

L. Dederick.
Hay Press.

No 3148

Patented June 24. 1843.

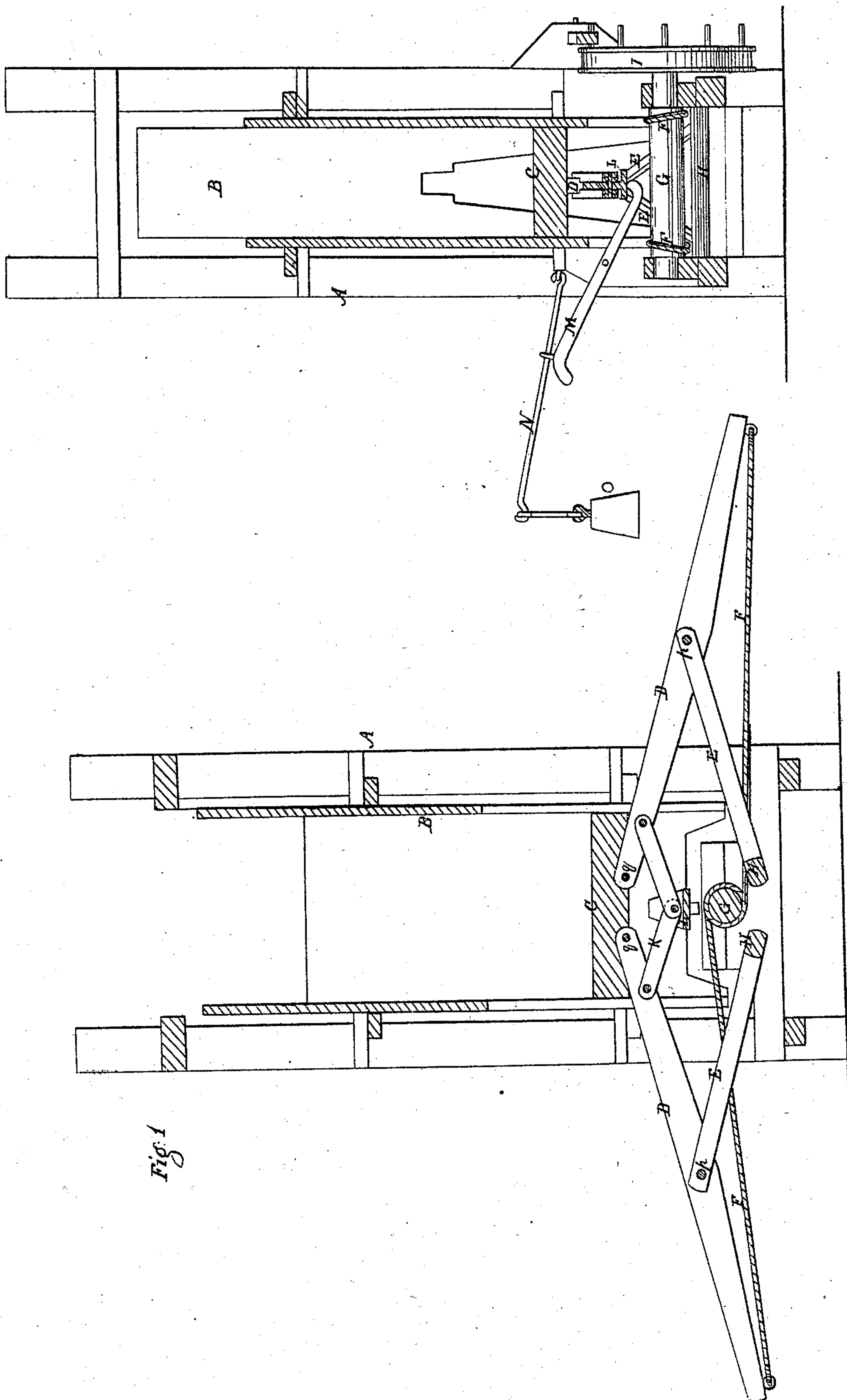


Fig 1

UNITED STATES PATENT OFFICE.

LEVI DEDERICK, OF KINDERHOOK, NEW YORK.

IMPROVEMENT IN HAY-PRESSES.

Specification forming part of Letters Patent No. 3,148, dated June 24, 1843.

To all whom it may concern:

Be it known that I, LEVI DEDERICK, of Kinderhook, in the county of Columbia and State of New York, have invented a new and useful Improvement in the Press for Pressing Hay and other Substances, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a vertical longitudinal section. Fig. 2 is a vertical transverse section.

Similar letters refer to corresponding parts.

A is the frame, made in the usual manner; B, the box in which the cotton is placed and pressed. C is the piston or follower, between the upper surface of which and the lower surface of the top the pressure is exerted; D D, levers, made of wood or any suitable material, the upper extremities of which are let into mortises made in the under surface of the piston, and secured thereto by pins, on which they move. To near the middle of each of these levers are secured by a pin two connecting-bars, E E, of the same material, one on each side, the lower ends of which are mortised into a horizontal axle, H, turning in opening made in the side timbers of the frame A. To the lower extremity of each of the levers D is attached a rope or chain, F, which is fastened at its other end to a windlass, G, arranged immediately below the box B, and turning in boxes secured to the frame. These ropes or chains F are attached near the ends of the windlass G, one above and the other below, in such manner that when the windlass is turned they will lap toward the center and draw the lower ends of the levers D D toward each other with the same speed, which will equally open or extend the toggle-joints. A drum-wheel, I, is secured to the windlass outside of the frame, to which the power to work the press is applied.

When the piston is lowered to admit the hay or substance to be pressed, and the toggle-joints contracted, the ends of the levers D D, to which the ropes or chains F F are attached, will be so nearly on a line with the pins *pp*, on which the ends of the connecting-bars move, and the windlass, that the power applied to the windlass will have but little tendency to raise the piston, and from constant use in a short time the pins *pp* and pins *qq* of the levers D D and E E will become loose. To remedy this evil I arrange immediately beneath the piston or follower *c*, near

the tops of the levers D D and between the same, a small toggle-joint, K, the extremities of which are connected to each of the said levers D D. A small block of wood, L, is secured to the apex of this toggle-joint, which, as the piston or follower descends, comes in contact with the end of a lever, M, which moves on a fulcrum secured to the frame A, and has a small ring fastened to its outer or opposite end, which forms a movable fulcrum to a lever, N, passed through said ring, and secured by a pivot, on which it moves, to the frame above the fulcrum of the lever M, having on its opposite end a weight, O, sufficient with the leverage gained to exert a force on the small toggle-joint $\frac{1}{2}$ almost equal to the weight of the piston and levers.

The operation of the press is as follows: The piston C being lowered to the position represented in the drawings and the box filled with hay, and all the necessary arrangements made, the power is applied to the drum-wheel I, which turns the windlass G and draws the lower ends of the levers D D toward the press, and with the aid of the weight O and levers M N raises the piston or follower C (the weight O exerting a pressure on the toggle-joint K at the commencement of the operation almost equal to the weight of the piston and double toggle-joints, but gradually decreasing as the piston or follower ascends, from the fact of the fulcrum of the weighted lever N moving farther from the pivot or rest) until the toggle-joints become extended. When the bale is hooped and staved and removed, the piston or follower is gradually lowered to its former position. The block attached to the toggle-joint, coming in contact with the end of the lever M, raises the other end of said lever, and with it the weight O, to its original position, and in this manner the operation is repeated.

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

1. The arrangement and combination of the small toggle-joint K, lever M, and weighted lever N, in the manner and for the purpose set forth.

2. The combination of the above arrangement with the toggle-joint press, constructed in the manner set forth.

LEVI DEDERICK.

Witnesses:

RICHARD KEY WATTS,
EDMUND MAHER.