

(No Model.)

2 Sheets—Sheet 1.

J. M. SANDERS.
BALING PRESS.

No. 510,821.

Patented Dec. 12, 1893.

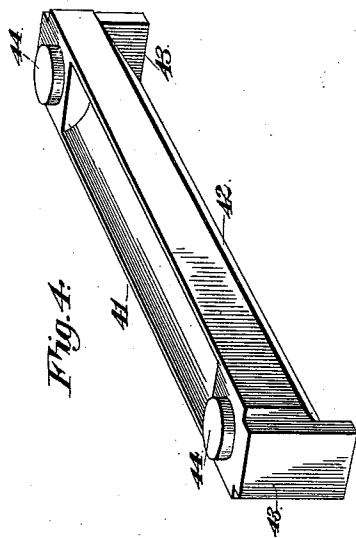


Fig. 4.

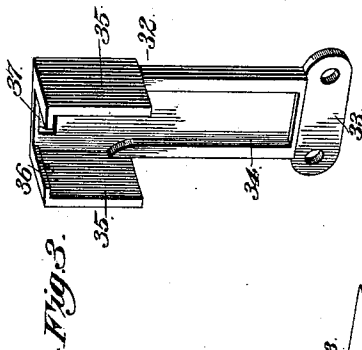


Fig. 3.

Fig. 1.

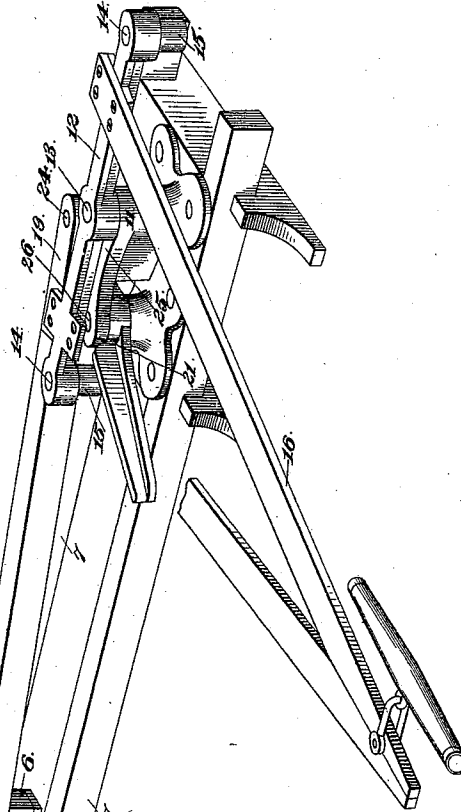
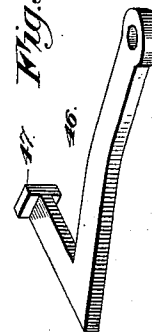


Fig. 5.



Witnesses

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2 Sheets—Sheet 2.

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Fig. 2.

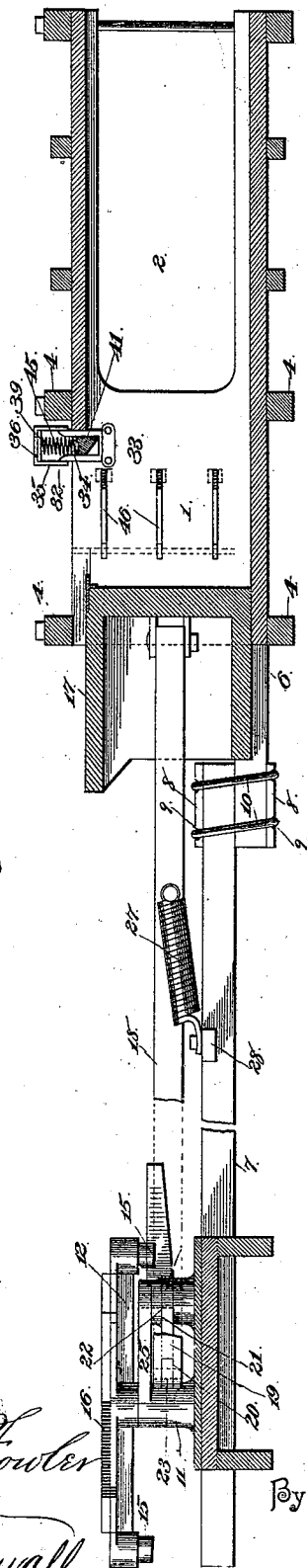


Fig. 6.

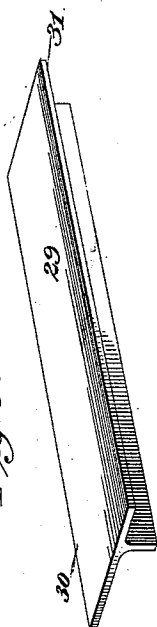
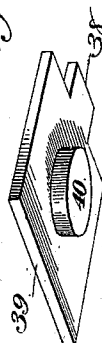


Fig. 7.



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UNITED STATES PATENT OFFICE.

JOHN M. SANDERS, OF DALTON, GEORGIA.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 510,821, dated December 12, 1893.

Application filed December 2, 1891. Serial No. 413,804. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. SANDERS, a citizen of the United States, residing at Dalton, in the county of Whitfield and State of Georgia, have invented a new and useful Improvement in Baling-Presses, of which the following is a specification.

This invention relates to improvements in baling-presses, and is especially intended as an improvement upon United States Patent No. 450,301, granted me April 14, 1891.

The objects of my present invention are to simplify and improve the various details included therein, thus rendering the press stronger and more durable and to so arrange the plunger-actuating mechanism as to increase the capacity of the press—in other words, to adapt the plunger to reciprocate twice to each revolution of the sweep.

With these objects in view the invention consists in certain features of construction hereinafter specified and particularly pointed out in the claims.

Referring to the drawings:—Figure 1 is a perspective view of a baling-press embodying my improvements. Fig. 2 is a longitudinal sectional view thereof. Fig. 3 is a detail in perspective of one of the cast-metal boxes, for supporting the springs for actuating or yieldingly supporting the upper detent. Fig. 4 is a detail in perspective of the upper detent. Fig. 5 is a detail in perspective of one of the side-detents. Fig. 6 is a detail in perspective of one of the tucker plates. Fig. 7 is a detail in perspective of one of the removable caps, employed in the upper end of the upper detent spring-supporting box.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 designates the packing-chamber, the upper side of which is open, and 2 designates the baling chamber, the opposite sides of which are open, giving access to the bale for the purpose of adjusting the bands thereon. The chambers are built in a series of heavy rectangular frames, consisting of opposite vertical side-bars 3, connected at their upper and lower ends by transverse bars 4, bound together beyond the side-bars 3 by means of binding-rods 5.

6 designates the side-sills of the press, and to the same are secured draft-bars 7. These

bars or beams 7 may be connected to the sills 6, of which they are virtually a continuation, by any suitable means; such as bolts, clamps, &c., and in the present instance I have illustrated a clutch or clamp that I have devised (best shown in Figs. 1 and 2) and the same consists of a pair of plates applied to the upper and lower surfaces of the overlapped ends of the sills and beams. These plates, which I have designated as 8, are provided upon their outer surfaces with notches 9, which notches are embraced by oblong clamping-loops or stirrups 10, which when the sills and beams are strained, as when the machine is in operation, are inclined, and hence the greater the strain the greater the inclination and clamping effect of the beams upon the sills. At the inner ends of the beams 7, there is bolted a tubular standard 11, formed of cast metal. A cross-bar 12 formed of cast metal has a steel pin 13 projecting from its lower side at its center, and similar though smaller pins 14 depend from the ends of the arm 12. These smaller pins form journals for loose rollers 15, while the pin 13 extends into the tubular standard 11. Clipped, bolted or otherwise secured to the extremities of the cross-bar 12 is a V-shaped sweep 16, to the outer end of which is designed to be attached the usual single-tree.

17 designates the plunger-head, which is secured at the front end of the plunger 18, and is adapted to reciprocate in the packing and baling-chambers. To the outer end of the plunger 18 there is bolted the casting 19, the front end of which is bifurcated as at 20 and perforated. 21 designates the plunger-actuating lever, the center of which is perforated as at 22 and the inner end of which is perforated as at 23, the latter end fitting between the bifurcations 20 of the casting 19, and being connected pivotally to said bifurcations by a pin 24. A pivoted arm 25 is perforated to receive the depending pin 13 from the cross-arm 12, and at its outer end is perforated as shown and is pivoted to the perforation 22 of the plunger actuating-arm 21 by a pin 26. The outer end of the lever 21 is beveled, and inclined as shown, and is arranged in the path of and adapted to be struck by the loose rollers 15, as the cross-arm 12 is rotated upon its pin 13. A spring 27 connects

with the plunger and with a lateral extension 28 extending from the sills 7. The plunger is provided with a tucker-plate 29, consisting of an L-shaped securing-flange 30 for embracing the advance horizontal edge or corner and a horizontal tucking-flange 31.

In recesses formed in the inner faces or surfaces of the side walls of the baling-chamber, there is mounted a pair of metal boxes 32, provided at their lower ends with perforated bolt-receiving securing-plates 33, at their inner faces with vertical ways 34, at their upper ends with a pair of forwardly-disposed ears 35, terminating at their upper edges in ribs 36, and the back walls of said boxes are each provided with perforations 37. In these perforations 37 take reduced tenons 38, formed at the rear edges of caps 39, one of which is employed for each of the boxes, and each cap is provided upon its under side with a circular lug or trunnion 40.

41 designates a cast-metal detent, the lower edge of which is beveled as at 42, and the ends of which have blocks 43 cast thereon, adapted to fit and slide within the ways 34 of a pair of opposite boxes 32. Annular lugs 44 are formed upon the upper sides near the ends of this detent, and coiled springs 45 are interposed between the ends of the detent and the caps 39. The lugs 40 and 44 of the caps and detent extend into the ends of the springs and serve to maintain the same in position.

Through a series of longitudinal slots formed in the side-walls of the baling-chamber, triangular detents 46 have their angular portions passed and extended into said chamber. The front ends of the detents are pivoted, for which purpose they are perforated, as shown, while at their free outer ends transverse heads 47 are formed. Secured by a bolt 48 opposite each of the detents 46, is a flat spring 49, the same being confined near the bolt 48 by a keeper 50 and having its free end resting upon the head 47 of the detent, whereby the angular end of the latter is normally pressed into the box or baling-chamber.

This completes the construction, and the operation, briefly stated, is as follows: The hay is fed in the usual manner into the baling-chamber, and the team started. As the sweep 16 revolves upon the post or standard 11, the rollers 15 depending from the ends of the cross-bar 12, are successively brought in contact with and ride against the rear face of the lever 21, from a point in rear of its center to its outer end. The riding of the rollers against the lever carries the lever with it, and the arm 25 serving as a fulcrum for the lever, the plunger is forced to the rear to be

returned by the spring after the roller has passed beyond the lever, after which the second roller repeats the operation and so on, the hay being packed in the baling-chamber in the form of a bale, and the plunger making two reciprocations to each revolution of the horse and sweep. After the bale has been formed and is pushed from the packing-chamber, the bale-bands are applied in the usual manner.

It will be seen that by the provision of the two depending rollers, the formation of the bale is greatly facilitated, as well as its density increased, as the frequency of reciprocation of the plunger will serve to compress the hay after every material deposit of the same in the baling-chamber.

It will be seen that I have greatly improved upon the construction shown in the patent heretofore referred to; that I have adapted all the parts to be cast so that the machine as a whole is greatly simplified, rendered more durable, less expensive and more efficient.

Having described my invention, what I claim is—

1. In a baling press, the combination with the baling-chamber, of guides 34 provided with caps 39, the detent provided at its extremities with boxes to fit in said guides, and springs interposed between the ends of the detent and the caps, substantially as specified.

2. In a baling press, the combination with the baling-chamber, of boxes 32 having guides 34 and ears 35, the caps 39 arranged between said ears and provided with lugs 40, the detent provided at its ends with boxes to slide in said guides and having lugs 44, and springs engaging aligned lugs 40 and 44, substantially as specified.

3. The combination with the baling-press, having the opposite recessed side-walls, of the cast-metal boxes terminating at their lower ends in perforated securing-plates, said boxes being provided with forwardly-disposed side-walls having flanges at their upper ends, and between said walls having an opening, and a vertical way, the beveled cast-metal detent having its ends terminating in blocks mounted in the ways, the caps having the tenons mounted in the perforations and the springs interposed between the caps and ends of the detent and fitting lugs formed on said caps and detent, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN M. SANDERS.

Witnesses:

D. C. BRYANT,
D. K. McKAMY.