

2 Sheets—Sheet 1.

BALING PRESS.

Patented Aug. 19, 1884.

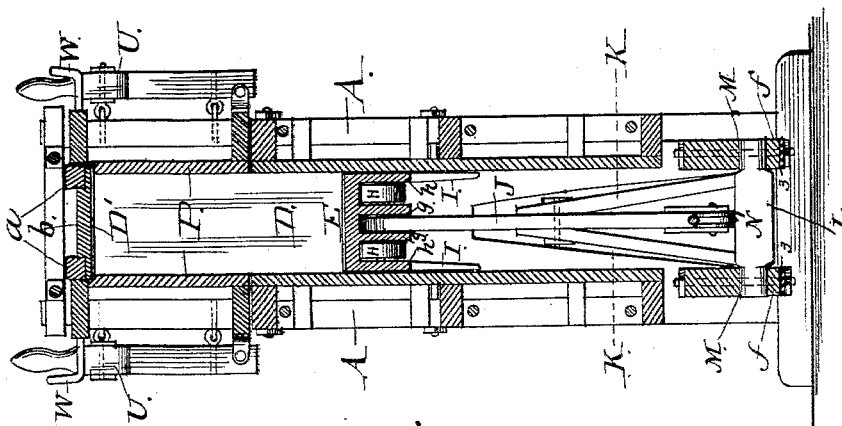


Fig. 2.

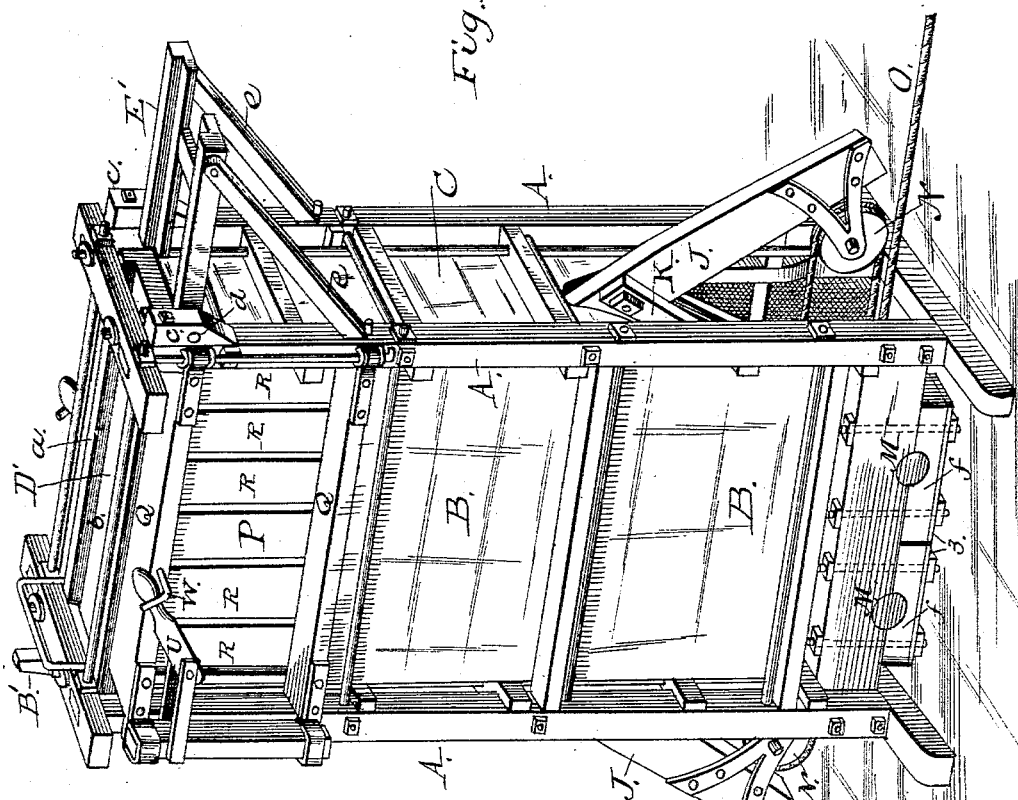


Fig 1

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(No Model.)

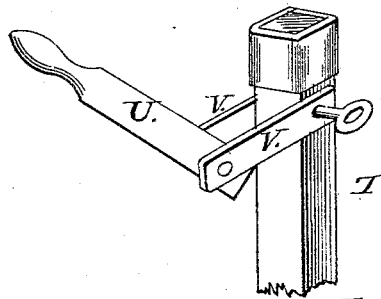
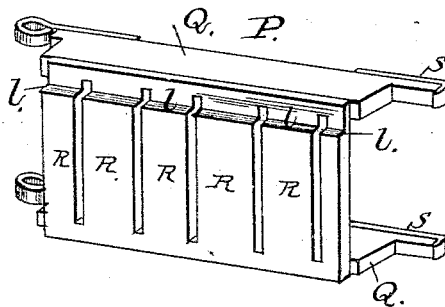
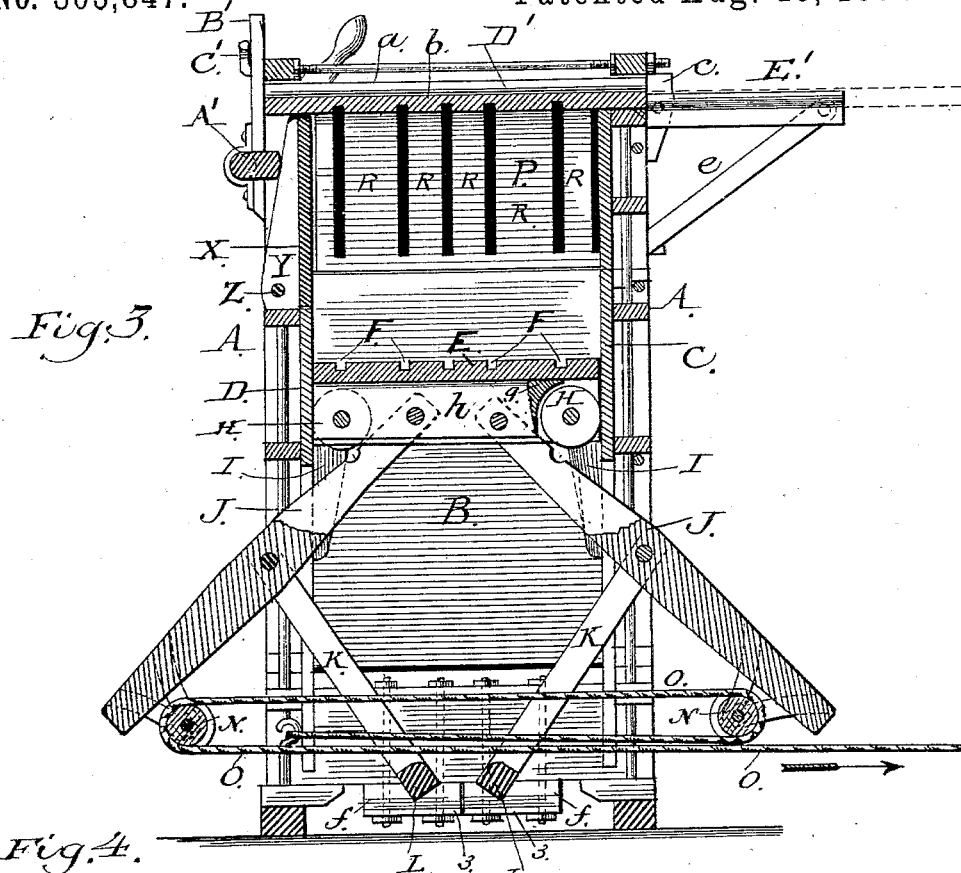
2 Sheets—Sheet 2.

D. B. HENDRICKS.

BALING PRESS.

No. 303,847.

Patented Aug. 19, 1884.



Witnesses;

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UNITED STATES PATENT OFFICE.

D. BRODHEAD HENDRICKS, OF GLASCO, NEW YORK.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 303,847, dated August 19, 1884.

Application filed June 18, 1884. (No model.)

To all whom it may concern:

Be it known that I, D. BRODHEAD HENDRICKS, a citizen of the United States, and a resident of Glasco, in the county of Ulster and State of New York, have invented certain new and useful Improvements in Baling-Presses; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my improved baling-press, showing it open. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a vertical cross-section. Figs. 4 and 5 are details to be referred to.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to that class of baling-presses in which the plunger or follower travels upward, operated by toggle-levers; and it is an improvement on Letters Patent No. 295,122, granted to me March 11, 1884.

In the accompanying drawings, the letter A indicates the upright rectangular frame, the wider sides of which are closed by walls B, extending from the lower end to a distance from the top of the frame, about one-third of the height of the frame being thus left open at the upper end of the same. The narrower sides or ends of the frame are covered by walls C and D, one wall, C, of which extends to the top of the frame, and has a slot at its lower end, allowing the toggle-levers to be extended, while the other side, D, may extend to the same height as the wider sides or walls, and is slotted at its lower end in the same manner as the opposite wall.

E is the plunger or follower, the upper side of which is grooved transversely at F for the insertion of the wires or hoops used in tying the bale. The under side of the follower is provided with four longitudinal beams, *g h*, the two center ones, *g*, being recessed at their ends for the reception of the guide-rollers H, which travel upon the inner sides of the two ends of the casing. The two outer beams, *h*, are provided with downwardly-projecting arms I, one at each corner of the follower, so as to regulate

the follower and remove the friction of the same in passing up and down in the press.

The upper ends of the long upper toggle-arms, J, are pivoted between the longitudinal beams *g*, at the under side of the follower, and near the longitudinal center of the same, and the said toggle-arms are again pivoted at their centers between the upper ends of two pairs of lower toggle-arms, K, the lower ends of which are secured to cross-pieces L, forming trunnions at their ends, journaled in transverse bearings M in the lower end of the press-frame, near the middle of the same. The trunnion-blocks *f* are formed, preferably, in two pieces, and secured by heavy plates 3, and bolts with threaded ends passing through the plates and blocks and into the base-timber secure all the parts together, while nuts on the bolts regulate the bearing of the trunnion by raising or lowering the blocks, each independent of the other.

Two sheaves, N, are journaled at the outer or lower ends of the long toggle-arms, and a rope, O, secured at one end to the frame, passes over these pulleys, and may be attached to a capstan or similar means for drawing it at its other end, the rope serving to draw the ends of the long toggle-arms together, thereby raising the follower.

The open sides of the upper portion of the press-box or frame are closed by two hinged doors, P, opening to the sides, which doors are composed of two longitudinal bars, Q, hinged to the posts of the frame, as shown in Figs. 1 and 4, and a number of vertical slats, R, secured to the inner sides of the longitudinal bars, having spaces between them for the insertion of the tying wires or hoops. The free ends of the longitudinal bars of the doors are cut out to rest, with the reduced ends S, thus formed, against the outer sides of the corner-posts, and the said reduced ends are secured or locked by means of a vertical locking-bar, T, (which is provided with a bearing-plate at each end, as shown,) hinged upon the outer side of the corner-post, swinging over the ends of the longitudinal bars, and an arm, U, pivoted at one end between two lips, V, projecting from the locking-bar, is adapted to be held in a hook or catch, W, upon the outer side of the door, preventing the locking-bar

from swinging out from the ends of the door. A plate, X, having two or more vertical reinforcing bars, Y, is pivoted at its lower end above the upper end of the side D of the frame upon a rod, Z, passing transversely through the re-enforcing bars, and secured at its ends in the corner-posts, so as to have a small amount of play for its upper end, and an eccentric cross-bar, A', is pivoted transversely upon the corner-posts of the frame, near the upper end of the pivoted plate, and has a pivoted handle, B', at its upper side, which may be caught in a hook, C', upon the upper end of the frame, the said eccentric cross-bar serving to force the upper end of the plate inward when the handle is released, allowing the compressed bale to expand longitudinally and release the bail near the upper edge of the doors, and on their inner sides the slats are cut away a portion of their length, so as to form shoulders l, upon which rest the top of the press. This top, which I have designated in the drawings as D', consists of two longitudinal bars, a, joined together by means of a partition or bottom, b, the sides of which rest upon the shoulders l, formed on the slats. The lower face of the top is grooved transversely in such manner that the said grooves, when the top is closed, will align themselves with the spaces left between the slats R of the hinged doors P, and also with the grooves in the follower, and upon the upper surface of the top may be secured a bail or handle, to assist in sliding the said top endwise.

Upon one end, C, of the frame A, I secure two bearings, c, in which are journaled the pivot-pins d of a swinging frame or platform, E', which consists of two side rails or guides, and a cross-bar, the side rails being formed with ways, on which travels and upon which is supported the top D' when the said top is drawn from out of its normal position. Near the outer ends of this platform are pivotally secured two arms or braces, e, and on the frame are lugs or stops, against which the braces e bear when the frame is raised in the position shown in Fig. 1. When not in use the frame and braces are permitted to drop down to the side of the press. Thus I am enabled by this construction to more rapidly and economically handle the product placed within the press. This is an important feature in the construction of my press, as the hinged doors P, which are composed of two longitudinal bars placed at the extreme ends of the slots, as before described, are so arranged as to admit of a free passage for the tying-bands or wires, by passing them through the upper ends of the open slots immediately after the pressing of the hay or other material is begun, and returning the wire or band as soon as the follower is up to the lower end of the slotted door, and the hooking or tying is begun as soon as the hooks can be gotten together. All of this is accomplished while the bale is being pressed to completion, and

without the interference of any bars, slats, or anything, which is of great importance, first, in holding the material pressed in its compact shape; and, secondly, by using shorter ties or wires, and of great value, as proven by experience, the saving of much time and labor over the old way of throwing the doors open or passing the wires around or behind the longitudinal beams.

When the press is to be used, the sides and top of the press-box are opened, and the hay or other product to be pressed is packed into the lower portion of the box until it reaches the open sides, when the doors are closed and locked and the pivoted side piece forced inward. The remainder of the box is now filled, and the top closed and secured, when draft is applied to the rope, which draws the ends of the long toggle-arms together, raising the follower. When the follower reaches to a level with the upper edges of the rigid side pieces of the frame, the wires or hoops are inserted through the grooves of the follower, and of the top piece passing through the openings between the slats of the doors, through which the ends may be drawn and secured together, while the follower is completing the pressing of the bale, when the doors may be opened, the side piece released, and the top opened immediately after the completion of the stroke of the follower, the tying being completed at the same time as the pressing; with all the sides of the press closed, and the bale may be removed and the follower allowed to drop down again, when the same operation may be repeated.

It will be seen that, by having the follower passing above the lower edges of slatted hinged doors in completing its stroke, the wires or hoops may be inserted and tied before opening the doors, thus saving time and preventing the bale from expanding before tying it, which is the case when the sides of the press-box have to be opened for the purpose of securing the ties. It will also be seen that by having the lower toggle-arms pivoted in pairs at the lower end of the frame, and having the longer toggle-arms pivoted at their middle between the ends of the lower arms, the pieces of the lower end of the frame in which the lower ends of the lower arms are pivoted may be placed at the lowest point of the frame resting upon the ground, which is advantageous, as the heaviest strain falls upon that portion of the frame, the lower ends of the long toggle-arms in this construction of a press passing between the lower arms above the journaled cross-pieces, all as explained and illustrated in my former patent.

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

1. The press-frame A, forming the press-box at its upper end, in combination with the sliding top D', provided with transverse grooved bottom b, and the swinging frame E',

having guides for the sliding top, all constructed to operate substantially as and for the purpose set forth.

2. The press-frame A, forming at its upper
5 end a press-box, in combination with the sliding top D', provided with the transverse grooved bottom b, the swinging frame E', provided with the braces e, and guides for the sliding top, all constructed to operate sub-
10 stantially as and for the purpose set forth.

3. The doors P, provided with spaces between the vertical slats R, in combination with

the follower E, having its upper face grooved, and the sliding top D', having its lower face grooved, the said grooves and spaces being re- 15 spectively in alignment, whereby the tying material can be readily passed entirely around the bale while yet in the press, substantially as herein set forth.

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Witnesses:

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