

R. Greene,

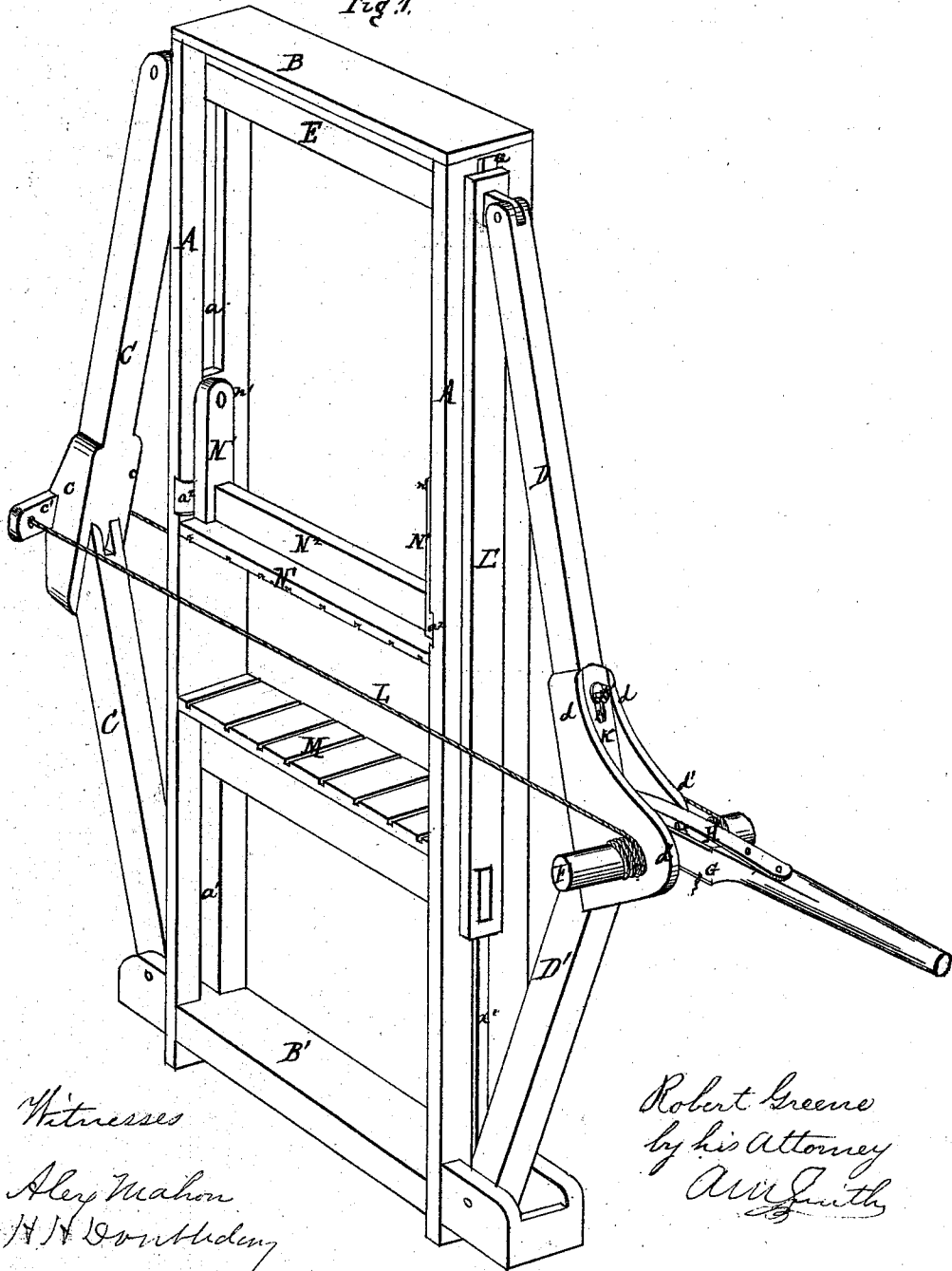
2. Sheets, Sheet 1.

Hay Press.

No. 97,631.

Patented Dec. 7, 1869.

Fig. 1.



Witnesses

Alex Mahon
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Robert Greene
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2, Sheets, Sheet 2.

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Fig 2.

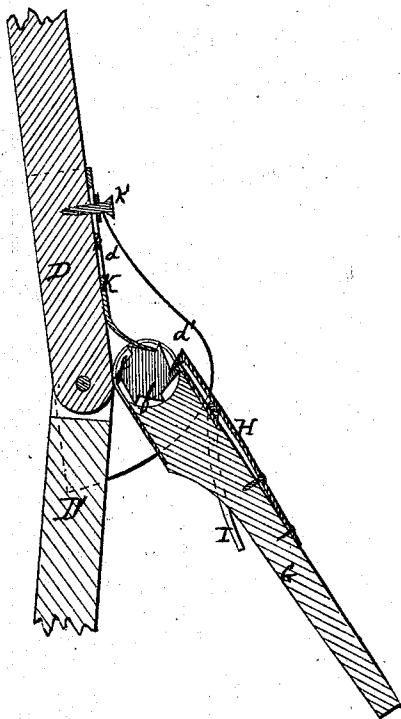


Fig 3

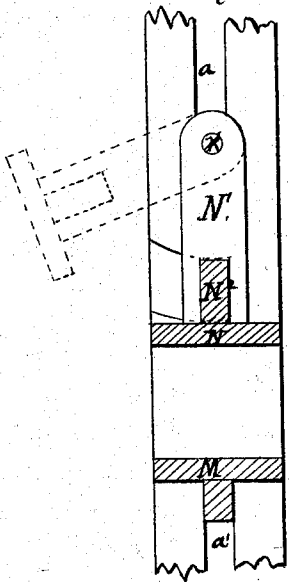
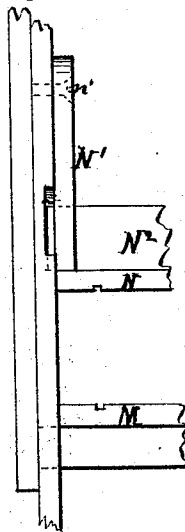


Fig 4



United States Patent Office.

ROBERT GREENE, OF GREENVILLE, NORTH CAROLINA.

Letters Patent No. 97,631, dated December 7, 1869.

IMPROVEMENT IN COTTON AND HAY-PRESSES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ROBERT GREENE, of Greenville, Pitt county, North Carolina, have invented certain new and useful Improvements in the Construction of Presses for Baling Cotton, Hay, or other similar substances; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon, making part of this specification, in which—

Figure 1 is a perspective view of my press, and Figures 2, 3, and 4, detached views of different portions of the same.

Similar letters indicate like parts in all the figures. In the drawing—

A A are the posts, provided with slots *a a*, extending from a point near their upper ends down to a point near their centres, and also with similar slots, *a' a'*, at their lower ends.

These posts are connected by a plate or girt, B, and a sill or base, B', firmly secured to said posts in any usual or desired manner.

The sill B' projects beyond the posts on either side, and forms a firm and unyielding support for the lower end of each pair of toggle-levers O C' and D D'.

These levers are pivoted upon sill B', and are also pivoted, or otherwise connected with the cross-head E, which vibrates freely in slots *a a*, in the upper ends of posts A A.

Each pair of levers is united by either a pivot, or otherwise, at their inner ends, in such manner as to form a flexible joint, as is customary in this class of machines.

c c are plates or flanges, either formed in one piece with, or secured to lever C, and serving a double purpose of furnishing a support, upon which to mount the transverse bar *c'*, and of keeping the two levers O C' in the same vertical plane with each other when they are under tension, thereby relieving all the joints of said levers from undue strain in a lateral direction.

Upon the opposite pair of levers D D', are plates or flanges *d d*, expanded at *d*; and mounted in suitable bearings, in or upon these flanges is the roller F.

G is a winch, located between the flanges *d d*, and secured to roller F by means of straps *g*, in such manner that it is free to oscillate about said roller as a centre.

H is a spring-latch, secured to the winch, and engaging with ratchet-teeth *f*, formed upon that portion of roller F which is embraced between the flanges *d d*.

I is a trigger, pivoted upon winch G.

The spur or wrist *i*, of this trigger, projects underneath latch H, and is employed to disengage it from the ratchet-teeth *f*, for a purpose hereinafter explained.

K is a pawl, engaging with the ratchet-teeth *f*, and slotted, as shown at *k*.

k' is a set-screw or bolt, for securing pawl K to lever D.

L is a rope or chain, connecting the transverse bar *c'* with roller F.

From each end of cross-head E, at a point just outside the posts A A, are suspended the links L', and the platen M is supported in the lower ends of said links, in such manner that it is free to rise and fall in slots *a' a'*, and is always maintained in a position parallel to cross-head E.

N is a head-block, mounted upon arms N', pivoted at *n*.

N² is a supplemental beam or bar, serving to strengthen the head-block N, and assist it to better sustain the great pressure to which it is subjected. The head-block N should fit closely the inner surface of the posts A A, but the ends of beam N² project far enough beyond the faces of arms N' to engage with gains *a²*, and thus relieve pivots *n* from all upward strain.

The gains *a²* are formed in an arc of a circle, of which the pivots *n* are the centres.

The inner faces of both platen M and head-block N are provided with gains *m n*, for the introduction of bands, with which to secure the bale, when formed, as is usual in this class of machines.

The space intervening between the platen and head-block is enclosed by sides secured to posts A by any of the methods usually employed in such presses; but as their construction forms no part of the present invention, I have not shown them in the drawing.

The operation of my machine is as follows:

The rope being unwound from the roller F, the weight of the platen M forces the joints of the toggle-levers outward. The box is then filled with the material to be pressed, and the rope or chain wound up on the roller F, by means of the winch G, the pawl K preventing any backward motion on the part of said roller, between the successive strokes of the winch.

When at any time I wish to release the pressure upon the platen, I can do so gradually, by first bearing down the winch, so as to free the pawl K; then loosen set-screw *k'*, and raise the pawl, so as to let the ratchet-teeth slip backward, as far as is desired, or until the winch prevents further motion in that direction; then let the pawl down, and press the trigger I down, lifting latch H high enough to allow winch G to be carried forward, without moving the roller with it; and when the winch has been carried down, let down the latch again, lift the pawl K, and repeat the operation. By this means the platen, even with a bale upon it, can be let down to the bottom of the press gradually, and without any jar or strain upon the press.

In order to facilitate packing the cotton, hay, or other material into the box by hand, before applying the power of the machine, I swing the head-block M out in front of the posts A A, thereby leaving the upper part of the box entirely open and unobstructed.

From the foregoing description, it will be readily seen that my press possesses the following advantages among others:

First, extreme simplicity of construction. It has but few pieces, and those are such as can be replaced by any common mechanic, as they require the use of no machinery in their manufacture;

Second, in the great amount of power developed, arising from the fact that I can use levers equaling in their combined length the entire height of the machine, which I accomplish by applying my roller or windlass to the junction of the two levers; and

Third, its durability, from the fact that the plates or flanges *c* and *d* prevent the levers from being deflected, or thrown out of line, as they are drawn toward posts A A, thus obviating any tendency to

wrench and break them apart when they are pivoted to each other, and to the rest of the press.

Having now described my invention,

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

1. Mounting the roller F at the point of junction of levers D D'.

2. The combination of the lever D, roller F, winch G, latch H, and pawl K, all arranged and operating substantially as set forth.

3. The combination of levers C C' and levers D D' with roller F, winch G, latch H, and pawl K, adapted to operate said levers by means of a rope or chain, substantially as set forth.

4. The combination of the head-block N, arms N', posts A, and pivots *n*', substantially as and for the purpose set forth.

ROBERT GREENE.

Witnesses:

GERMAIN BERNARD,
D. F. WHICHARD.