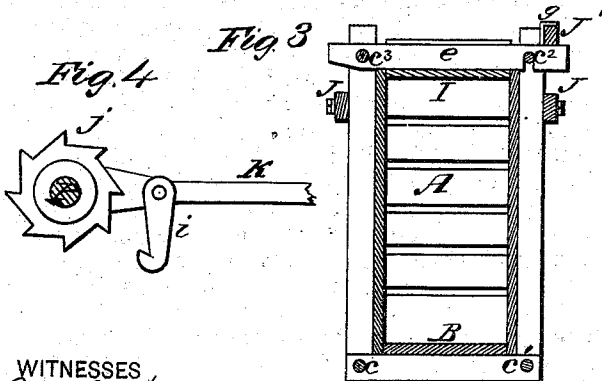
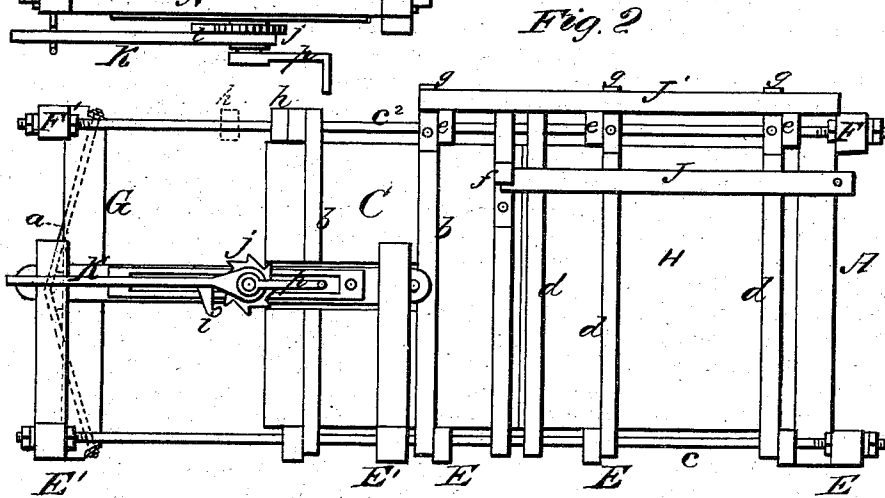
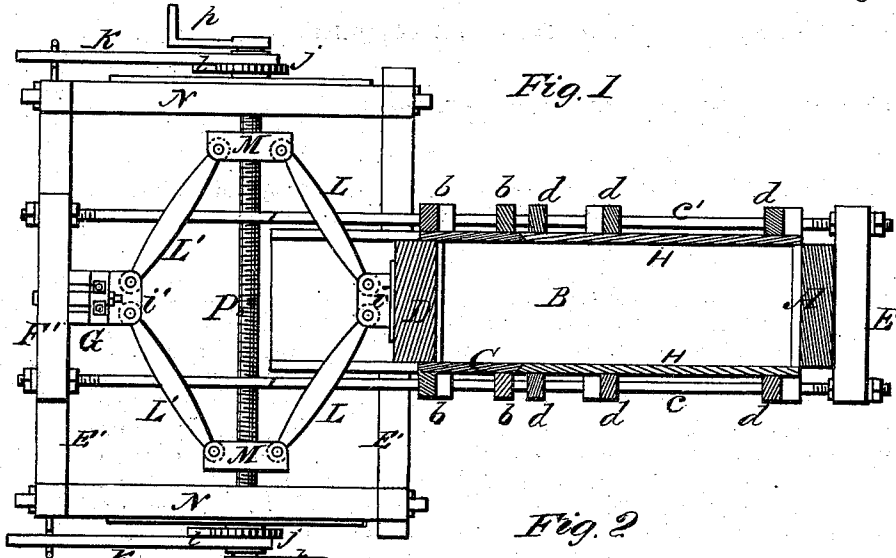


P. BYRNE.
Cotton-Presses.

No. 154,453.

Patented Aug. 25, 1874.



WITNESSES
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UNITED STATES PATENT OFFICE.

PATRICK BYRNE, OF NASHVILLE, TENNESSEE.

IMPROVEMENT IN COTTON-PRESSES.

Specification forming part of Letters Patent No. **154,453**, dated August 25, 1874; application filed June 13, 1874.

To all whom it may concern:

Be it known that I, PATRICK BYRNE, of Nashville, in the county of Davidson and State of Tennessee, have invented a new and valuable Improvement in Cotton-Presses; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a sectional view of my cotton-press. Fig. 2 is a plan view of the same, and Fig. 3 is a sectional detail. Fig. 4 is a detail view.

This invention has relation to cotton-presses of the horizontal kind, wherein toggle-levers are employed in combination with a screw for actuating the follower.

The nature of my invention consists in the combination of vibrating hand-levers carrying pawls, with a screw-shaft carrying ratchet-wheels and hand-cranks, and with toggle-levers, as will be hereinafter explained, whereby the follower can be rapidly moved when there is little or no resistance to be overcome, and when there is considerable resistance to be overcome a much greater force can be exercised by the use of said levers and their ratchets and pawls acting on the screw and its toggle-levers. It also consists in a novel construction of the press-box, whereby strong tie-rods are used instead of horizontal beams for securing together the vertical and horizontal beams, as will be hereinafter explained.

The following is a description of my improvements:

In the annexed drawings, A designates the stationary grooved head of the press-box, B the floor thereof, and C the stationary housing, in which the grooved follower D works. E E' designate transverse sill-beams. F F' are strong horizontal beams, one of which is rigidly secured to the upper end of the head A, and the other is similarly secured to a vertical post, G, which rises from one of the sill-beams E', and is strengthened by means of truss-rods *a*. The sill-beams and the top beams, together with vertical posts *b b'* for the housing C, are all secured together by means of four horizontal rods, *c c' c'' c'''*, which

are passed through said beams and through the vertical posts. By thus constructing the press-box frame it can be readily erected or taken to pieces, and it possesses great strength and durability. This frame is provided with two side doors, H H, and a top door, I, which latter not only covers the chamber in which the material receives its final pressure, but it also covers the housing C. The battens *d* of the vertical or side doors H H are pivoted to the two lower rods *c c'*, and the upper ends of these battens are notched upon the rods *c'' c'''*. The battens *e e'* of the door I are pivoted to the rod *c''* and notched over the rod *c'*. When the three doors are shut, they are confined by means of pivoted bars J J, whose free ends are received beneath hooks *f f'*; also, by means of a bar, J', which is applied on the ends of the battens of door I, and beneath hooks *g g'* on the upper ends of the battens of doors H. In addition to the fastenings above named, I use for holding down the top door I a cross-bar, *h*, which receives through its ends the two longitudinal rods *c'' c'''*, and which is free to slide on these rods. At the center of the follower D is rigidly secured a block, *i*, to which two toggles, L L, are pivoted, which are again pivoted to two blocks, M M, through which a right-and-left hand screw, P, is tapped. To these blocks M M another pair of toggle-levers, L' L', are pivoted, which are again pivoted to a block, *i'*, secured rigidly to the post G. The levers and blocks are arranged in a horizontal plane, and through the two blocks M M the right-and-left hand screw P is tapped, as above stated, carrying crank-handles *p p*, ratchet-wheels, *j j*, and long levers K K, on which latter are pawls *l l* for engaging with the ratchet-wheels *j j*. The ends of the screw P pass through slots, which are made horizontally through two beams, N N, which are secured to posts rising from the two sill-beams E'.

When the press-box is filled, the follower D is moved up by turning the cranks *p p* until the resistance becomes very great, when the work of pressing is completed by vibrating the levers K K. When the bale is pressed, the three doors H, H, and I are opened, the bale is strapped, and the follower run back ready for another pressing operation.

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

1. The combination of the horizontal slotted beams N, the right-and-left screw P having cranks *p*, the levers K carrying pawls and ratchets *i j*, the toggles L L', blocks M *i'*, and a follower, all operating in the manner described.

2. The transverse sill-beams E E', horizontal beams F F' with the vertical posts *b b'* for

the housing C, all secured together by the horizontal rods *c c' c'' c'''* passed through said beams and posts, for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

PATRICK BYRNE.

Witnesses:

JOHN McDONALD,

D. N. NEYLAN.