

(No Model.)

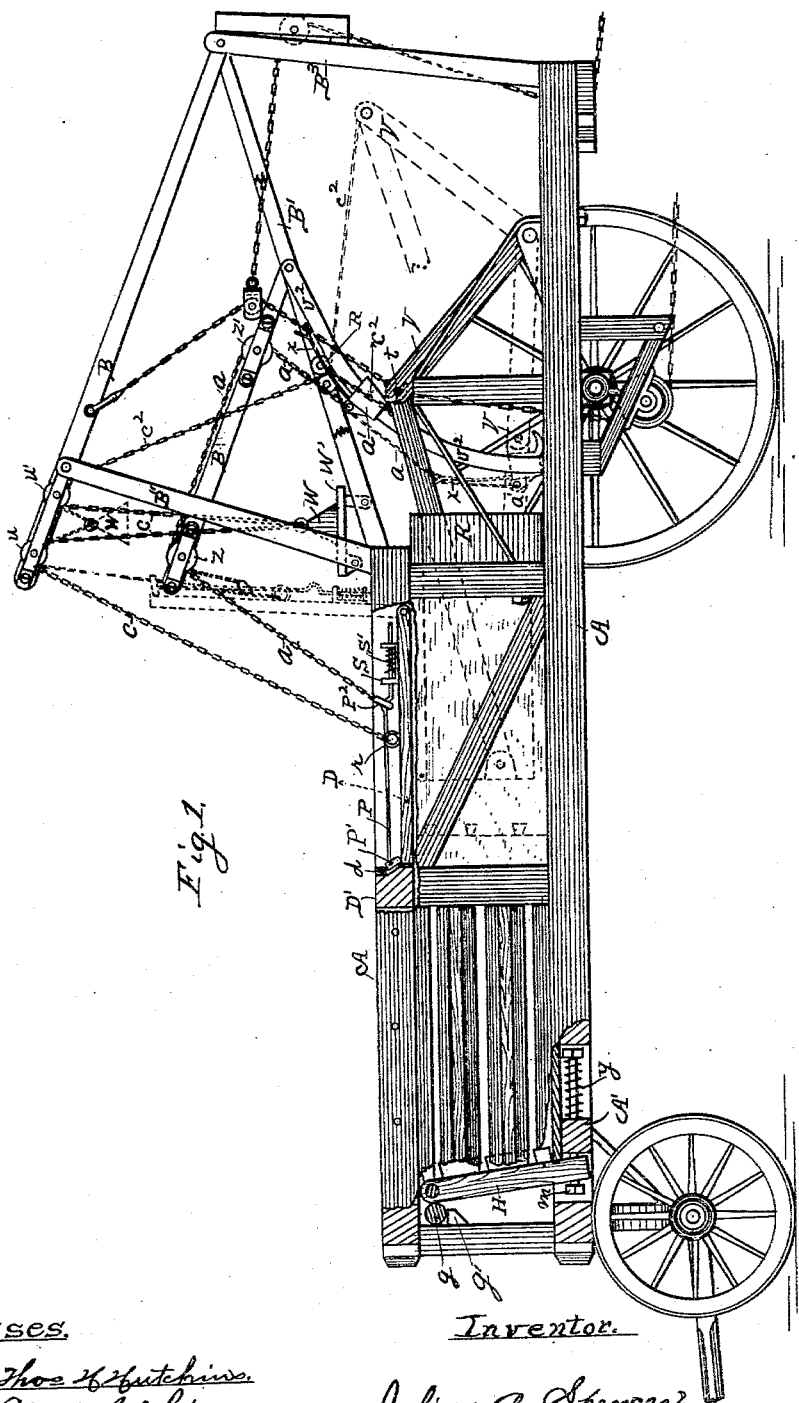
2 Sheets—Sheet 1.

J. A. SPENCER.

BALING PRESS.

No. 304,143.

Patented Aug. 26, 1884.



Witnesses.

Thos H Hutchins.
Wm J Hutchins.

Inventor.

Julius A. Spencer?

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

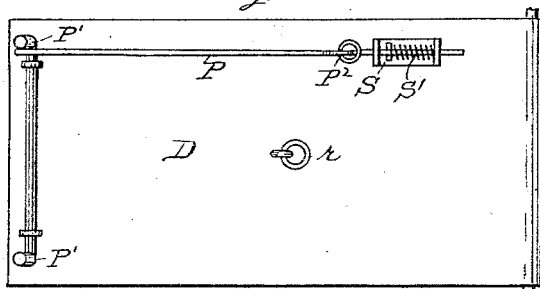


Fig. 3.

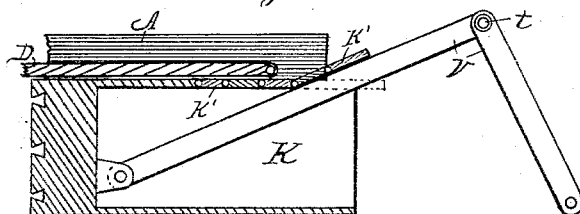


Fig. 4.

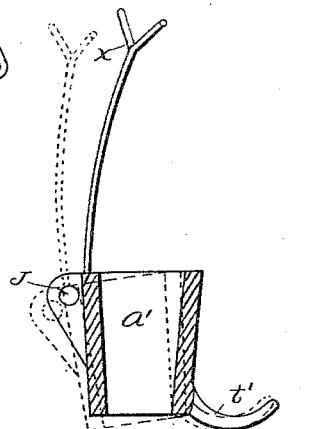
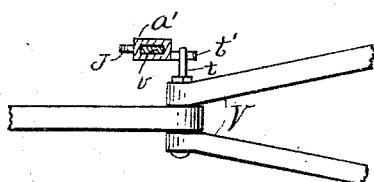


Fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

JULIUS A. SPENCER, OF DWIGHT, ILLINOIS.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 304,143, dated August 26, 1884.

Application filed December 27, 1883. (No model.)

To all whom it may concern:

Be it known that I, JULIUS A. SPENCER, a citizen of the United States of America, residing at Dwight, in the county of Livingston and State of Illinois, have invented certain new and useful Improvements in Baling-Presses, of which the following is a specification, reference being had therein to the accompanying drawings.

Figure 1 is a side elevation with one rear wheel left off. Fig. 2 is a plan view on the top of the feed-door D; Fig. 3, a vertical longitudinal section of plunger K in front of the toggle-joint; Fig. 4, a vertical sectional view of the slide *a'*, and Fig. 5 a top view of a portion of the toggle-joint and a horizontal section of segment-guideway *v* and slide *a'*.

This invention relates to certain improvements in baling-presses for baling hay or any fibrous material, and is intended to be improvements in the baling-presses for which Letters Patent of the United States, dated August 22, 1882, No. 262,992, and May 29, 1883, No. 278,371, were granted to me, and which improvements I will proceed to explain.

Referring to the drawings, especially to Fig. 1, A represents the main frame of the machine, supported on four wheels to render it portable. This frame A is provided with the horizontal reciprocating plunger or follower K, driven or reciprocated by means of the toggle V, the means for operating which is fully shown and described in said former patents. The feed-opening in this machine is located on the top of the machine, and is opened and closed by means of the door D, hinged at its rear end in the frame A, and adapted to be opened and stand vertical, as shown by the dotted lines in Fig. 1, while the material to be baled is being fed into the machine.

Fig. 2 shows a plan view on the top of the door D, and more clearly shows the mechanism for latching the door shut when in the position shown in Fig. 1. This latch consists of the cross rolling shaft P', secured to the top of the door D, as shown in Fig. 2, by a pair of staples, and having each end bent to turn up at right angles. To one of the turned-up ends is pivoted the bar P, having its rear end passed through a pair of studs, S, and provided with

a coil-spring, S', between said studs, and adapted to constantly drive the bar P forward, so that when the door D is let down it will cause said turned-up ends of the rolling shaft P' to fall under the cross-bar *d*, as shown in Fig. 1, whereby that end of the door D is securely held down, so that pressure from below will not force it open.

The unlatching of the door D is done by chain *a*. This chain *a* has one end attached to latch P in the crimp P', passes thence up over pulleys *z* and *z'* and attaches at the other end to the slide *a'*, that is caused to traverse the curved post or way *v*, when the toggle in its descent engages with its projecting arm *t* by means of the pin *t*, as shown in Fig. 5. When the toggle causes said slide to descend it will pull on chain *a*, which will simply unlatch the door at a time when the front end of the follower K has reached the front end of the door D, as shown in Fig. 1. After the door is unlatched it is very desirable that the door D should open quicker than the gradual pull on chain *a* would open it. This is accomplished by chain *c* and weight *w*. One end of chain *c* attaches to the door D at *r*, and passes from thence up over the pulley *u* and down and attaches to the weight *w*. When the door D is closed, as shown in Fig. 1, the chain *c* will hold weight *w* suspended. The instant chain *a* unlatches the door the weight *w* and chain *c* will raise door D to stand vertical, as shown by the dotted lines, and the weight will have descended to rest on the shelf *w'*, and the door D will have been raised instantly without waiting for chain *a* to do it.

Chain *c'* is for the purpose of elevating the weight *w* so the door D can be easily closed again. This chain *c'* has one end attached to weight *w*, passes thence over pulley *u'*, under pulley R, and then attaches to the toggle-joint V. When the toggle has moved back, as shown by the dotted lines, chain *c'* has raised weight *w*, as shown by the dotted lines. As soon as toggle V begins to move forward, chain *c'* slackens, and then the weight *w* is suspended by chain *c*, and there remains until toggle V has moved forward and engaged with slide *a'*, and thereby, by means of its attachment to chain *a*, unlatched the door D, at which

time chain *c* and weight *w* will raise the door D quickly, as set forth. When door D stands vertical, or nearly so, the end of chain *a*, attached to bar P, will slide along on it out of crimp P², so as to permit slide *a'* to descend to the bottom. Slide *a'* has attached to it a forked arm, *x*. (Shown in Fig. 4.) When slide *a'* descends to the bottom, forked arm *x* will catch chain *a*, as shown in Fig. 1, and hold it forward out of the way of the toggle V until door D is let down again and takes up the slack of chain *a*. It is intended that the operator will close the door D after the feed-chamber is filled and the plunger ready to move forward.

In order to obtain a longer stroke of the plunger K, its roof is made in separate sections K', hinged together, so it will be flexible, as shown in Fig. 3, which permits the toggle to rise sooner or farther than it would if the roof were all in one piece and stationary. By this arrangement the toggle can elevate the roof, as shown in said figure, as it moves either way, and, being in sections, can be elevated and give the toggle all the room it needs without interfering with the door. By making said roof in sections the toggle can be constructed with longer arms, and have a much longer stroke than could otherwise be obtained. The bale-chamber is provided with a flexible yielding head, H, as shown in Fig. 1, pivoted into the frame A at its upper end, from which it hangs and swings. As the hinge, at its upper end, might not be strong enough to resist the great pressure of the bale, a roller, *g*, is placed behind it on a bracket, *g'*, which roller is free to roll between the frame A and head H as said head swings, and thereby supports the upper end of the head against the frame, and by means of rolling reduces the friction of the parts. The lower end of the head H has the bolt *m* passed through it toward the rear of the machine and through the cross-beam A' of the frame A. Either end of the bolt *m* is provided with a large head, so it cannot pull through.

The rear end of the bolt *m* is provided with the coil-spring *y*. This spring *y* performs the service of holding the lower end of the head H nearer the plunger K, as shown in Fig. 1, while the bale is being formed, and by its inclination tends to compress the bottom of the

bale first, and also serves to drive the hay or fibrous material upward toward the top of the bale-chamber, thereby forming the bale more compactly at the top.

The spring *y* is intended to be very strong, so it will permit the head H to stand vertical only when the bale is finished, and when the bale has been tied and the plunger withdrawn the force of the spring *y* will start the bale backward to loosen it from the sides of the bale-chamber should it adhere to the sides of the bale-chamber on account of being damp or from other causes.

The bale is intended to be ejected from the side of the bale-chamber in the ordinary manner, not necessary to be shown in this application, as it forms no part of this invention.

Proper platforms are intended to be erected at the side of the machine to render it easy to feed and operate it.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is as follows, to wit:

1. In the baling-press described, the combination of the chain *a*, door D, slide *a'*, guide *v*², and toggle-joint V, adapted to operate as and for the purpose set forth.

2. In the baling-press described, the combination of the weight *w*, chain *c*², pulley *u'*, pulley R, and toggle V, adapted to operate as and for the purpose set forth.

3. In the baling-press described, the flexible roof K' of the plunger K, adapted to operate as and for the purpose set forth.

4. In the baling-press described, the combination of the frame A, head H, pivoted at its upper end to the frame A, roller *g*, bolt *m*, and spring *y*, all adapted to operate as and for the purpose set forth.

5. In the baling-press described, the combination of the frame A, door D, having the rolling bar P', bar P, and spring S', forming its latch, chains *a*, *c*, and *c*², weight *w*, beam *d*, sheaves *z*, *z'*, *u*, *u'*, and R, beams B, B', B'', and B''', guide *v*², slide *a'*, having the hook *t'*, and forked arm *x*, and toggle V, all adapted to operate as and for the purpose set forth.

JULIUS A. SPENCER.

Witnesses:

THOS. H. HUTCHINS,
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