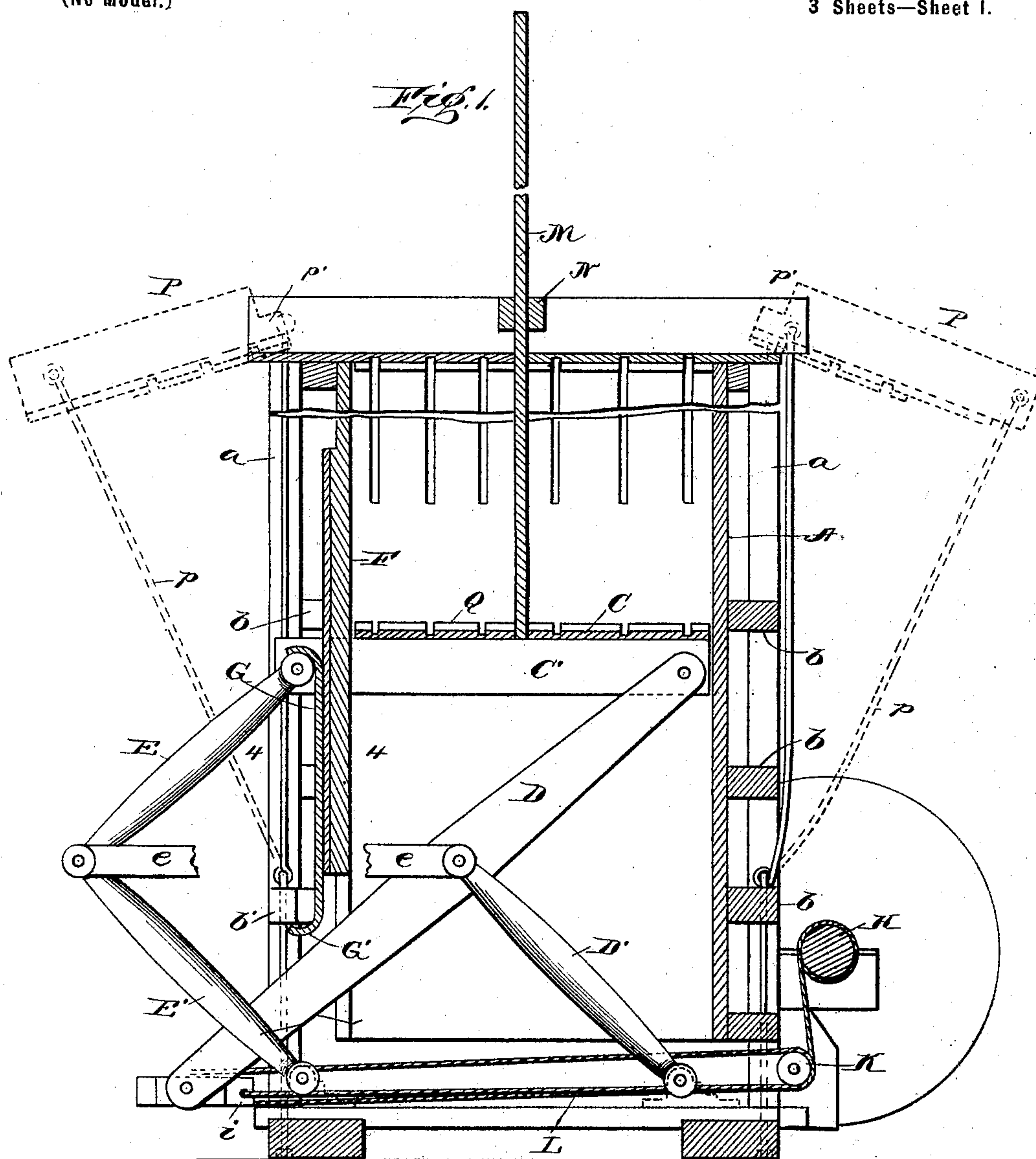
Patented Sept. 6, 1898.

P. K. DEDERICK.  
BALING PRESS.

(Application filed Feb. 3, 1897.)

(No Model.)

3 Sheets—Sheet 1.



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Inventor  
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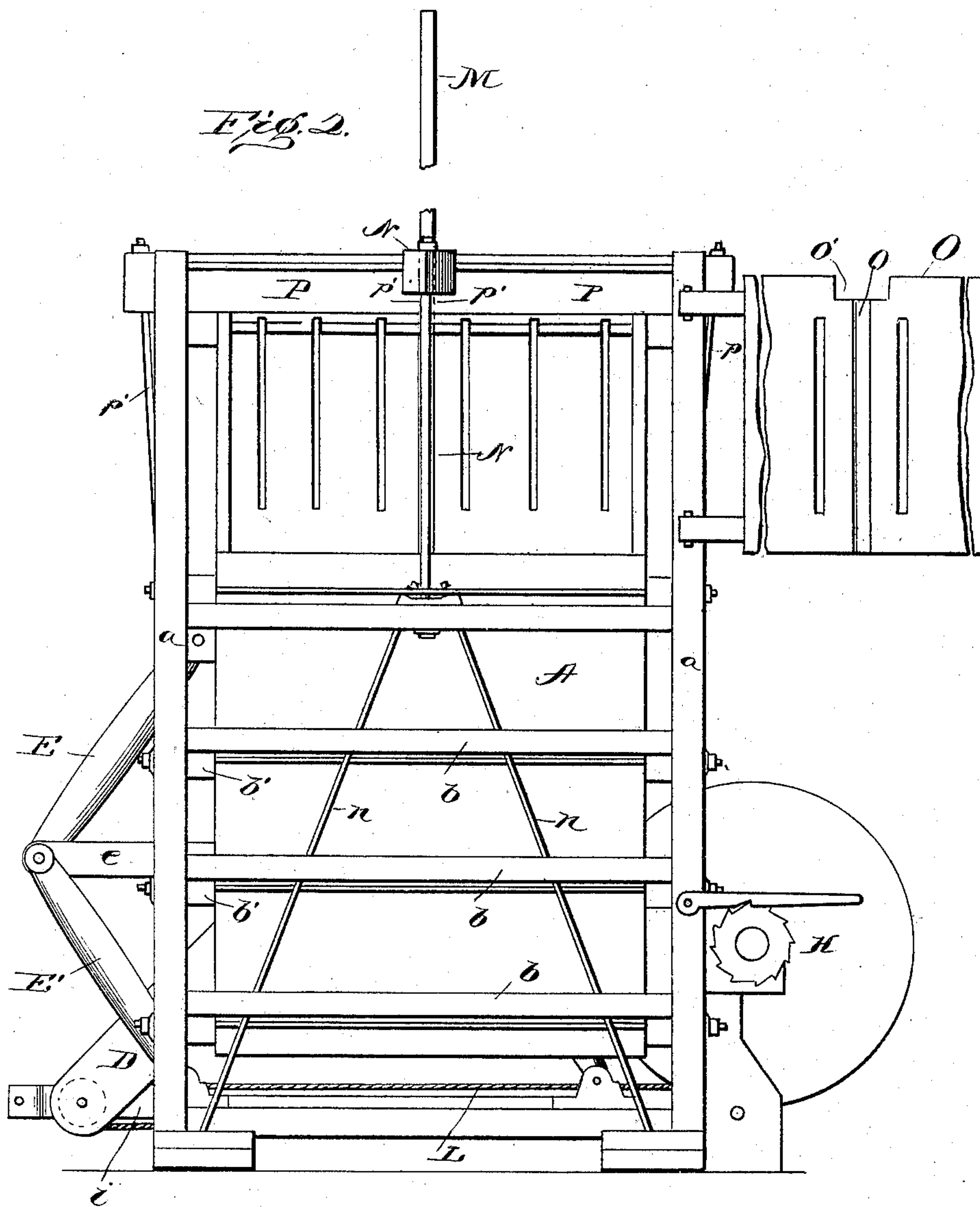
Patented Sept. 6, 1898.

P. K. DEDERICK.  
BALING PRESS.

(Application filed Feb. 8, 1897.)

(No Model.)

3 Sheets—Sheet 2.



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Fig. 3.

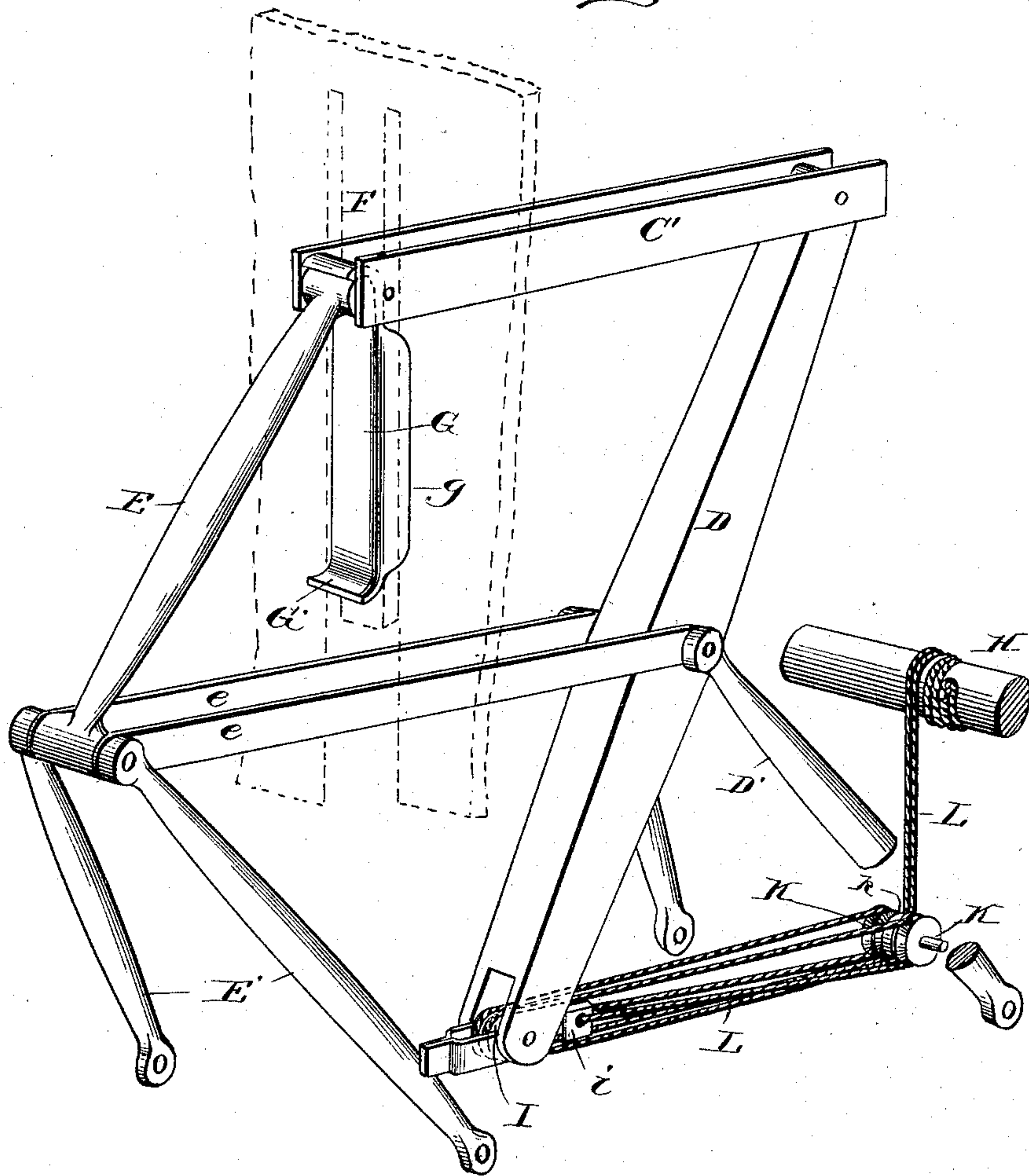
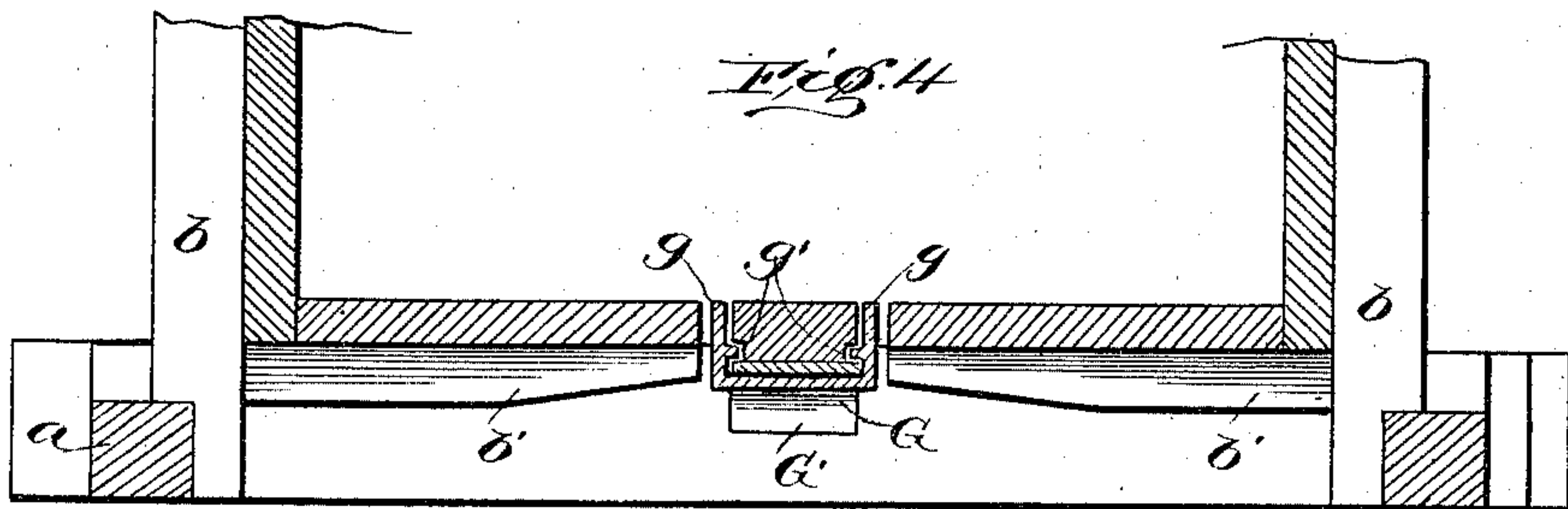


Fig. 4.



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# UNITED STATES PATENT OFFICE.

PETER K. DEDERICK, OF LOUDONVILLE, NEW YORK.

## BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 610,168, dated September 6, 1898.

Application filed February 3, 1897. Serial No. 621,856. (No model.)

*To all whom it may concern:*

Be it known that I, PETER K. DEDERICK, of Loudonville, in the county of Albany and State of New York, have invented certain new and 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 to the letters of reference marked thereon.

This invention relates to improvements in baling-presses of the upright type or in which the material to be compressed is pushed upward by a rising traverser, although it will be understood that the specific features of the invention may be applied to other presses, if found desirable.

The invention consists in certain novel details of construction and combinations and arrangements of parts, all as will be now described, and pointed out particularly in the appended claims.

Referring to the accompanying drawings, Figure 1 is a vertical section taken through a baling-press constructed in accordance with my present invention, certain of the parts being shown in elevation to prevent confusion. Fig. 2 is a side elevation with the side of the bale-chamber thrown open. Fig. 3 is a perspective view of the power-levers and flexible connections. Fig. 4 is a transverse section on the line 4 4, Fig. 1. Fig. 5 is a detail perspective view looking at the inner side of one of the heads and showing the corner-pieces which are applied to the heads and traverser.

The letter A indicates the press-case proper, which may be of the usual or any preferred style, preferably, however, having corner-posts *a* and girths *b*, with sectional girths *b'* at the power edge, or edge through which the power-levers work. The inner walls of the press-case are, as shown, made relatively smooth, and at the upper end provision is made for introducing the hay or other material to be baled and for compressing the same by means of a traverser C, working in the press-case and adapted to be elevated by the power mechanism. This latter mechanism consists, primarily, of a toggle-lever D, pivotally connected at the upper end to the traverser and hinged at an intermediate point

to toggle-arms D', which latter are pivotally supported from the bottom of the press-case. The supporting timbers or sills of the traverser at the center, preferably two in number, (lettered C',) Fig. 3, extend through slots in the side of the casing and have jointed between them a toggle-arm E, hinged at its lower end to the upper ends of toggle-arms E' and connected at or near the joint by links *e* with the toggle-lever D at a corresponding point. Such arrangement when power is applied to the lower end of the toggle-lever will give the traverser a vertical movement and enable the full force of the toggle arrangement to be utilized in compressing the material.

The tongue F, which projects down between the slots through which the sills C' extend, is cut away at the lower end to provide an opening through which the end of the toggle-lever D may project when the power is lowered, and inasmuch as this opening, which must of necessity be relatively large, would permit the hay or other material to be baled to push out when it is first tramped into the press-case, I provide a sliding gate G, which fits around the tongue F and is adapted to be raised and lowered by the operation of the power mechanism. It is preferably provided with flanges *g*, which project in flush with the inner surface of the tongue, and with ribs or projections *g'*, Fig. 4, working in corresponding grooves in said tongue, whereby it is held in place and permitted to work up and down with a certain degree of friction. The friction is preferably sufficient to maintain it in its position on the tongue, unless moved positively by the power mechanism, and to accomplish this purpose it is provided with end projections G', which engage the upper end of the toggle-arm E or some part moving with the traverser, and in operation when the traverser is lowered the sliding gate is drawn down and when it is raised the sliding gate is elevated, as shown in Figs. 1 and 3; but under no circumstance can the traverser be lowered without the gate is lowered and the opening closed sufficiently to prevent the material from projecting therethrough.

The power is imparted to the toggle-levers through the medium of a flexible connection, which extends to a windlass, such as H, although any preferred form of winding mech-



anism may be employed, and inasmuch as it is desirable to employ a flexible connection or rope of as small diameter as practicable I have devised a special rigging which permits  
 5 of the use of a wire rope of small diameter and great flexibility, and at the same time the full strength of more than one strand of the rope is secured without unduly straining any particular strand. To accomplish this end, a  
 10 double pulley I is journaled in the end of the toggle-lever, together with a shackle or loop *i*, as shown in Fig. 3, and a double pulley K is journaled in the casing in such position that a double rope, such as L, Fig. 3, may extend  
 15 from the winding mechanism around the pulleys in the toggle-lever back around the pulleys in the casing and thence in a single strand through the shackle or loop *i*. Thus there is permitted a certain amount of play  
 20 back and forth through the shackle or loop *i*, which is sufficient to even up the pressure upon both strands of the rope or flexible connection and throw an equal strain upon each. In the particular arrangement shown the  
 25 windlass H is located on the press-case, and therefore a third or central pulley *k*, Fig. 3, is made necessary in order to turn the rope up to the windlass.

It will be noticed that by this arrangement  
 30 there are in effect two separate systems of tackling, each having its rope starting from the drum or windlass and running over independent pulleys I and K on the lever D and frame, respectively, and finally the two sys-  
 35 tems are united, so as to insure an equal strain in each, by connecting the inner terminals of the ropes together through the shackle or loop *i*. This construction allows the rope to render through the loop and by means of it rela-  
 40 tively small wire cables may be employed, which will bend around small pulleys readily and effectually relieve the working mechanism from any stiffness of action, which is present where a large cable is used. The life  
 45 of the cable is prolonged and the height of the press reduced materially owing to the small size of the pulleys or sheaves employed.

The press shown is primarily designed for the formation of two bales at once, to accom-  
 50 plish which ends the casing is made relatively large, and a vertically-moving partition M is attached to the center of the traverser and works out through an opening in the top of the press-case, and with a view to giving a  
 55 sufficient support to the central portion of the top of the press-case I now employ transverse timbers N, between which the movable partition works, and through the ends of these timbers I pass vertical bolts, such as N', Fig. 2,  
 60 which bolts extend down through the girths, or, if desired, through the top girth only, and the latter girth is braced by supplemental tie-rods *n*, which extend down through the remaining girths and are connected by proper  
 65 means with the press-sills. This tie-rod N', it will be observed, while giving the maximum strength to the upper portion of the

press-case, nevertheless does not obstruct the side entrance to any appreciable degree. It overcomes entirely the necessity of employing  
 70 heavy cross-timbers extending from edge to edge of the press, as has heretofore been customary, besides enabling the corner-post to be reduced in height and the whole structure to be made very much lighter. The door or  
 75 doors O for closing the side openings to the bale-chamber may have vertical recesses *o* for the tie-rod N' and at the top edge are preferably provided with transverse openings or recesses *o'*, into which the ends of the cross-  
 80 timbers N project when the doors are closed and whereby any lateral movement of said cross-timbers is effectually prevented. If desired, the ends of said timbers may, as shown in Fig. 2, be beveled off to facilitate their en-  
 85 trance into such transverse openings.

To close the upper end of the press-case, I preferably employ oppositely-swinging heads P, mounted at their outer ends on relatively  
 long sway-bars *p* and adapted to have their  
 90 inner ends *p'* project beneath the transverse timbers N, whereby the heads are held in place without further fastening mechanism.

In order to form bales with sharp corners and at the same time impress into such cor-  
 95 ners suitable recesses for the bale bands or ties, I employ corner-pieces Q on the edges of both the traverser and heads P. These corner-pieces are shown in detail in Fig. 5, and it will be seen that they are "hollowed  
 100 out," so to speak, or are made skeleton-like, with triangular ends *q*, and between each of the corner-pieces and the next adjacent corner-piece is left the space through which the tie or band is passed. This space is so nar-  
 105 row that the material being baled will not enter the same, but will enter the angular recesses within the corner-piece, the result of which arrangement is that the corners of the bale, while being formed square and regu-  
 110 lar in general outlines, will at suitable intervals have grooves or depressions therein for the ties.

The advantage of this construction will be apparent when it is remembered that in the  
 115 ordinary manipulation of presses the ties are simply drawn around the bale and fastened, and the result is that a longer tie than is necessary has to be employed, and, furthermore, when the traverser is released the bale swells  
 120 or enlarges until the ties have cut into the corners a sufficient distance to find a firm seat; but with this arrangement such recesses are already formed when the tying operation takes place, and as a result shorter ties may  
 125 be employed and the bale when released will be held to substantially the dimensions to which it was compressed by the traverser.

It will be understood that while I have described and termed the parts lettered N  
 130 "transverse timbers" I do not wish to be understood as limiting myself to what might be specifically termed "timbers," inasmuch as it is obvious that this transverse support may



be made in the form of a casting or unitary piece of any character.

Having thus described my invention, what I claim as new is—

5 1. In a baling-press, the combination with the press-case, the traverser working therein, the power-levers and a drum or windlass, of duplicate systems of tackling, the cables of which pass over pulleys on the frame and lever respectively and unite through a clevis  
10 at one end to render therethrough and at their opposite ends are connected with the drum or windlass; substantially as described.

15 2. In a baling-press, the combination with the press-case, traverser, power mechanism and heads opposing said traverser, of skeleton corner-pieces having internal recesses corresponding to the configuration of the edges of the bale and end pieces projecting into the  
20 corners of the bale for forming the seats for the ties; substantially as described.

25 3. In a baling-press, the combination with the press-case, and movable traverser, of angular corner-pieces for forming the edges of the bale having tie-spaces between them and having their central portions recessed to form the square edge of the bale; substantially as described.

30 4. In a baling-press, the combination with the press-case, slotted vertically, the traverser working therein and the power mechanism connected with said traverser through the slot, of a sliding gate working in said slot and projections on said gate cooperating with the  
35 power mechanism to move the gate vertically when the power mechanism is moved, the dis-

tance between said projections being sufficient to permit the power mechanism to have a limited independent movement; substantially as described.

40 5. In a baling-press, the combination with the press-case, having the vertical slots and intermediate tongue cut away at the lower end, of the traverser working in the press-case, the power mechanism connected with  
45 the traverser through said slots and working through the opening beneath the tongue, of a sliding gate mounted on said tongue and forming an extension thereof, when lowered to close said opening and projections on said  
50 gate cooperating with the power mechanism to move the gate as the power mechanism approaches opposite extremes of its movement; substantially as described.

55 6. In a baling-press, the combination with the press-case, having the vertical slots and intermediate tongue, the traverser and the power mechanism working through the press-case beneath the tongue and connected with  
60 the traverser through said slot of the sliding gate mounted on said tongue and adapted to project below the same to close the opening, said gate having flanges projecting flush with the inner side of said press-case and having  
65 outwardly - extending projections between which the power mechanism works and whereby the gate is moved up and down; substantially as described.

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