

(No Model.)

D. L. HANNAY.

BALING PRESS.

No. 368,393.

Fig. 1 Patented Aug. 16, 1887.

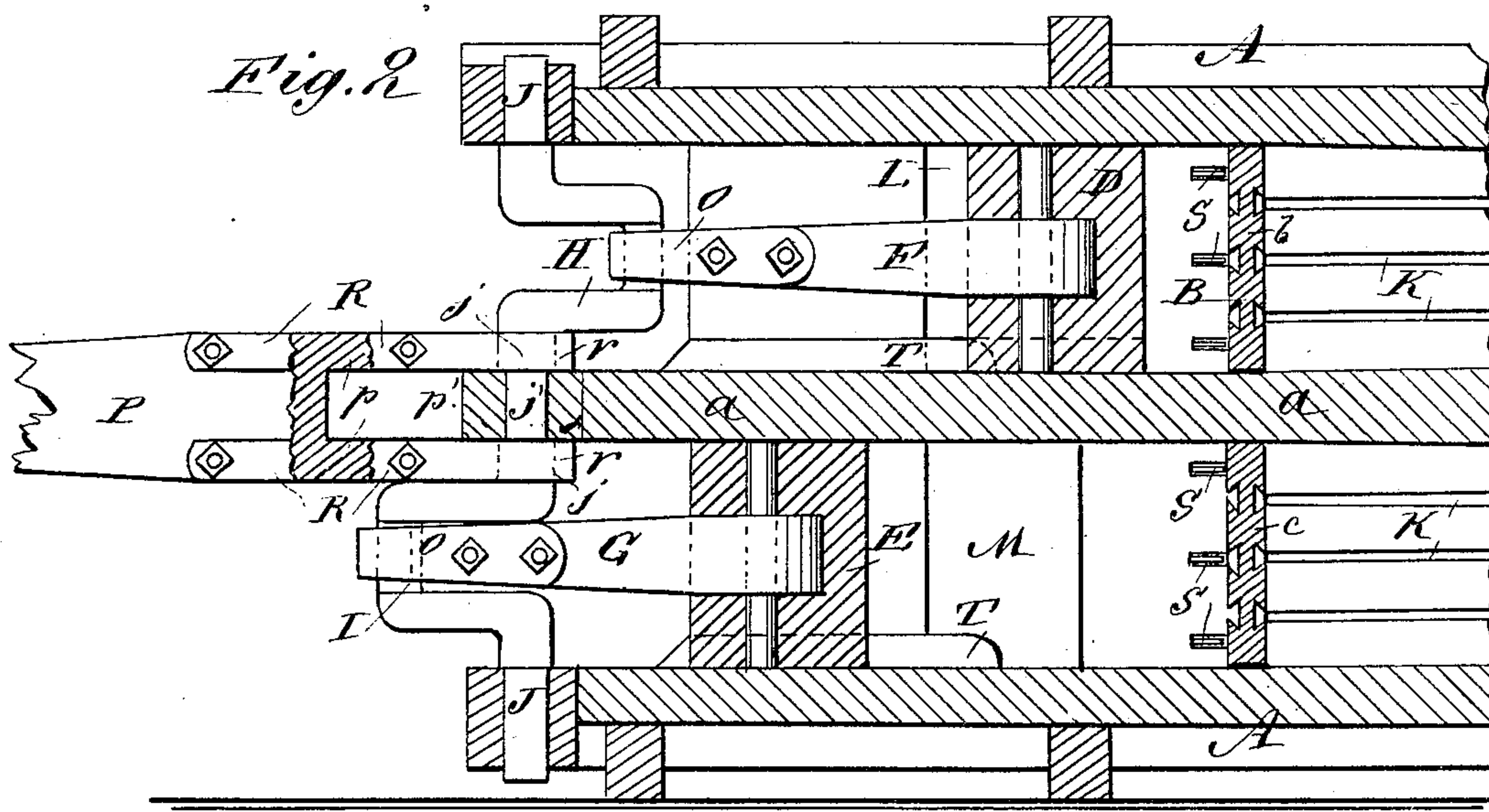
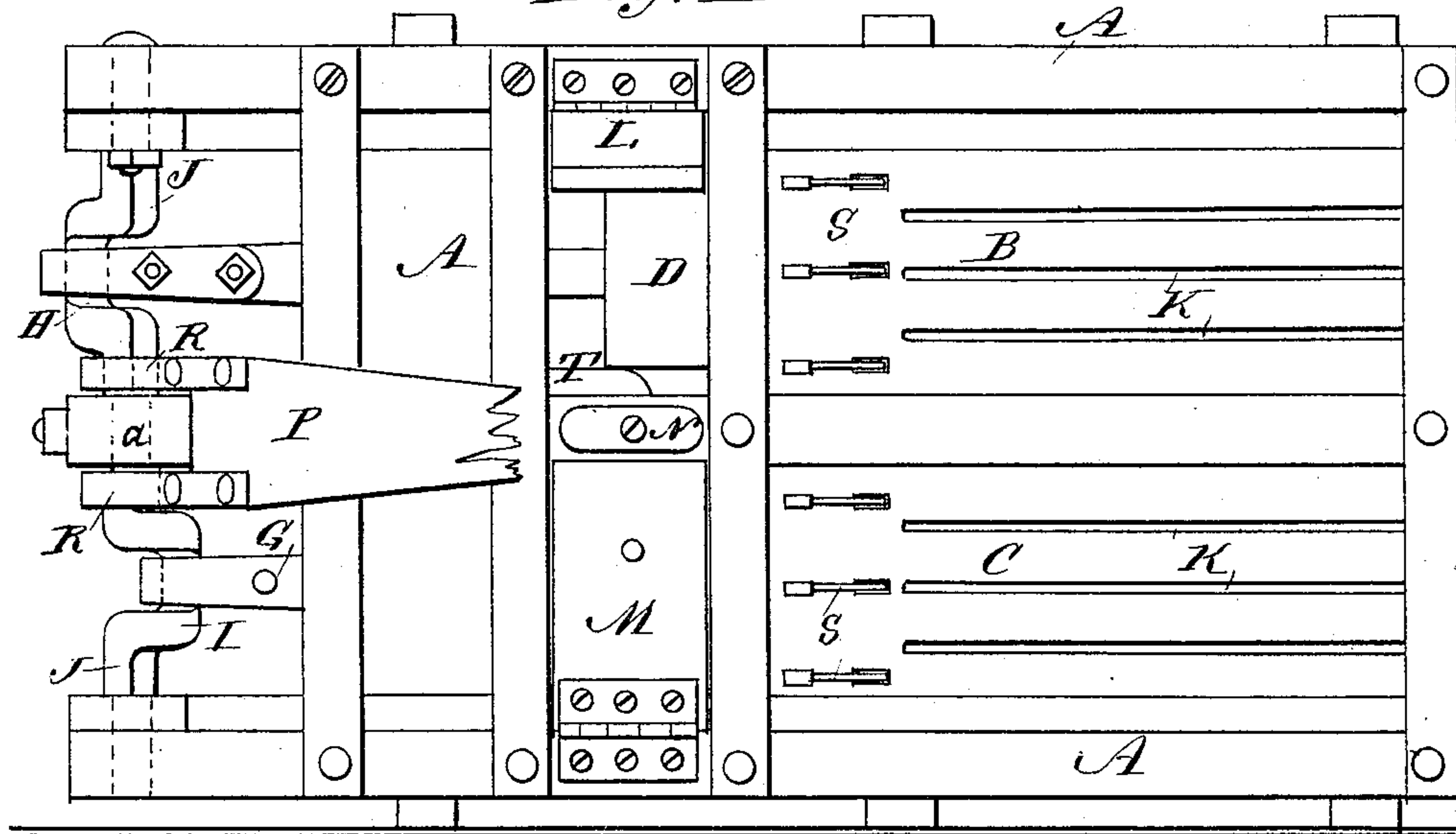
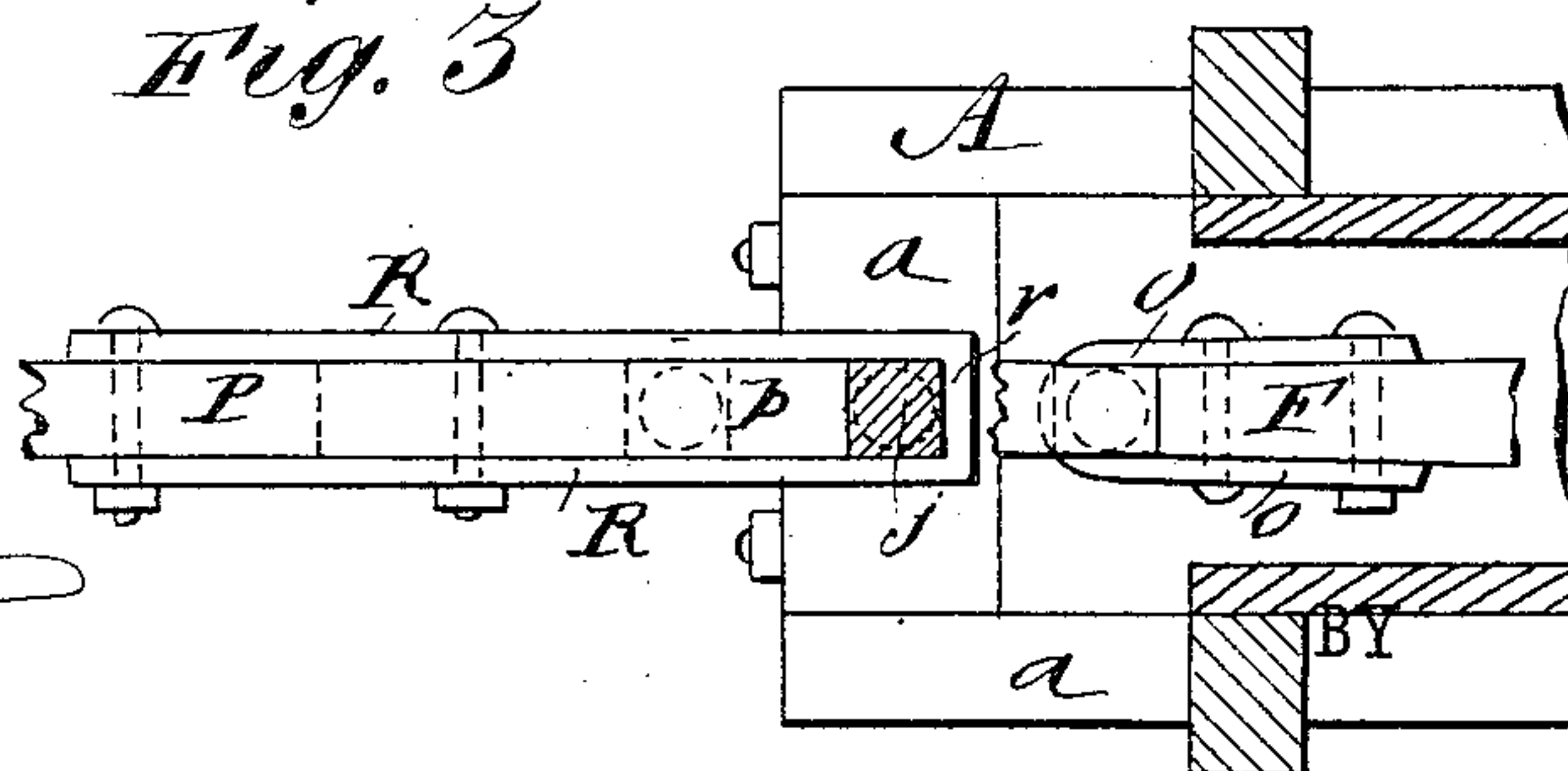


Fig. 3



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DAVID L. HANNAY, OF GREENVILLE, NEW YORK.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 368,393, dated August 16, 1887.

Application filed February 5, 1887. Serial No. 226,700. (No model.)

To all whom it may concern:

Be it known that I, DAVID L. HANNAY, of Greenville, in the county of Greene and State of New York, have invented a new and Improved Baling-Press, of which the following is a full, clear, and exact description.

My invention relates to baling-presses, more particularly of that class known as "continuous balers," and has for its object to provide a simple, comparatively inexpensive, and effective press of this character which will form compact bales with economy of time and labor of attendants.

The invention consists in certain novel features of construction of parts of the press, especially of the plunger-actuating mechanism, all as hereinafter described and claimed.

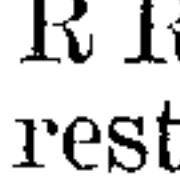
Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the case or body portion of my improved press with the sweep partly broken away and the feed-door of the upper baling-box open. Fig. 2 is a vertical sectional side elevation of the press-case, partly broken away, and showing the plungers and their operating mechanism in other relative positions; and Fig. 3 is a detail plan view illustrating more particularly the connection of the sweep to the cranked shaft which operates the two plungers of the press.

The press case or body A is made with two baling boxes or chambers, B C, one arranged directly over the other, and wherein, respectively, are fitted the plungers D E, which are connected by their pitmen F G, respectively, with oppositely-set cranks H I of a shaft, J, which is journaled at its center and upper and lower ends in the press-case frame, as most clearly shown in Fig. 2 of the drawings.

The baling-boxes B C are made tapering toward their outer ends, which are open to allow discharge thereat of the bales after they are bound by ties introduced at side slots, K, in the press-case walls, one tied bale being forced out of the baling-boxes by the pressure of the plunger in forming a bale behind it, and the rearward taper of the baling-boxes assures necessary resistance to the discharge of the bales to give proper density to those being formed

between grooved spacing-blocks *b c* in the baling-boxes, the operation in these respects being similar to other presses of this class known as "continuous baling-presses." Feed-doors L M are hinged at opposite sides of the upper and lower baling-boxes, B C, respectively, to allow the hay, straw, or other material to be baled to be fed into the boxes behind the plungers D E, operating therein, a button or latch, N, being provided on the case to hold either door or both doors closed.

The plungers F G are connected to the rounded wrists or cross-bars of the respective cranks H I by metal shackles O, bolted to the ends of the pitmen. The sweep P, to the outer end of which the horse or horses will be hitched for operating the press, is forked at its inner end, providing projecting arms *p p*, with a space or opening, *p'*, between them. The ends of these arms *p p* abut one flat face of squared parts *j j* of the main crank-shaft J, formed above and below the central rounded part, *j'*, of the shaft, which has a bearing in the horizontal central part, *a*, of the press-case, and to these parts *p p* of the sweep, and to the body of the sweep next to them, are fixed a couple of shackles or coupling irons, R R, of  form, and the cross-bars *r r* of which rest against the flat faces of the squared parts *j j* of the crank-shaft, directly opposite the abutting ends of the arms *p p* of the sweep, while the opposite sides of the straps R R lap over the other two opposite sides of the parts *j* of the shaft, and whereby the sweep will have a very substantial connection to the shaft and project in a plane parallel with the reversely-set cranks of the shaft for turning it to operate the plungers in the press-case. The space *p'* between the sweep-arms *p p* allows the sweep to swing around as far as necessary to both sides of the press-case without contact with the corner of the central part, *a*, of the case, and the sweep will stop against the sides of said part *a* of the case at the extremes of its stroke.

The cranks H I of the shaft J are arranged directly opposite each other; hence it will appear that while the plunger D is being forced rearward to press material which had been fed into either upper door, L, of the upper baling-box, B, the plunger E in the lower

bal-ing-box, C, will be carried backward, while the material which it had pressed will be held from undue expansion by retainers S, of any approved construction, fitted into the walls of the bal-ing-box, both boxes B C having these retainers for a similar purpose.

It is obvious that the expansion of the hay or other material in either of the bal-ing-boxes, and before said expansion is checked by the retainers S, will assist the forward or effective stroke of the plunger in the other box.

It will be seen that when the sweep is moved to its extreme of stroke in either direction the cranks will not stand at or near their dead-centers, as in other presses, and this is due to the connection of the sweep to the shaft about in the plane of the shaft-crank; hence the pressure of the hay in expanding in one bal-ing-box will have full effect in aiding the effective stroke of the plunger in the other box, and the leverage of the cranks will be greatest when the most power is needed—viz., at the extremes of movement of the sweep.

Bars T, fixed to the floors of the bal-ing-boxes, form guides to the plungers and do not interfere with the feed of the material through the open doorways, and the press may be fed from either side or both sides of both the bal-ing-boxes, thereby assuring rapid baling of the material and effecting economy of time and labor in the work.

It will be understood that the press-case is to be mounted on a suitable wheeled truck, which is not shown in the drawings, and may be of ordinary or approved construction.

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

1. In a bal-ing-press, the combination, with the press-case and a power-shaft journaled therein, and provided with reversely-set cranks connected to operate plungers in the case, of a sweep rigidly connected to the shaft in the plane of the cranks, substantially as shown and described.

2. A bal-ing-press constructed with two open-ended bal-ing-boxes arranged one over the other and provided with feed-doors, two plungers, one fitted in each box, pitmen connected to the plungers, a power-shaft having reversely-set cranks to which the plunger-pitmen are connected, and a sweep, P, connected directly and rigidly to the shaft in the plane of the cranks, substantially as shown and described.

3. The combination, in a bal-ing-press, of a case, A, having bal-ing-boxes B C, provided with doors, as LM, plungers D E, fitted therein, pitmen F G, connected to the plungers, a power-shaft, J, journaled in the case and having reversely-set cranks H I, to which the pitmen F G are connected, and a sweep, P, connected directly and rigidly with the shaft J in the plane of the cranks, substantially as described, for the purposes set forth.

4. In a bal-ing-press, the combination, with a press-case and a power-shaft, J, journaled in the case and provided with reversely-set cranks, and connected to operate plungers in the case, substantially as specified, of a sweep, P, having a forked end providing arms *p p*, which abut flat faces of the power-shaft, and coupling-irons secured to the sweep and bearing at their cross-bars *r* and at opposite sides upon other flat faces of the shaft, said sweep being secured to the shaft to project in the plane of the cranks thereof, substantially as shown and described.

5. The combination, with a cranked power-shaft of a bal-ing-press, of a sweep abutting by its end a flat face of the shaft, and coupling-irons, as R, engaging the opposite flat face and opposite flat sides of the shaft, and secured to the sweep to connect it rigidly to the shaft, substantially as shown and described.

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Witnesses:

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