

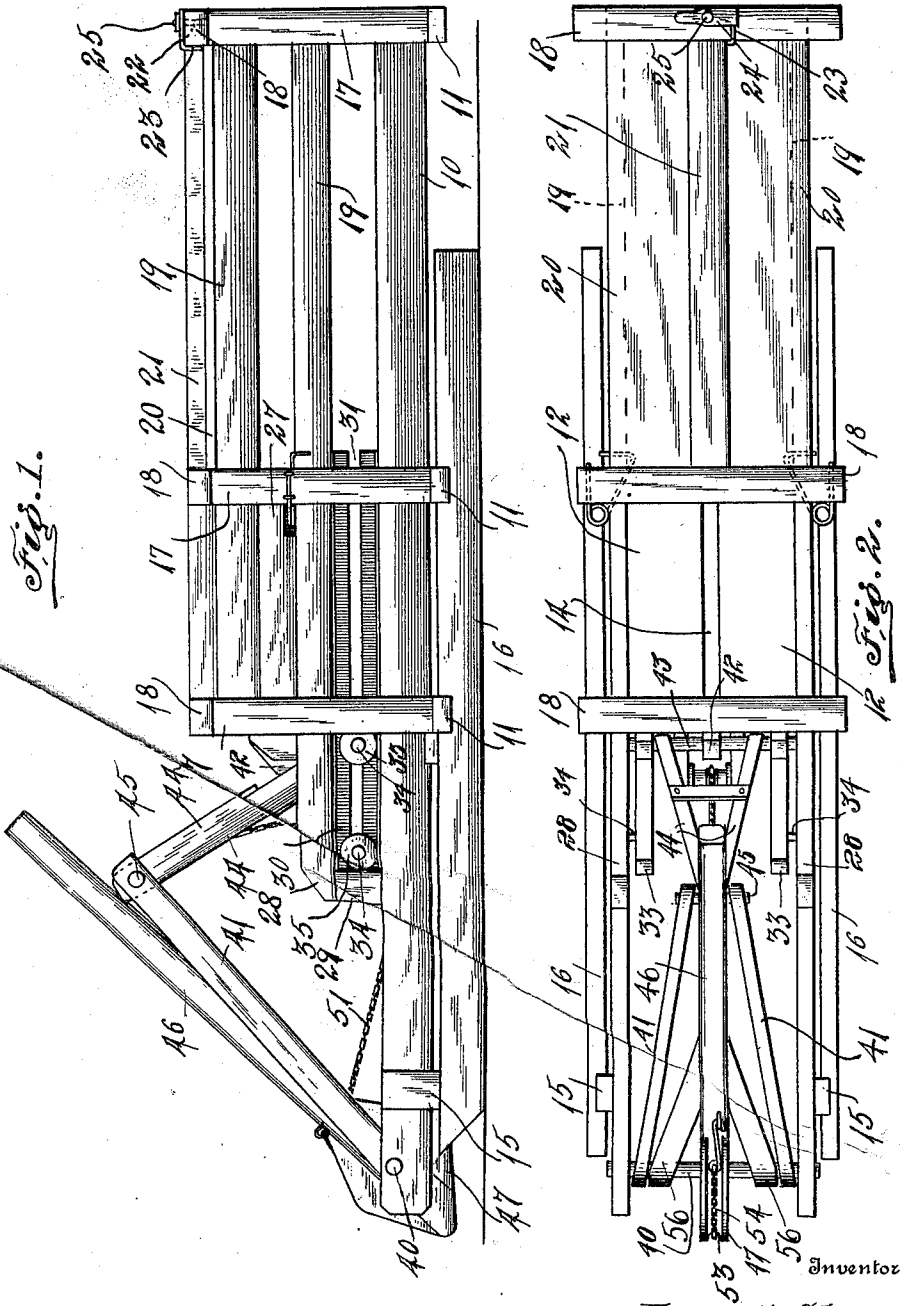
BALING PRESS.

APPLICATION FILED APR. 16, 1909. RENEWED JAN. 5, 1912.

1,032,783.

Patented July 16, 1912.

2 SHEETS—SHEET 1.



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2 SHEETS--SHEET 2.



Tip. 6. 50 49
 27 25 24 22
 Tip. 7. 10

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UNITED STATES PATENT OFFICE.

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BALING-PRESS.

1,032,783.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES H. SHAW, a citizen of the United States, residing at Ashdown, in the county of Little River, State of Arkansas, have invented certain new and useful Improvements in Baling-Presses; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to presses and has special reference to presses designed for baling hay and the like.

The principal object of the invention is to provide a novel form of compressing mechanism to be utilized in presses of this character.

With the above and other objects in view, the invention consists, in general, of a feed hopper, a baling chamber, a follower, and novel means for actuating the follower to compress the hay.

The invention further consists in certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawings, and specifically set forth in the claims.

In the accompanying drawings, like characters of reference indicate like parts in the several views, and:—Figure 1 is a side elevation of a press constructed in accordance with this invention. Fig. 2 is a top plan view thereof. Fig. 3 is a longitudinal median section, showing the follower head retracted in full lines and extended in dotted lines. Fig. 4 is an end elevation of Fig. 1. Fig. 5 is a detail showing the arrangement of a locking bar used in connection with this invention, and Fig. 6 is a detail front elevation thereof.

The numerals 10 indicate the bottom longitudinal frame bars of this press and these frame bars are held in spaced relation by means of suitable cross bars 11. Spaced bottom boards 12 are secured to these cross bars and extend approximately even with the rear ends thereof. At 13 is a block which is mounted on the rear cross bar 11 and serves to properly position the bottom boards 12 so that there is a slot 14 formed therebetween. Near the forward end of the members 10 are standards 15 and on the lower ends of these standards and the for-

ward pair of cross bars 11 are mounted sled runners 16 in order that the machine may be drawn from place to place. Extending upward from the cross bars 11 are side frame members 17 which have their tops united by top frame members 18. Side bars 19 are secured to the side frame members and top boards 20 are held in spaced relation on the two rear frame members 18, the slot between the two being covered by a suitable cover board 21. Formed in the lower face of the rear end of the cover board 21 and adjacent the rear frame member 18 is a transverse bearing in which is journaled one end portion of a locking element 22. This portion extends across the slot between the top boards 20, and is formed with a loop 23 which normally projects downwardly through said slot for a purpose hereinafter to be described. The other end of the element beyond the loop 23 is bent at right angles, as at 22^a, and the extreme end 22^b thereof is bent rearwardly to form a resultant finger-piece which when the loop 23 is in its normal position will lie upon the top of the rear frame member 18. In order to retain the loop 23 in its normal position, there is pivotally mounted upon the member 18 a lock 24, said lock being pivotally connected to the element by means of a bolt 25. It will be observed that upon swinging the lock 24 from engagement with the finger-piece 22^b, the locking element 22 may be oscillated so as to dispose the loop 23 in a horizontal plane. Between the forward frames and extending thereabove is mounted a hopper 26 and supplemental side boards 27 are also mounted between two forward frame members. The lower side bars 19 are extended forward of the forward frame member as indicated at 28 and is held in spaced relation to the member 10 by means of a spacing block 29. Guides 30 preferably composed of angle plates are carried on the members 10 and lower members 19 and have their opposed edges in spaced relation so as to form a slot therebetween as indicated at 31. At 32 is a follower head which is mounted on a carriage 33 provided with axles 34 which pass through the slots 31 and have mounted thereon suitable wheels 35. The follower 32 is provided with transversely extended grooves 36 adapted to form a wire space. At 37 is shown an end block

and this end block is provided with upper and lower guide pins 38 which are normally held within the slot 14 and the slot under the cover board 21. Guide strips 39 are also

5 attached to this end block.

At the forward end of the members 10 is carried a shaft 40 whereon are mounted toggle members 41. The follower head 32 is provided with a rib 42 wherethrough passes

10 a shaft 43. Toggle members 44 are mounted on this shaft and the contiguous ends of the toggle members 41 and 44 are connected by means of an axle 45 which passes through all of said members. Upon the shaft 40 is

15 mounted a hand lever 46 on which is formed a grooved edge cam 47.

Attached to the forward frame member 11 are a pair of bearings 48 carrying a shaft 49 whereon is mounted a sprocket wheel 50.

20 A sprocket chain 51 is attached to the lever 46 at the end of the cam 47 as indicated at 52, and this sprocket chain passes from the point of attachment around the sprocket wheel 50 and has its other end attached to the axle

25 45. The end of the lever 46 is grooved as indicated at 53 and adjacent the end of the lever is attached one end of a chain 54 which has its end attached to a spring 55. This spring has its opposite end attached to the

30 rib 42. Braces 56 serve to prevent lateral movement of the lever 46 on the shaft 40.

In the operation of the device let it be assumed that the baling chamber is empty. The end block 37 is positioned forward adjacent the hopper 26 so that a substantially

35 clear chamber is thereby formed. Hay is then placed in the chamber thus formed in any of the usual manners, the lever 46 grasped and moved forward. The first action of this is to pull directly on the chain

40 51 and this in turn draws the axle 45 downward and forces the follower 32 rearwardly. As the axle is depressed farther and farther, the chain 51 contacts with the surface

45 of the groove of the cam 47 and the chain is wrapped around the cam. Meanwhile, the toggle members 41 and 44 assume increasingly obtuse angles with relation to

50 each other so that the pressure is increased both from the angular relation of the toggle members 41 and 44 and because of the

55 chain wrapping over the cam 47 which is made in the spiral form for this purpose. This forces the end block 37 backward and

60 when the lever has been fully forced down it is again raised and a fresh charge of hay introduced. More hay may now be introduced in the manner previously described and the bale compressed as fully as desired.

When this has been accomplished the bale

65 is wired, grooves 57 being formed in the end block 37 for the purpose of permitting the passage of the wires.

When the bale has been completely wired,

the locking element 22 is actuated to swing

the loop 23 in a horizontal plane above the upper pin 38, thereby freeing the block 37 and permitting the same to fall outward. The lever 46 has remained down during the process of wiring the bale. When it is raised at this time the end block may be replaced in the position it was originally when the first bale was formed. The operation is now repeated from start to finish and each succeeding bale pushes out the one formed immediately before it. It will be obvious that the follower head will be drawn back by the action of the spring. There has thus been provided a simple and efficient device of the character described and for the purpose specified.

Having thus described the invention, what is claimed as new, is:—

1. In a baling press, a frame, a baling chamber, a hopper, an end block, and a follower; in combination with a toggle attached to said frame and follower, a lever pivotally mounted on the frame provided adjacent the pivot point with a spiral cam, a flexible element operatively connecting said toggle and cam lever, said flexible element being connected to said lever above said cam, and resilient means connecting said follower and lever to retract said follower as the lever is raised.

2. In a baling press, a frame, a baling chamber, a hopper, an end block, and a follower; in combination with a toggle attached to said frame and follower, a lever pivotally mounted on the frame at the forward end thereof, a spiral cam formed on said lever adjacent the pivot point, a guide wheel held on said frame below said toggle, a flexible element attached to said lever above said cam and passing under said guide wheel to said toggle, said flexible element operatively connecting said toggle and cam lever, and means to retract said follower.

3. In a baling press, a frame, a baling chamber, a hopper, an end block, and a follower; in combination with a toggle attached to said frame and follower, a lever pivotally mounted on the frame at the forward end thereof, a spiral cam formed on said lever adjacent the pivot point, a guide wheel held on said frame below said toggle, a flexible element attached to said lever above said cam and passing under said guide wheel to said toggle, said flexible element operatively connecting said toggle and cam lever, and resilient means connecting said follower and lever to retract said follower as the lever is raised.

4. In a baling press, a frame, a baling chamber, a hopper, an end block, and a follower; in combination with a toggle attached to said frame and follower, a lever pivotally mounted on the frame at the forward end thereof, a spiral cam formed on

said lever adjacent the pivot point, a guide wheel held on said frame below the toggle, a flexible element attached to said lever above said cam and passing under said
5 guide wheel to said toggle, said flexible element operatively connecting said toggle and cam lever, a flexible element attached to the lower end of said lever, and a spring con-

necting the end of said flexible element and the follower.

In testimony whereof, I affix my signature, in presence of two witnesses.

JAMES H. SHAW.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."