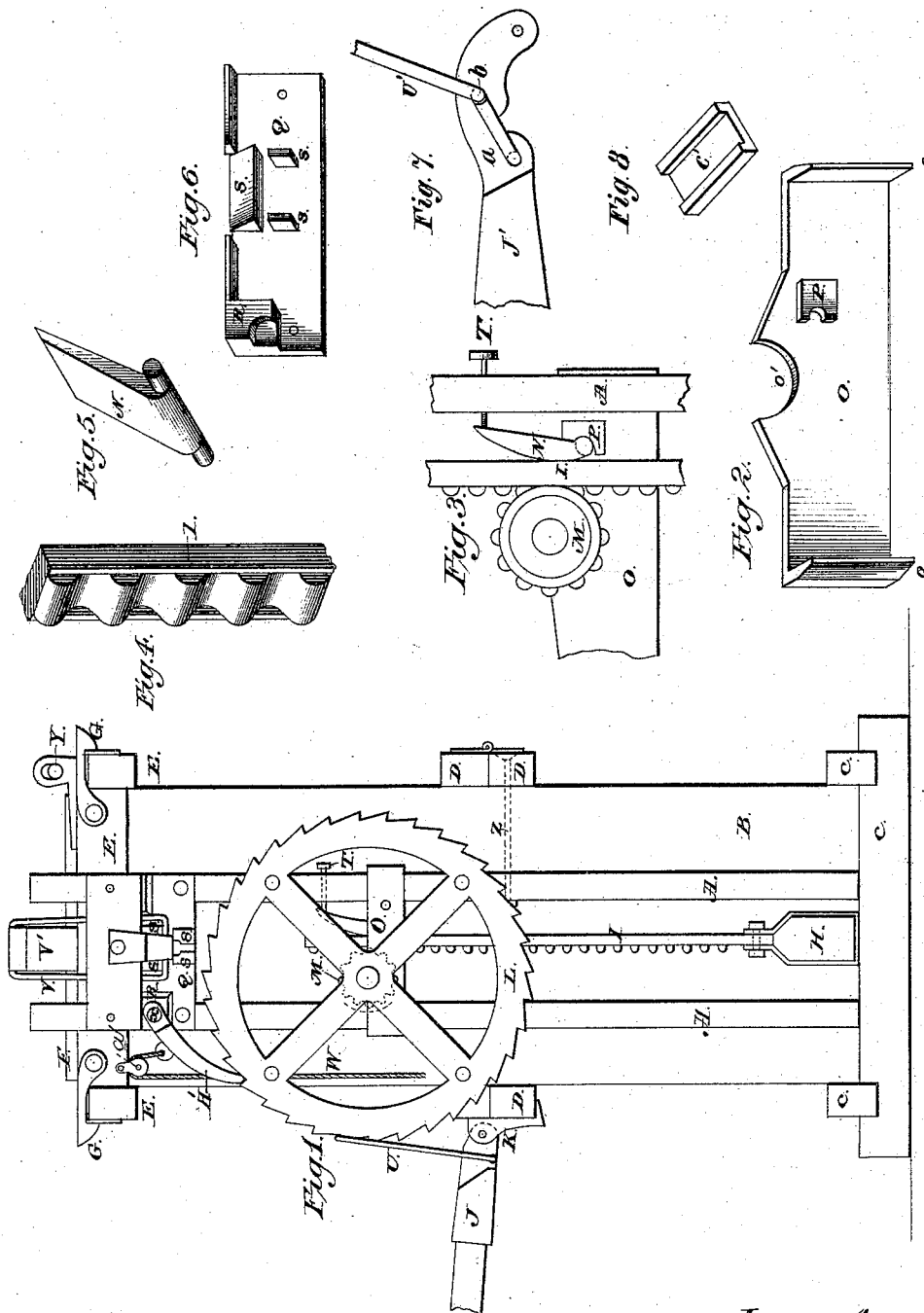


J. H. BARNES.
HAY AND COTTON PRESS.

No. 182,053.

Patented Sept. 12, 1876.



Attest:

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UNITED STATES PATENT OFFICE.

JOHN H. BARNES, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN HAY AND COTTON PRESSES.

Specification forming part of Letters Patent No. **182,053**, dated September 12, 1876; application filed February 14, 1876.

To all whom it may concern:

Be it known that I, JOHN H. BARNES, of Baltimore, in the county of Baltimore and State of Maryland, have invented certain Improvements in Hay and Cotton Presses, of which the following is a specification:

This invention relates to certain improvements in presses for baling hay, cotton, &c.; the object of the invention being to construct a press which is very powerful, efficient, and simple of construction.

This invention consists in a novel construction and combination of parts, which will be fully hereinafter described, and specifically pointed out in the claims, a preliminary description of the invention being unnecessary.

In the drawing, Figure 1 is an end elevation of a press embodying my invention; Fig. 2, a detached view of a tie-beam for supporting the journal of the pinion which operates the rack-bars to raise and lower the follower; Fig. 3, a detached view of the tie-beam pinion for operating the rack-bars, and key for holding bars in gear with the pinions; Figs. 4, 5, 6, 7, and 8 are detail views, which will be hereinafter described.

In the drawings, *c* represents the base or foundation; B, the box, in which the hay, cotton, &c., is placed to be pressed into a bale, and A A are two upright parallel beams, arranged at each end of the box B. The upper ends of the beams are connected and braced by an iron head-plate, Q, which is provided with upper and lower bosses or projections *s s*, between which the link V is hung so as to swing, in order to engage or release the ends of the beams V', which are arranged on the removable or hinged top F of the box B, in order to admit of the hay, &c., being placed in said box, when the top can be confined in place by the links V. Each side of the box is provided with a hinged door, having at their upper ends a beam, E, the ends of which are constructed to be engaged by pivoted hooks G, for holding said doors shut while the pressing operation is being performed, these doors serving to permit the bale to be removed. Near the center of the upright beams A, on the inside and outside of the same, is arranged a cross or tie beam, O, which is provided at each end with a flange, *o*, which embraces the

sides of the beams, and the tie-beam is provided with a semicircular recess, *o'*, which affords a bearing for the shaft of the pinion M, as hereinafter described. This pinion gears with a rack-bar, I, attached at the lower end to a beam, H, which carries the follower which compresses the cotton, &c. Upon the tie-beams O is arranged a lug, P, provided with a recess, forming a seat for the key N, which is journaled in said recessed lug P. Through one of the beams A passes a set-screw, T, which acts on the upper free end of the key N, so that, by adjusting said screw, the key can be forced against the rack-bar I, in order to keep it in gear with the pinion M. To the outer end of the shaft of the pinion M is attached a driving-wheel, L, having its periphery provided with ratchet-teeth, and to the head-plate Q is pivoted a pawl, H', which engages with the ratchet on the driving-wheel L, and serves to prevent said wheel from being reversed when the follower is being elevated by revolving the wheel L, which causes the pinion M to act on and raise the rack-bars I. Said pawl H' can, however, be raised from engagement with the ratchet-wheel L by means of a rope or cord, W, passing over a pulley, *a'*, and connected with the pawl. This is to permit the wheel L to be reversed in order to lower the follower. To a beam, D, secured to the side of the box B at a point about even with the lower periphery of the wheel L, is arranged a bracket, K, between which is pivoted a lever, J, carrying an upwardly-projecting link, U, which engages the ratchet-teeth on the wheel L, and when the lever J is depressed it causes the link U to act on and turn the wheel, and thereby the pinion M acts on the rack-bar, and elevates the follower. The link U is pivoted to the lever, so as to swing out of the way when it is necessary to reverse the motion of the wheel L to lower the follower. This lever and its link may be arranged as shown in Fig. 1; or the lever may be constructed with an oblique slot, *a b*, (see Fig. 7,) and the link arranged in said slot so that it can be set in the upper end of the oblique slot, and the key *c'*, Fig. 8, placed in the vacant space in the slot, when the link will only engage one tooth at a time on the wheel L, or by arranging the end of the link in the lower end of the slot, and

inserting the key *c'* in place, the link is caused to engage two teeth at a time. I would here remark that both ends of the press are exact duplicates of each other, and I have only deemed it necessary to show and describe the invention as applied to one end.

What I claim, and desire to secure by Letters Patent, is—

1. In a press for baling purposes, the combination of the upright beams *A*, cross or tie beam *O*, pinion *M*, driving-wheel *L*, rack-bar *I*, and adjustable key *N*, substantially as described.

2. The combination, with the rack-bar *I* and its follower, pinion *M*, and ratchet-wheel *L*, of the

pivoted lever *J*, link *U*, and pawl *H'*, substantially as described.

3. The uprights *A A* and the head-plate *Q*, provided with lugs *s s*, in combination with the links *V* and beam *V'*, arranged on the top door *F* of the press, substantially as described.

4. The combination, with the pinion *M*, rack-bar *I*, and upright beam *A*, of the key *N* and a set-screw, *T*, substantially as and for the object specified.

JNO. H. BARNES.

Witnesses:

W. E. CHAFFEE,

R. H. WHITTLESEY.