R. Smith,

Cotton Press.

No. 5,135. Patented May 29, 1847.

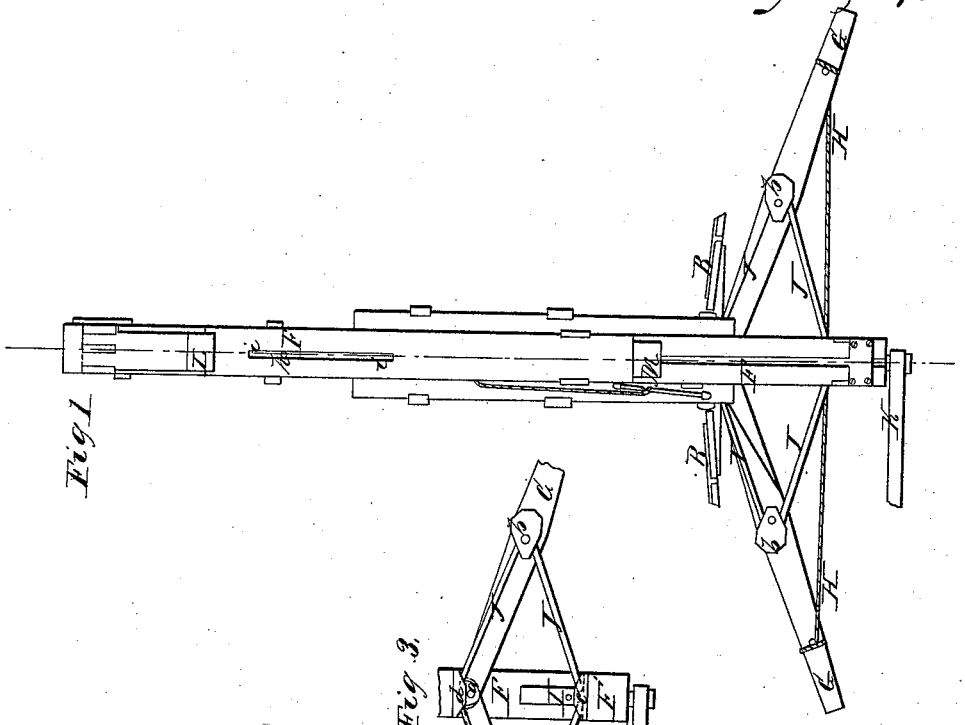

Fig 1.

Fig 3.

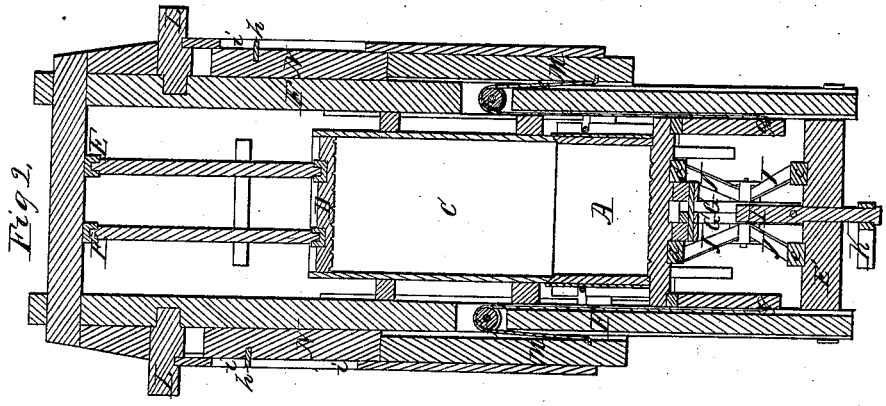

Fig 2.

UNITED STATES PATENT OFFICE.

RILEY SMITH, OF TOWANDA, PENNSYLVANIA.

IMPROVEMENT IN COTTON-PRESSES.

Specification forming part of Letters Patent No. **5,135**, dated May 29, 1847.

To all whom it may concern:

Be it known that I, RILEY SMITH, of Towanda, in the county of Bradford and State of Pennsylvania, have made certain new and useful improvements in the manner of constructing a press for the pressing of cotton and other fibrous substances; and I do hereby declare that the following is a full and exact description thereof.

In its general construction my press resembles some others that have been before made for a like purpose, the box that is to receive the cotton that is to be packed, the follower, and other parts not differing materially from those in general use. The particulars in which it differs from others will appear from the following description thereof, and the drawings accompanying the same.

In these drawings, Figure 1 is a side view of the press, and Fig. 2 a vertical section thereof from side to side in the line *x x* of Fig. 1.

A is the box that is to contain the packed bale, and B B the side doors thereof. This box is furnished with grooves to receive the ropes, and is in other respects constructed in the usual manner. C is the box or case that receives the cotton, and to which the follower D is adapted. This follower I hang upon a hinge-joint at its upper end, E E, so that it may be turned out of the way while the cotton is being supplied from the gin-house and trodden down into the boxes A C; and when this has been effected the follower is brought down to its proper place, and the boxes are caused to slide up between the cheeks F F of the press by means of the apparatus to be now described.

G G are two levers, the inner ends of which work on a joint pin or bolt *a b* on the bottom of the box A, and to the outer ends of these are attached the cords or chains H H. The inner ends of these cords, when the boxes are to be raised, wind round a vertical windlass, I, in opposite directions, and serve to draw the levers G G toward each other.

J J are progressive levers, of which there are four pairs, two pairs of which are seen in Fig. 1, the other pairs being on the opposite side of the levers G G. The windlass I is turned by means of a lever or sweep, K, situated below the frame of the press. The frame of the press is usually suspended on the timbers of the second floor of the ginning-mill, upon which may rest the projecting pieces L L. The bottom of the frame is thus kept clear of the ground and out of the way of the motion of the sweep K, which may be moved by manual or other power. The outer ends of the progressive levers J J are received in pockets in the bearing-blocks *b b* attached to the levers G G. They do not work, therefore, upon joint-pins, but bear by their ends in said pockets, which are made sufficiently wide to give them the requisite play. Their inner ends are also received within pockets in bearing-blocks on the sill F′ of the frame and on the bottom of the box A.

c c, Fig. 2, show the two bearing-blocks on the sill, and *d d* those on the bottom of the box A. Fig. 3 shows the manner in which these boxes are placed, the parts that would interfere with their representation being removed, and the respective progressive levers being supposed to stand parallel to each other, which they may be readily made to do, if preferred, by raising the bearing-blocks *b b* to the proper distance from the sides of the lever, and placing the boxes *a a* and *d d* in a line therewith.

When the levers G G and the boxes A C are in the position shown in Fig. 1, their weight would counteract, to a considerable extent, the drawing together of said levers, and thereby produce a loss of power, were they not counterpoised; but after the box is raised to a certain point the weight that would suffice to counterpoise them in their extended position would be unnecessary, and would counteract the descent of the box by its own weight after the bale had been pressed. To remove this difficulty I have devised a plan by which the amount of the counterpoising-weight used by me shall be diminished when the boxes A C have been raised to the proper point. This plan is as follows: M M are weights which are suspended by the cords *e e*, that pass over pulleys *f f* in the frame of the machine, and are made fast at *g g* to pieces projecting down from the bottom of the box A. There are also two sliding weights, N, placed above the weights M M in the same boxes. These sliding weights are not suspended by cords, but have pins *h h* projecting from them, that are received within grooves or slots *i i*. As the weights M M descend, the pins *h h* will arrive at the bottom of these slots, and the weights M M will descend alone and become the only counterpoise. The counterpoising-weights serve not only to sustain the levers, but also

to balance the boxes and regulate their motion, preventing their descent with undue force under any circumstances.

Having thus fully described the manner in which I construct my cotton-press and shown the action of the respective parts thereof, what I claim therein as new, and desire to secure by Letters Patent, is—

The manner of arranging and combining the weights M and N with each other and with the levers G G, so as to cause said weights to cooperate in sustaining the levers, and to cause their joint action when required, as set forth.

RILEY SMITH.

Witnesses:
THOS. P. JONES,
L. WILLIAMS.