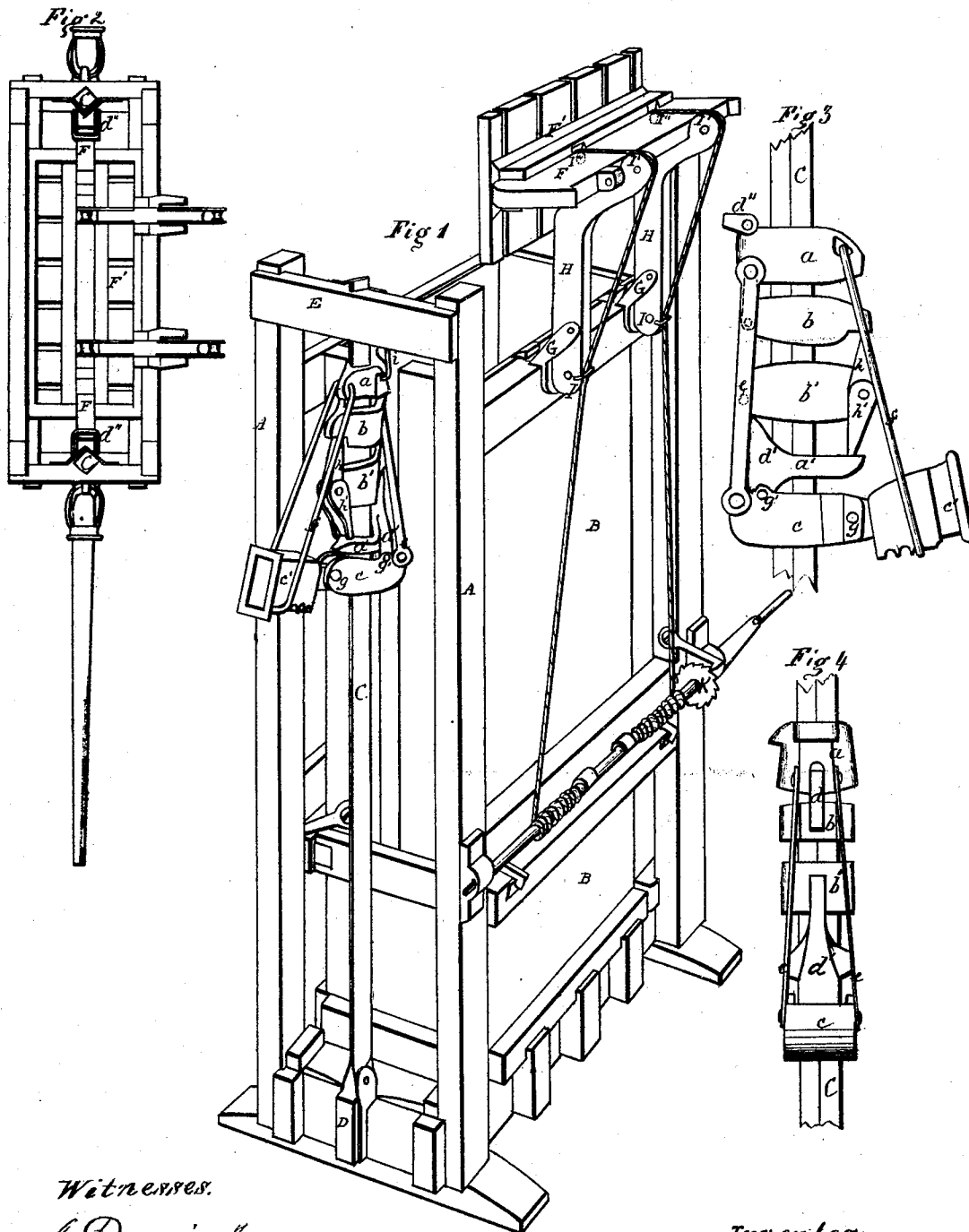


N. Chapman,

Hay Press.

No. 110,011.

Patented Dec. 13, 1870.



Witnesses.

*J. Dennis Jr.
McDennis.*

Inventor.

Nathan Chapman

United States Patent Office.

NATHAN CHAPMAN, OF HOPEDALE, MASSACHUSETTS.

Letters Patent No. 110,011, dated December 13, 1870.

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 Hay and Cotton Presses; 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 certain peculiar combinations and arrangements for operating a hay and cotton press, the same being fully set forth in the description and claims here following.

In the drawing hereinbefore mentioned—

Figure 1 is a view in perspective of my improved press.

Figure 2, a top view.

Figure 3, a side elevation of the gripes and connected parts.

Figure 4, the same as seen from the side toward the press-box.

The frame A supports the working parts of the press, and contains the box B for receiving the material to be pressed or baled, the lower portion of the box being made removable, for the purpose of taking out the compressed bale.

The vertical bars C are secured to the bottom beam D, and supported at the top by the cross-piece E.

On each of these bars are arranged—

First, a guide, *a*.

Second, a gripe, *b*.

Third, a gripe, *b'*.

Fourth, a guide, *a'*.

Fifth, a jointed lever, *c*.

The gripe *b* is connected to the guide *a* by the link *d* pivoted in both; and the lever *c* is connected to the gripe *b'* by the link *d'*, which also holds the guide *a'*.

The guide *a* is connected to the beam F of the follower *F'* by the pivoted link *d''*, and also to the jointed lever *c* by the links *e e*, and the link *f*.

The pivot *g* forms the first or outer fulcrum of the jointed or compound lever *c*, and the pivot *g'*, which connects it to the link *d'*, forms the second or inner fulcrum.

As often, therefore, as the arm *c'* of the lever *c* is brought down in working the press, the guide *a* and the follower-beam *F'*, together with it, are drawn down both by the links *e e* and the link *f*.

The gripe *b'*, clutching the bar C, holds down the link *d'* when the lever-handle is brought down, and the gripe *b*, in like manner, holds down the guide *a*, and prevents it from rising or springing back when the lever-handle *c'* is raised to give the gripe *b'* a new hold upon the bar C.

The lever *c* is provided with several scores to receive the link *f*, so that the distance of the link from the fulcrum *g* may be varied as required.

On an arm or projection of the gripe *b'* are pivoted two props or braces, *h* and *h'*, one of which, when turned down to rest on the guide *a'*, supports the outer end of the gripe *b'*, and the other, being then turned up, supports the gripe *b* in like manner, and the gripes, with the parts connected to them, then move freely on the bar C.

When the guide *a* and the connected parts are fully raised, they may be supported by the hook *i*, so that the follower *F'* may be entirely disconnected from them by throwing back the link *d''* from the follower-beam *F*, thus leaving the follower free to be removed from the top of the box B.

If preferred, a hole may be made in the guide *a* and the bar C, so as to hold up the same parts by a pin inserted in these holes, or other equivalent device may be employed for the same purpose.

The standards G are secured upon the upper side beam of the frame A, and in them are pivoted the two levers H, projecting at one end over the follower *F'*, and provided at their ends with the pulleys I and I'.

Two other corresponding pulleys, I'', are placed in the follower-beam F, or otherwise connected to the follower.

The cords J are fastened to the inner ends of the levers H, and then passed under the pulleys I'', and up over the pulleys I' and I.

They may be operated by a crank-windlass, K, or by such other device as may be thought most eligible.

As shown in fig. 1, the follower is taken off of the top of the box B, and it is ready for filling. Cotton, hay, or other material, as the case may be, is then thrown in and trodden down, until there is enough in it to form a bale. The follower is then lowered upon it by releasing gradually the cords or ropes J, and the links *d''*, having been thrown over upon the ends of the beam F, the guide *a* is released from the hook *i*, the props *h* and *h'* knocked out, so as to allow the gripes to clutch the bars C.

The levers *c* are worked, and the contents of the box compressed by the descent of the follower.

When the bale has been sufficiently compressed and secured by bands, the lever-handle is to be raised, or partly raised, so that the gripe *b'* will be released, and the strain of the pressure thrown upon the gripe *b*. The prop *h* is then to be set up between *b* and *b'*, and the prop *h'* between *b'* and *a'*. The lever-handle being then brought down gently, both gripes will be released from the bar C, and the follower, together with the gripes and connected part, may be raised to the top of the box B by means of the ropes J.

When at the top the hooks *i* are to be applied to

the guides *a*, and, the follower being then lowered a little way to release the links *a'*, they are to be thrown back off the beam *F*, and the operation of the ropes *J* may then be continued as before.

As soon as the follower meets the lever *H*, the ropes then operate the levers themselves, bringing them into the position shown in fig. 1, and the follower is thus taken out and moved to one side, so as to leave the top of the box open and free to receive material for another bale.

If preferred, the ropes *J* may be attached directly to the follower; but in that case more power will be required to operate them.

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

1. The levers *H*, provided with pulleys *I* and *I'*, when so arranged that the follower is raised, lifted out, and moved off from the top of the box by operating the ropes *J*, substantially as described.

2. The combination of the props *h* and *h'* with the grips *b* and *b'*, substantially as and for the purposes specified.

NATHAN CHAPMAN.

Witnesses:

WM. DENNIS,
J. DENNIS, JR.