

J. B. GRIDLEY.
COTTON PRESS.

No. 111,739.

Patented Feb. 14, 1871.

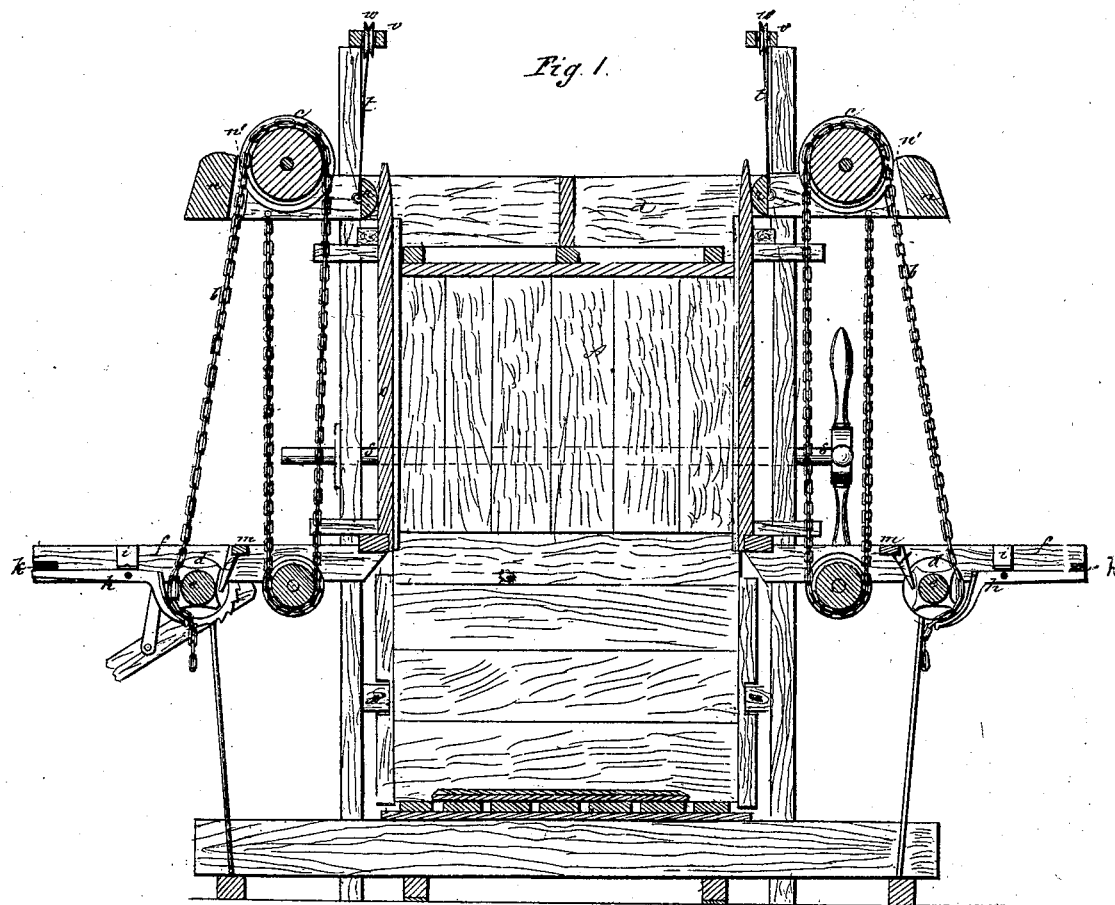
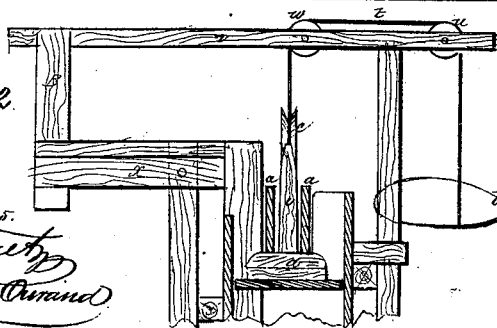


Fig. 2.



Witnesses:
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by [Signature]

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United States Patent Office.

JOHN B. GRIDLEY, OF LOUISVILLE, KENTUCKY, ASSIGNOR OF ONE-THIRD
HIS RIGHT TO ROBERT PATTERSON AND CHAUNCY RICE.

Letters Patent No. 111,739, dated February 14, 1871; antedated February 2, 1871.

IMPROVEMENT IN 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, JOHN B. GRIDLEY, of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and improved Cotton-Press; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a longitudinal sectional elevation, and

Figure 2 is a detached transverse vertical section of the upper part of the press.

This invention relates to sundry improvements in that class of baling-presses in which the follower is drawn downward by means of a chain passing through the groove of a clutch-wheel, and is raised by cords connected with an independent windlass.

The invention consists principally in a drop-chain held by the side of and beneath a clutch-wheel by means of a device called a spoon, for the purpose of preventing the links from slipping out of the clutch-wheel, said spoon being so arranged it may readily be made to drop by its own weight away from the clutch-wheel, and thus release the chain therefrom.

The invention also consists in a device for preventing the chain from rising in the groove to the opposite-side of the clutch-wheel from the spoon aforesaid; also, in a device for preventing the chain from turning while it is running in either direction; also, in rubbers attached to the follower in such a manner as to steady the same in its motion upon its guides, and to prevent the latter from being forced outward by the material in the press, said rubbers being so shaped as to allow the follower to tilt as much as may be necessary; also, in an arrangement whereby the same rope and windlass that raise the follower are used to draw it forward into position upon its guides in the press-box, after the follower has been drawn back in the usual manner upon the guide-ways at the top of the press-box, in order that it may be out of the way of the cotton while the latter is being placed in the box.

In the drawing—

A is the press-box.

a, the follower-bar.

b b, the chains by which the follower is lowered, the manner of operation of which chains being well known it is not necessary to describe.

c c, grooved sheaves near the ends of the follower-bar, over which the chains b run.

d d, the clutch-wheels, which are fixed on shafts e e between parallel beams f f, that project horizontally from each end of the press-frame, in these beams the shafts e being mounted.

h, the spoon, by which, when it is pressed against the periphery, the chain b is confined in the groove of

the clutch-wheel. Each spoon h has a concave face which fits the periphery of the clutch-wheel.

The spoons are pivoted between lugs i, which extend toward each other from the inner sides of the beams f.

In fig. 1, k are levers, each of which is jointed at one extremity into one of the beams f, and which may be turned over the outer ends of the spoons h into grooves made for the reception of each lever in the outer end of that one of the beams f to which the lever is not jointed. When the levers are thus turned into their groove over the spoons the latter are held in contact with the clutch-wheels. When the levers k are turned off from the spoons h, the latter, being heavier at their inner ends, fall by their own weight away from the clutch-wheels and release the chains therefrom.

In fig. 1, l are fingers, which project downward from bars m that are attached cross-wise to the upper sides of the beams f. The fingers l extend into the grooves of the clutch-wheels and prevent the chains from rising therein to points opposite the spoons h.

In fig. 1, n are blocks fixed in the outer ends of the follower-bar a.

n' are grooves cut in the inner faces of the blocks n, which grooves the chains b partially enter as they move up or down, by these grooves said chains being kept from twisting.

In fig. 1, o o are vertical posts at the ends of the press-box, which posts pass through the central groove of the follower-bar a and serve as guides for the same, and also to prevent cotton from oozing out at the ends of the press-box while the follower is descending.

r r are rubbers, fixed in the bar a in contact with the outer sides of the guides o. By the rubbers r the follower is steadied in its movements on the guides, and the latter are also held against the outward pressure of the cotton. The rubbers are made convex in form on the sides next the guides o, so as to admit of the tilting of the follower, of which there must always be more or less.

In fig. 1, s is a windlass, mounted horizontally on the outside of the press-box A.

t are cords, fastened at one extremity to the windlass s, passing thence up over sheaves u in the top cross-pieces v of the press-frame; thence over sheaves u in the same cross-pieces; and thence downward to the follower-bar a, to which the opposite ends of the cords are secured. On turning the windlass s the follower is raised by means of the cords t. Arrived at the top of the press-box and clear of the guides o, the follower is drawn aside upon the guide-ways x, fig. 2, so that it may be out of the way when a fresh supply of cotton is placed in the box.

The press having been recharged, it is necessary

that the follower should be drawn over the box. This is done by turning the windlass *s* in the same direction in which it was turned to elevate the follower, the arrangement being such that when the follower is drawn back upon the guide-ways *x* the motion of the windlass is thereby reversed, so that to draw the follower over the box again it is only necessary to continue the motion of the windlass in the original direction.

In fig. 2, *B* are hangers, which connect the top cross-pieces *v* with the outer ends of the guide-ways *x*. The hangers *B* are, as to the cross-pieces, parts of the side frame of the press-box, and serve to prevent the guide-ways *x* from settling, while the cross-pieces prevent the sides of the press from spreading apart, and the whole forms a strong frame-work.

Having thus described my invention,

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

1. The chain *b*, when held by the side of and beneath the clutch-wheel *d* by means of the spoon *h* and lever *k*, substantially in the manner and for the purpose specified.

2. The finger *l*, in combination with the grooved clutch-wheel *d*, substantially as and for the purpose described.

3. The follower-bar *a*, guides *o* rigidly attached to the press at their lower ends and loose at their upper ends, and convex rubbers *r*, all arranged as explained.

4. The arrangement of the windlass *s*, cords *t*, sheaves *u w*, and follower-bar *a*, substantially as specified, and to the end that the follower may be drawn over the press-box by a continuation of the same motion that elevated it.

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Witnesses:

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