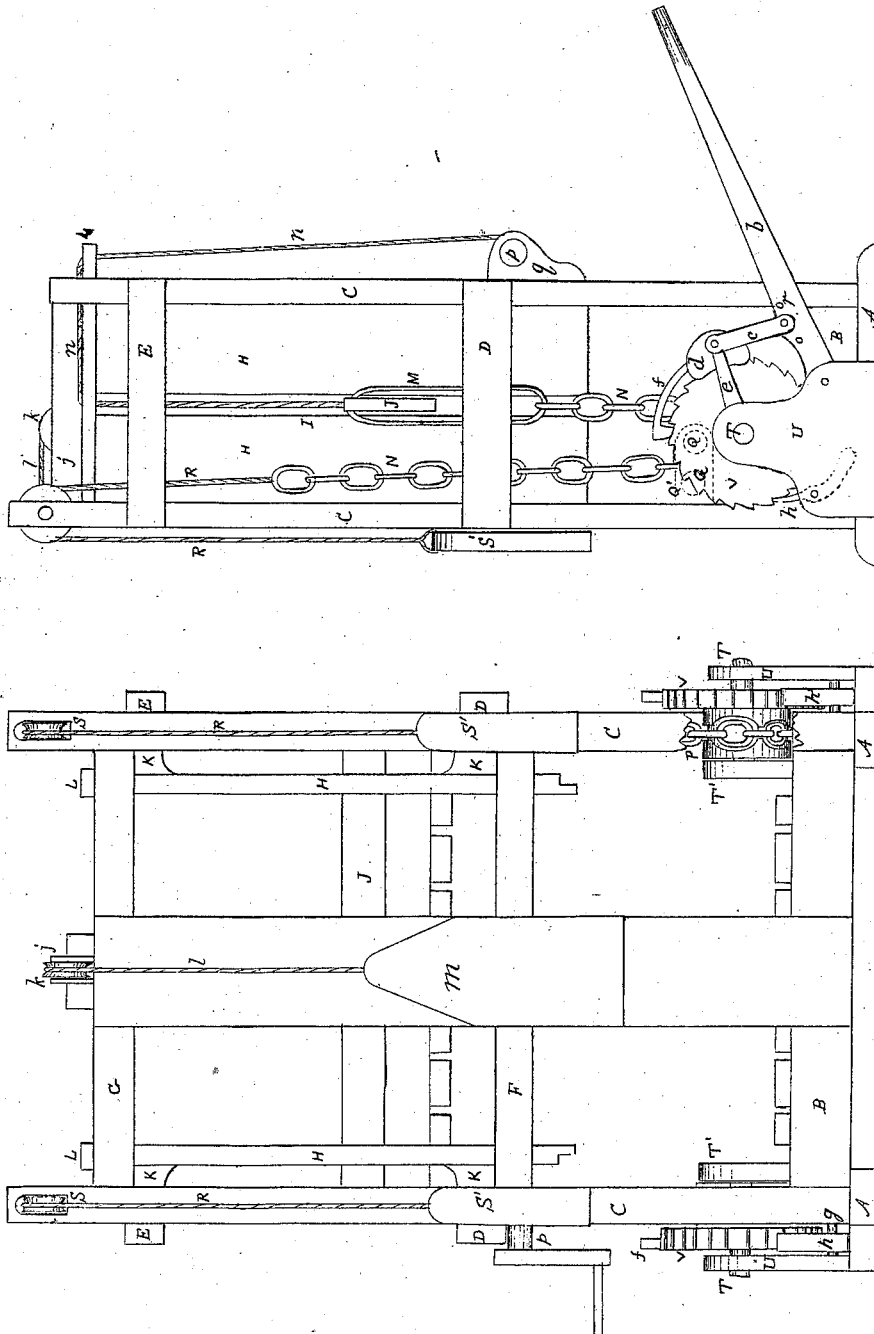


*N. Chapman,*

*Cotton Press.*

*No. 111,043.*

*Patented Jan. 17, 1871.*



*Witnesses.*

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*Nathan Chapman  
By his Atty. J. Dennis Jr.*

# United States Patent Office.

NATHAN CHAPMAN, OF HOPEDALE, MASSACHUSETTS.

Letters Patent No. 111,043, dated January 17, 1871.

## IMPROVEMENT IN HAY AND COTTON-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, NATHAN CHAPMAN, of Hopedale, Worcester county, in the State of Massachusetts, have invented certain new and useful Improvements in Presses for Cotton, Hay, &c.; and I hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawing forming part of this specification.

The nature or essence of my invention consists in the peculiar construction and arrangement of devices forming the improvements in presses for cotton, hay, and other articles claimed and described in the following specification and represented in the accompanying drawing, of which—

Figure 1 is an elevation of the back side of the press.

Figure 2 is an elevation of one end of the press.

In the above-mentioned drawing—

A A are the cross-sills on which the bed B of the press is fastened, and to this bed the four posts C C are fastened and connected together by the lower-end bars D D, the upper-end bars E E, the lower-side bars F, and the upper-side bars G, which are all firmly fastened to the posts C C, making a strong frame, to which the other parts of the press are either fastened or connected.

In the drawing the doors and side casings of the press are omitted to show the other parts more clearly.

H H are the ends of the press-box, provided with long slots I for the beam J of the follower to travel in.

These ends are fastened to the lower-side bars F and the upper-side bars G, and are connected to the end bars D and E by the blocks K K, which hold them firmly in their places; and the upper end of the ends H may be fastened to the bars L L across the top of the press.

The follower-beam J is fitted to traverse up and down in the slots I, and is drawn down, to press a bale, by the links M M on the ends of the beam, connected to the chains N which pass around the sprocket-wheels P, and pass up between the rollers Q Q, and are connected by ropes R R, which pass over the pulleys S S to the weights S' S', which draw up the chains as the follower is drawn down.

One of the posts C is broken away to show the sprocket-wheel P and the chain running onto it, in fig. 1.

The journals of the rollers Q Q turn in a stand, Q', fastened to the post C. The left-hand roller holds the chain up to the sprocket-wheel, so as to prevent it from slipping; and the right-hand roller compels the chain to cleave off from the sprocket-wheel, and prevents it from being carried over so as to catch be-

tween the wheel and that part of the chain drawing down the follower.

The sprocket-wheels P are cast with indentations or cavities, which receive and fit links of the chains so they cannot slip on the wheels.

The shafts T T of the sprocket-wheels turn in the stands T' T fastened to the bed B, and the stands U U fastened to the sills A, as shown in the drawing.

The ratchet-wheels V V should be cast with the sprocket-wheels P, or firmly fastened to them, as they are turned by the ratchet-wheels.

To turn the ratchet-wheels and work the press I put the pin *a* through the stand T', the lever *b*, and into the bed B, to form the fulcrum of the lever *b*, which is connected by the link *c* to the traversing block *d*, which is connected to the shaft of the ratchet-wheel by the link *e*, in which said shaft turns freely.

The pin which connects the links *c* and *e* to block *d* passes through the pawl *f*, which catches the teeth of the ratchet-wheel V, when the lever is depressed, to turn the wheel to work the press; and, when the lever *b* is raised, the pawl *f* slips over the teeth of the ratchet-wheel to take a new hold and turn the wheel when the lever is depressed.

To hold the ratchet V and prevent it from turning back I put a pin, *g*, through the stand U and pawl *h*, and into the bed B for the pawl to vibrate on, and the tail of the pawl serves as a weight to press the pawl against the wheel V and prevent it from turning back when the traversing pawl is flected.

The bar *j* is fastened to the bars G, and has two pulleys, *k k*, in it, for the rope *l*, fastened to the beam J and the weight *m*, to counterbalance the chains N and beam J.

The bars L L are perforated, and may be provided with pulleys for the ropes *n n* from the beam J to the crank-shaft *p*, which turns in boxes *q* on the posts C to wind up the ropes and draw up the beam J.

The levers *b* have a number of holes, *r*, for the pin in the link *c*, to vary the power of the lever by changing the pin from one hole to another in the lever.

To work the press, raise the follower and fill the box; then draw the follower down by working the levers *b* until the bale is the size required.

Having described my improvements in presses,

I claim the following :

1. In combination with the traversing block *d*, the radial links *e*, the links *c*, and pawl *f*, for turning the ratchet and sprocket-wheels, substantially as described.

2. I do not claim a lever with its fulcrum on the

ratchet-wheel shaft; but I do claim the lever *b*, provided with holes, *r*, to graduate its power, and with its fulcrum in the stand *U*, in combination with the links *c*, block *d*, link *e*, and pawl *f*, substantially as described.

3. In combination with the follower *J*, the sprocket-wheel *P*, arranged in line with the slot *I* so as to draw the follower straight down the slot without canting it so as to bind against the sides of the slot.

4. In combination with the sprocket-wheel *P* and chain *N*, the arrangement of the rollers *Q Q*, for hold-

ing the chain up to the sprocket-wheel and compelling it to leave the wheel, substantially as described.

5. In combination with a follower, *J*, drawn down with single chains, working directly onto the sprocket-wheels, the rope, weight, and pulleys, to draw up the follower and chains, as described.

NATHAN CHAPMAN.

Witnesses:

J. DENNIS, Jr.,

CHAS. H. WILLIAMS.