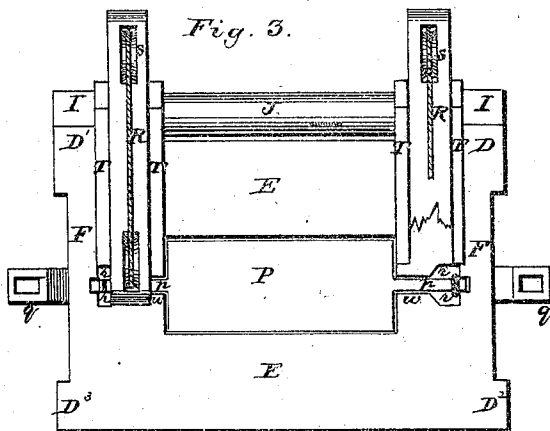
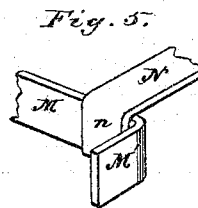
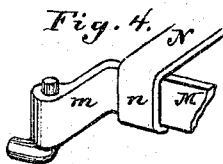
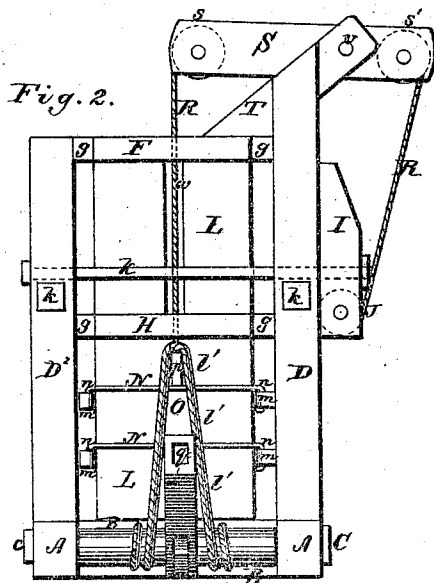
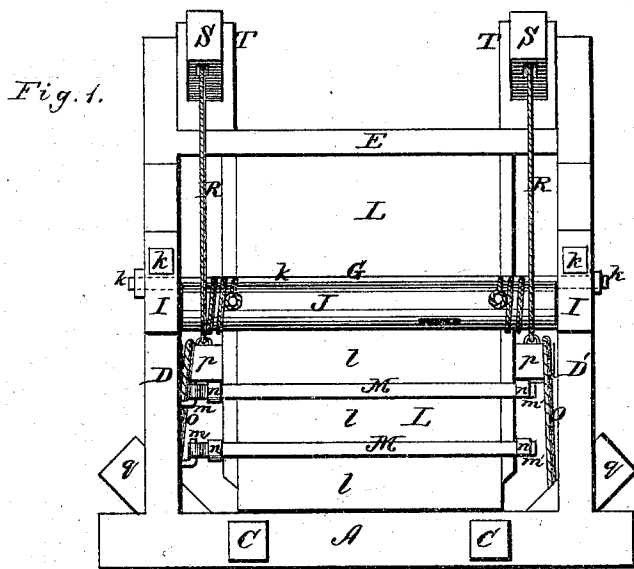


J. L. NELSON.

Improvement in Cotton and Hay Presses.

No. 122,483.

Patented Jan. 2, 1872.



Witnesses.
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W. K. Ellsworth

Inventor.
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UNITED STATES PATENT OFFICE.

JOHN L. NELSON, OF GREENVILLE, NORTH CAROLINA.

IMPROVEMENT IN COTTON AND HAY PRESSES.

Specification forming part of Letters Patent No. 122,483, dated January 2, 1872.

To all whom it may concern:

Be it known that I, JOHN L. NELSON, of Greenville, in the county of Pitt and State of North Carolina, have invented an Improved Cotton and Hay Press; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a side elevation; Fig. 2, an end elevation; Fig. 3, a top view, a portion of the lever and rope at one end having been broken away to show the form of the groove or slot in the frame; Fig. 4, a perspective view illustrating the method of locking the straps or bars at their hinged end; and Fig. 5, a similar view, showing the other end of said bars.

Similar letters of reference in the accompanying drawing denote the same parts.

This invention relates to that class of cotton and hay presses in which the platen, drawn down by ropes or chains, forms the bales at the bottom of the press-box; and my improvement consists in the general construction and arrangement of the parts, whereby a cheap, substantial, and conveniently-operating press is produced.

In the drawing, A A are the longitudinal sills, and B B the cross-beams connecting them, the sills being clamped against the ends of the cross-beams by means of stout iron rods C C, headed at one end and provided with a screw-nut, *c*, at the other. The cross-timbers may be mortised into the sills or not, at the option of the builder. Upon these base-timbers is supported the frame of the press, consisting of four posts, D D¹ D² D³, united at the top of the press by longitudinal beams E E and cross-beams F F, and near the middle of the press by similar beams G G H H. The longitudinal beams E G are made wider than the sills, with square gains in their outer corners which fit closely to the posts, allowing a tongue of wood, *g*, to project by the side of the posts. The cross-beams F H, also wider than the sills, are set in slightly from the end of the press, and are placed so as to abut against the tongues *g*, but not to come in contact with the posts. Stout blocks of wood I I are placed against the rear posts, supporting a roller, J, and the whole is securely clamped together by means

of iron rods *k k k k*, headed at one end and having a screw-nut at the other, as shown in the drawing. The press-frame may thus be fastened substantially together without tenoning and mortising, except where the posts are mortised into the sills; although, if the builder prefers to unite the other parts in that manner, he is at liberty to do so, in connection with the clamping-rods above described. The press-box L rests upon the cross-beams B B and is stayed laterally by the beams E F G H, which fit closely to it. The inner faces of the posts are, therefore, not in line with the sides of the press-box, but considerably outside of such lines. The two sides *l l* of the press-box, below the middle beams of the frame, are constructed to open outward as doors, and the two ends *l' l'* to be removed when said doors are open, so as to expose the floor of the press on all sides and to allow the bale to be removed at either side or even at the ends of the frame. The doors *l l* are attached to and supported by horizontal bars M M, bent outward at one end and hinged at *m* to one of the posts and at the other end projecting beyond the press-box or tube and bent outward, as shown at *m'*. The end pieces *l' l'* are secured in place by means of iron bars N N, bent down at their ends, as shown at *n*, said bent ends hooking over the side bars M M, and thus locking the lower walls of the box firmly together. The platen P is constructed with terminal arms *p p*, which project through vertical slots *w* in the end walls of the press-tube, and outside of said walls are attached to ropes O, which serve to draw the platen down to form the bale. The bight of the rope passes over the arms *p p*, its ends being fastened to a roller, Q, bearing in the sills A A. A lever-socket, *g*, provided with a spring-pawl, operates, in connection with a ratchet upon the roller, to rotate the latter as the lever-handle is worked up and down. The cross-beams F F are slotted at *w w* to allow the arms *p p* to pass up and down, and at *r r* transversely to the slots *w* to allow the ropes Q to work freely without friction against the frame. For the purpose of raising the platen two other ropes, R R, are attached to the arms *p p*, whence they pass directly up over grooved sheave *s s* in pivoted beam S S along a groove in the upper surface of said beams to a point back of

their pivot *v*, and thence down over the sheaves *s s'* to the windlass-roller *J*. The sheaves *s s'* are not set in an open slot in the ends of the beams *S*, but in a vertical mortise in said beams, so that the solid wood at the extreme end of the beam will hold the rope in place and cause the platen, when drawn up, to strike square against the under side of the beams, and not to pass up over them, as might otherwise be the case. The beams are pivoted at *v* to inclined timbers *T* fastened to the extended upper ends of the posts *D D'* and to the upper timbers of the frame, as shown. Said timbers *T T* incline from the upper end nearly to the slots in the cross-pieces *F F* at an angle of about forty-five degrees, as shown. The upper ends of the posts *D D'* are beveled off to correspond with said incline.

The operation of this improved press is as follows: The press-box having been filled and the doors closed, the hand-spikes are removed from the windlass *J* and the pawls that hold it released. The hand-spikes are then inserted in the sockets *q q* and worked up and down until the bale is sufficiently compressed. After the bale is bound the pawls of the rollers *Q* are released, the levers again inserted in the windlass, and the latter rotated for the purpose of drawing the platen out of the box. The platen rises entirely out of the box and strikes the under side of the beams, the latter being, up to this time, in the horizontal position shown in black lines in Fig. 2. As soon, however, as the platen comes against the under side the

beams turn on their pivots, their forward ends rising upward and backward, and carrying the platen with it. After they have passed the vertical line, which they will do in consequence of their pivot being set back of the roller *J*, their own gravity is sufficient to hold them in position during the filling of the press-box, or, at most, only a very slight draft need be maintained on the ropes for that purpose. The press having been filled the ropes are again slacked up, as before, and the platen, descending, strikes upon the incline *T*, down which it is guided to the mouth of the press-tubes, so as to take its place therein without assistance. The hand-spikes are then shifted to the sockets *q*, as above described, and the bale is compressed, bound, and removed.

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

1. The hinged bars *M* and cross-bars *N*, constructed as described and combined with the frame, press-box, and doors, in the manner substantially as specified.

2. The combination of the swinging beams *S* and sheaves *s s'* with the platen *P*, the ropes *R R*, and the windlass *J*, constructed and operating substantially as herein described.

3. The inclines *T T*, in combination with the swinging beams *S S*, ropes *R R*, and platen *P*, when arranged and operating as and for the purpose specified.

Witnesses:

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C. F. BROWN.

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