M. D. Cheek,

Hay Press.

No. 85,365. Patented Dec. 29, 1868.

Fig. 1.

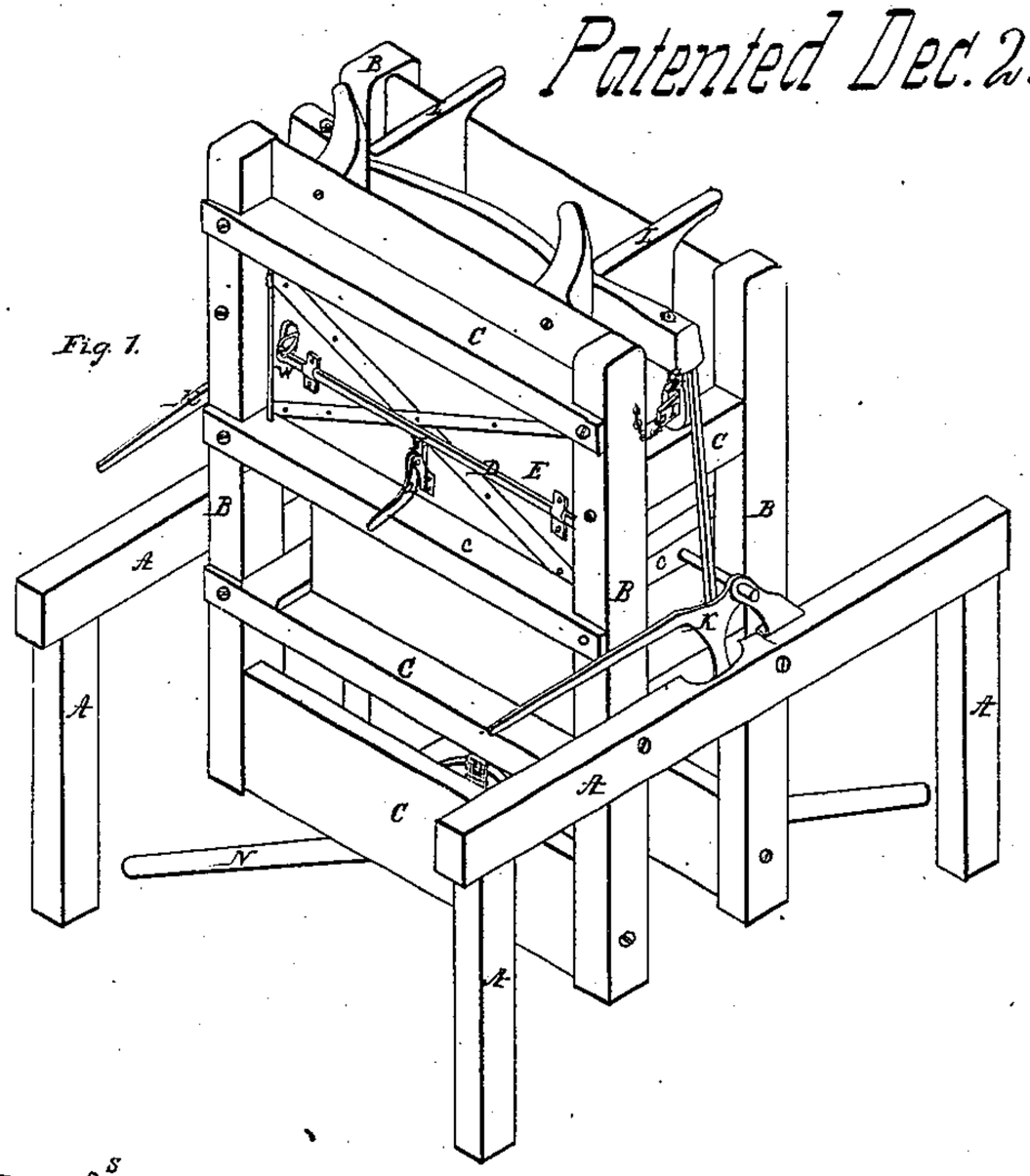


Fig. 4.

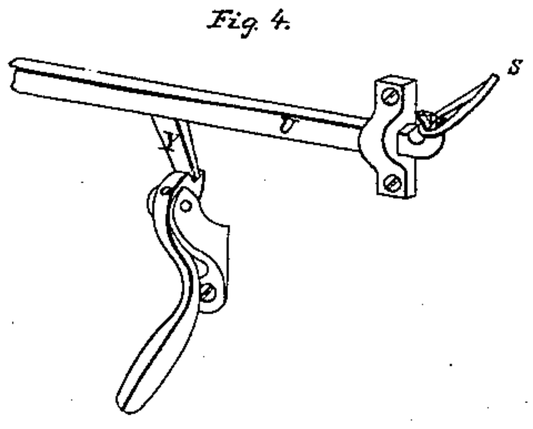


Fig. 2.

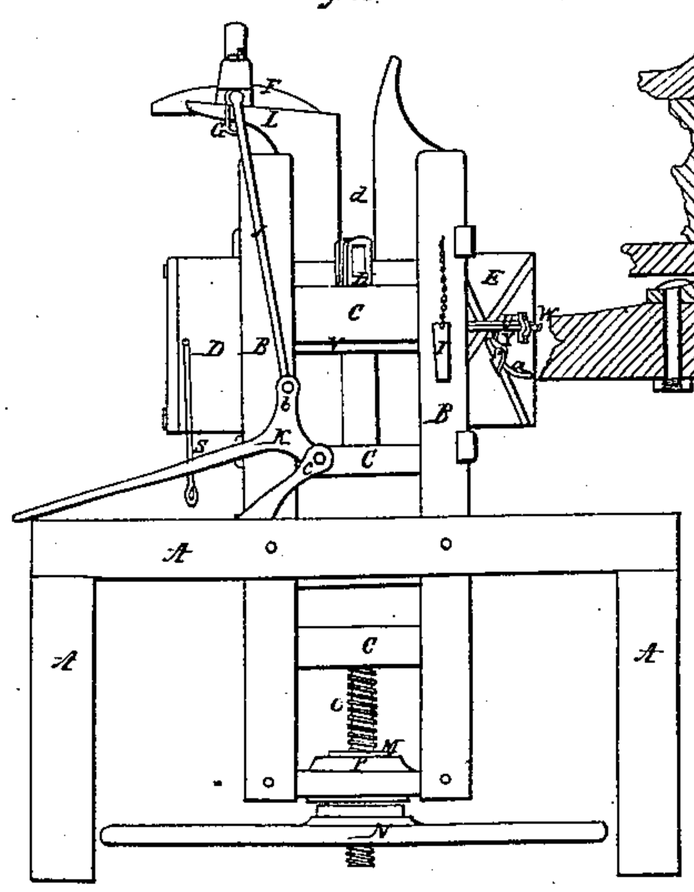
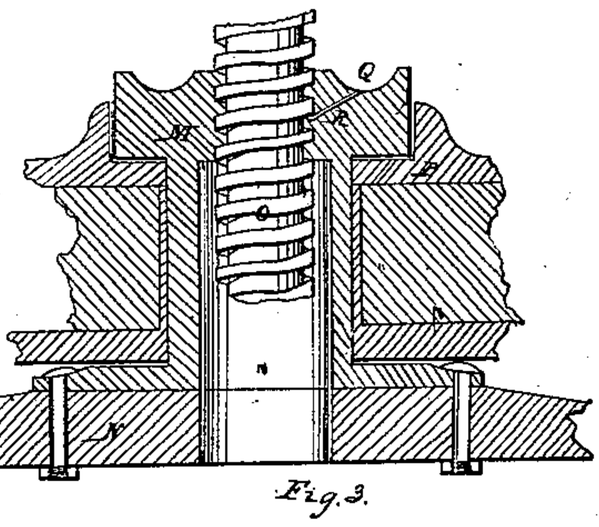


Fig. 3.



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Letters Patent No. 85,365, *dated December* 29, 1868.

IMPROVED BALING-PRESS.

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, M. D. CHEEK, of Memphis, in the county of Shelby, and State of Tennessee, have invented a new and useful Improvement in Baling-Presses; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my press.

Figure 2 is an end elevation of the same.

Figure 3 is a vertical section through the nut and its seat, and showing a portion of the screw in position.

Figure 4 is a perspective view of a part of the locking-bar and its latch.

My invention relates to a cheap form of baling-press, suitable for farm or plantation-use, and particularly adapted to baling cotton on the plantation.

For convenience, I will describe my press as used for baling cotton, though it may be used to advantage in baling hay and other substances.

That others may understand my invention, I will particularly describe it.

The timbers A A, figs. 1 and 2, are portions of the frame-building, in which the press is situated, the press being placed therein so that its top portion will project above the floor, where the cotton is stored, and the bottom portion will project below said floor, and to within about four feet of the floor below.

The timbers B B are the four corner-timbers of the press; and

C C are the cross-timbers, framed into the timbers B B, and the whole secured together by metal bolts in the usual manner.

Inside of the frame, composed of timbers B C, is the plank sheathing, forming the compressing-chamber.

At the top of this chamber are two doors, D E, which, when opened, expose the two sides of the compressed bale, and permit the straps to be adjusted and secured.

The top of the pressure-chamber is closed by a removable head, F, which, when removed, exposes the whole interior of the chamber, and permits the cotton to be placed therein.

This head is provided with very strong eye-staples, G, one or more at each end.

These fit between corresponding staples, H, which are secured to the frame of the press, and a key, I, secures them together.

The head F is also hung, by jointed connections and connecting-rods J, to the T-head levers K, by which levers, &c., the head F is raised out of the packing-chamber, and moved to one side upon the horizontal guides L L, small rollers being placed beneath the packing-head to facilitate its sideways movement.

At the bottom of the press-frame is a nut, M, and lever N, through to which travels a screw, O, and at the top of the screw O is the usual platen or follower, fitting the interior of the packing-box.

The nut M is seated in a box, P, which is secured to the upper side of a cross-timber, at the bottom of the frame.

The nut extends downwards through said box and timber, and is secured fast, at its lower end, to the lever N, by which it is turned.

The screw-thread is cut in the upper part of the nut, and extends downward to a point about opposite to the surface of its seat in the box P, and below that point the nut is chambered so as not to touch the side of the screw-thread.

An annular channel, Q, is made in the top of the nut, as a receptacle for a lubricating-substance, and from this channel a hole, R, is made to convey said lubricant to the screw-threads, and it will be observed that the hole R communicates directly with the upper surface of the female thread, that being the frictional surface, and therefore introduces the lubricant directly between the frictional surfaces, instead of introducing it upon surfaces not in contact, and depending upon its own power of penetration to reach the frictional surfaces.

A similar hole may also be made to convey the lubricant to the frictional surface of the nut and its seat in the box M.

When the bale is being compressed, there is of course great lateral strain upon all parts of the pressure-chamber, and it is, therefore, necessary to secure the doors D E in such a manner that they shall be able to resist said strain, but also so that they may be readily unlatched and opened, notwithstanding the pressure upon them.

To this end, I secure stout straps or loops of iron to each end of the door D, and these loops extend across the end of the press, and are caught by the hooks W, on the tumbling-bar U, as shown in figs. 1 and 4.

The loops S are guided to their proper positions by gutters or troughs V, fig. 2, so that the hooks W, when the tumbling-bar U is turned back, permit the loops to pass over the points of the hooks.

At the middle of the tumbling-bar U is a short arm, Y, which engages with a latch, *a*, which is secured to the side of the door E, and holds the tumbling-bar in position against the pressure of the loops on the hooks.

The hooks W are so made that when the loops draw upon them, the strain will be very nearly across the axis of the bar, and with but little leverage, so that the pressure of the arm Y upon the latch *a* can never be so great as to render them difficult of attachment, and when the latch *a* has been detached from the arm, the loops S will always be liberated from the hooks W, and the doors be opened.

The ordinary packing-press used on cotton-plantations, requires a box of about ten feet in perpendicular height to contain sufficient cotton for one bale. This box is filled with loose cotton, which is then tramped down, and more loose cotton put in and again tramped down, and so on, until it has been filled to its utmost capacity. The packing-head is thus secured in place, and the screw or other power applied to compress the mass to the dimensions for a bale.

In my press, the length of the pressing-chamber may

be reduced to about six feet and six inches, a very important reduction in the cost of framing, and the difficulty of securing the parts together, but most important in the reduction of the necessary length of the screw from seven and a half feet to four feet. This important reduction is effected by the use of my packing-head F, which, being jointed to the opposite ends of the T-head of the lever K, as shown, enables me to depress the packing-head with considerable power, though a short distance, and I accordingly employ their power for the preliminary packing, and by it am enabled to compress as much cotton with a six-foot box as was possible by the old way to compress in a ten-foot box.

The operation of my press is as follows:

The doors D E are closed and secured by the loops S, projecting through the troughs V, and being secured upon the hook W by the latch *a*. The screw O and its follower are then run down to the bottom of the pressure-chamber, and the pressure-head F is raised up and run to one side upon the guides L. The interior of the pressure-chamber is now exposed, and the loose cotton may be placed therein until it is filled to the top. The packing-head F is then run into position, and by moving the levers K from the position shown in fig. 2 to that shown in fig. 1, the head F is thereby forced to descend into the packing-chamber a distance equal to twice the distance between the pivots *b c* of the lever K and the cotton is compressed that much. A reverse movement of the levers removes the head F again for the admission of more cotton, and this process is continued as long as any compression can be effected by the levers K.

The keys I are then inserted, and by turning the lever N, the screw O and its follower are forced up and the bale is compressed. When the follower has reached the level of the bottom of the doors D E, the compressing is suspended, the doors are opened, and the bale is strapped in the usual way.

It is of course necessary that the pressing-head F should move up and down in the pressure-chamber in a straight line, and to secure that result the guide-way *d* is made in the ends of the pressure-chamber, and on one side this guide is extended upward sufficiently to prevent a movement of the packing-head out of its place in that direction.

Having described my invention,

What I claim as new, is—

1. The combination of the T-head lever K, packing-head F, connecting-rod J, or its equivalent, and the guides *d* and L, substantially as set forth.

2. The tumbling-bar U, with hooks W W, in combination with the latch *a* and straps S S, substantially as and for the purpose set forth.

3. The straps S S, attached permanently to the ends of one of the doors, and engaging with hooks W W, or equivalent devices, upon the other door, so as to relieve the press-frame from lateral pressure, substantially as described.

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Witnesses:

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