

E. S. COLLINS.

Improvement in Cotton and Hay Presses.

No. 121,591.

Patented Dec. 5, 1871.

Fig. 1.

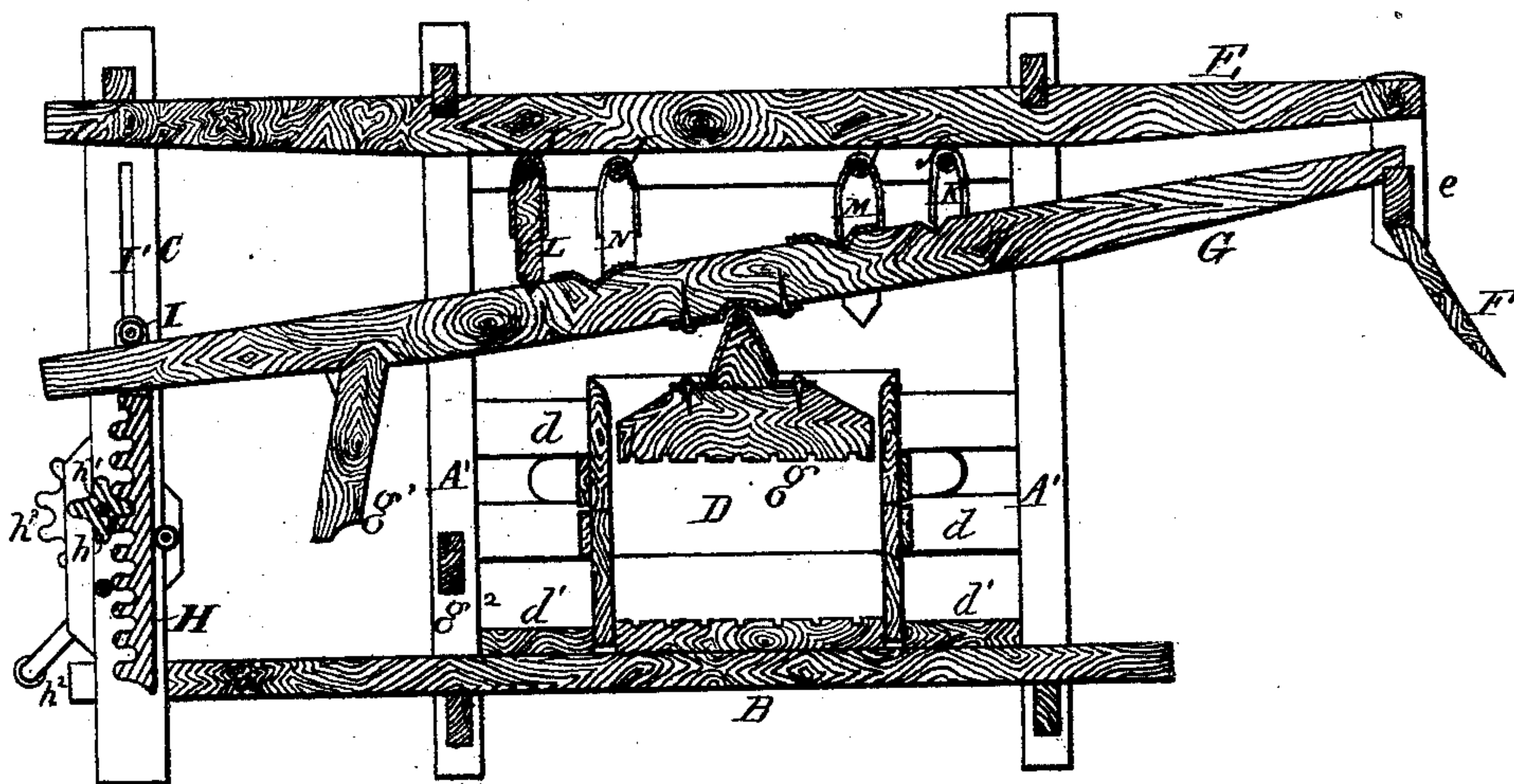
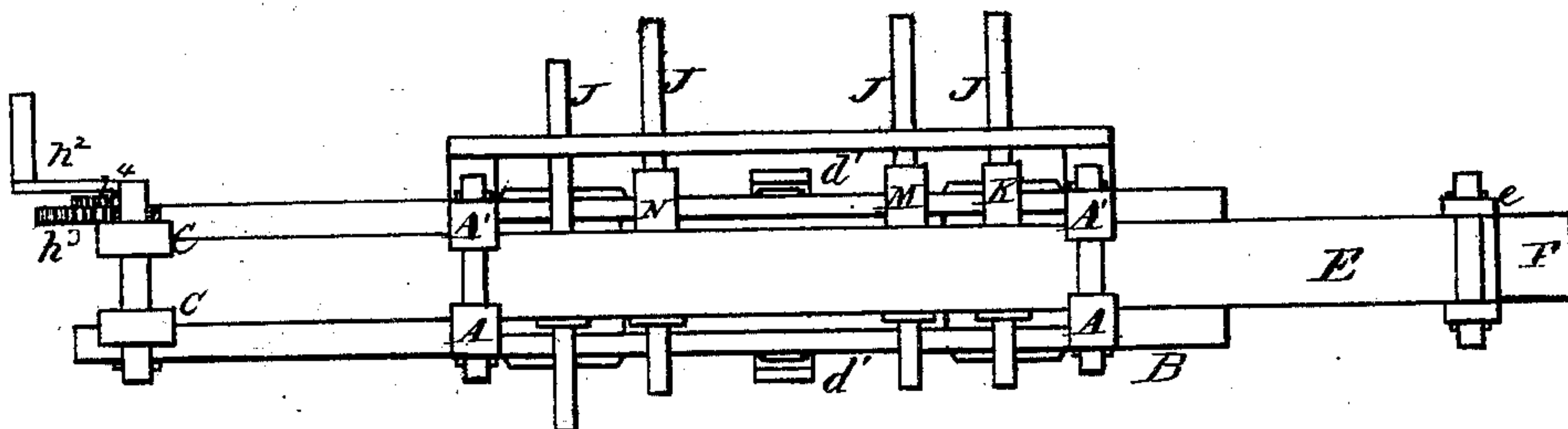


Fig. 2.



Witnesses.

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EDWIN S. COLLINS, OF TRENTON, TENNESSEE.

IMPROVEMENT IN COTTON AND HAY PRESSES.

Specification forming part of Letters Patent No. 121,591, dated December 5, 1871.

To all whom it may concern:

Be it known that I, EDWIN S. COLLINS, of Trenton, in the county of Gibson and State of Tennessee, have invented a new and valuable Improvement in Cotton and Hay 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 drawing 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 vertical longitudinal section of my invention. Fig. 2 is a plan view of the same.

This invention has relation to cotton-presses; and the novelty consists in the construction and arrangement of devices by means of which the power exerted is accommodated to the increase of resistance consequent upon the progress of pressure, so that the pressure may be continued to any extent without a proportionate increase of labor on the part of the operator.

Referring to the accompanying drawing, illustrating my invention, A A' represent four upright posts, secured to a sill, B, which extends some distance to one side and supports at its further end two upright posts, C. D designates the press-case, supported on the sill B and strengthened by the horizontal frame-bars *d* and wedges or tightening-boards *d'*. E designates a long horizontal beam, supported at the top of and between the posts A A'. One end of said beam holds a swinging bracket, *e*, while the other end is secured to the posts C. F indicates an outwardly-inclined tail-board depending from the bracket *e*. G represents a lever of about the same length as the bar or beam E. Hung to its under side above the mouth of the press-box D is a follower-block, *g*. An arm, *g*¹, is also hinged to its under side at a point outside the posts A A'. The upper end of said block fits a slot cut in the beam E, while the lower end is adapted to fit a transverse bar, *g*², arranged between the two posts A A', nearest the posts C. H represents a toothed bar or rack located between the posts C. A pinion, *h*, on a transverse shaft, *h*¹, gears with said rack and mediates to actuate it, so that it shall be made to ascend and descend by the turning of a crank, *h*². The shaft

*h*¹ is provided with a gear-wheel, *h*³, which engages with a pinion, *h*⁴, on the crank-shaft. Projecting from either side of the rack is a stud, I, which enters a vertical slot, I', in the post C, and is thereby guided. The end of the lever G is connected with the upper end of the rack H, and rises and falls with it. J represents a number of horizontal transverse bars secured to the beam E, and to a bracket, J', projecting from the posts A. These rods suspend a number of swinging blocks, K L M N, of various lengths, increasing in the order in which they are lettered. Their lower ends are beveled to fit notches in the upper side of the lever G, to which they are designed to serve as interchangeable fulcrums.

The first operation of the lever G is brought about by placing one end of it in the bracket *e*, which then serves as a fulcrum. The other end of the lever then is depressed until space is made for the block K to fall into its appropriate notch in the top of said lever. Said block being adjusted, the lever is released from the bracket *e* and its forward end raised (the block serving as a fulcrum) until space is made for the block L to be used as a fulcrum, whereupon the forward end of the lever is lowered; and so on with blocks M and N, the forward end of the lever being alternately raised and lowered during the descent of the follower *g*. The press-box D is furnished with two doors, D', which are swung open to let the lever descend. When the pressure has been continued as long as necessary, the forward end of the lever is raised until the end of the arm *g*¹ is brought to bear against the bar *g*² as a fulcrum. The movement of the lever is then reversed until the rear end passing the tail-board of the bracket *e* enters the latter and rests on it as a fulcrum for the further raising of the lever, an operation accomplished by again reversing the movement of its forward end. The end which enters the bracket is formed with a shoulder, so that it may have a purchase on its seat.

The blocks K L M N are arranged on the bars J so as to slide in and out, as desired.

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

1. In a press for cotton, hay, or other mate-

rial, the combination of the bar E, interchangeable pendent fulcrums K L M N *e*, lever G, and follower *g*, as and for the purpose specified.

2. The bracket *e*, having the inclined tail-board F, in combination with the lever G, adapted to work on the interchangeable fulcrums K L M N, as described.

3. The hinged arm *g*¹, applied to the press-lever G, in combination with the bracket *e* and bar *g*², as and for the purpose specified.

4. The rack H, pinion *h*¹, and crank *h*², in com-

bination with the press-lever G, adapted to work on interchangeable fulcrums, as and for the purpose specified.

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

EDWIN S. COLLINS.

Witnesses:

W. G. SMITH,
P. H. KINEY.

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