

(No Model.)

2 Sheets—Sheet 1.

T. J. FINCH.
HAY PRESS.

No. 474,498.

Patented May 10, 1892.

FIG. 4.

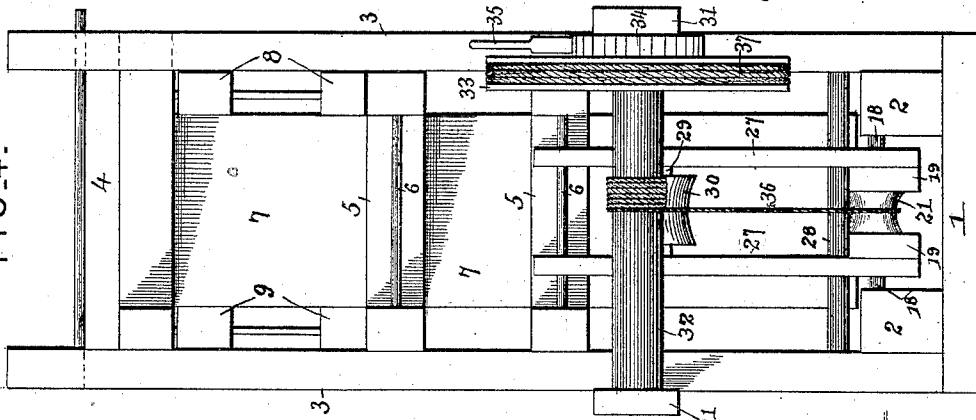
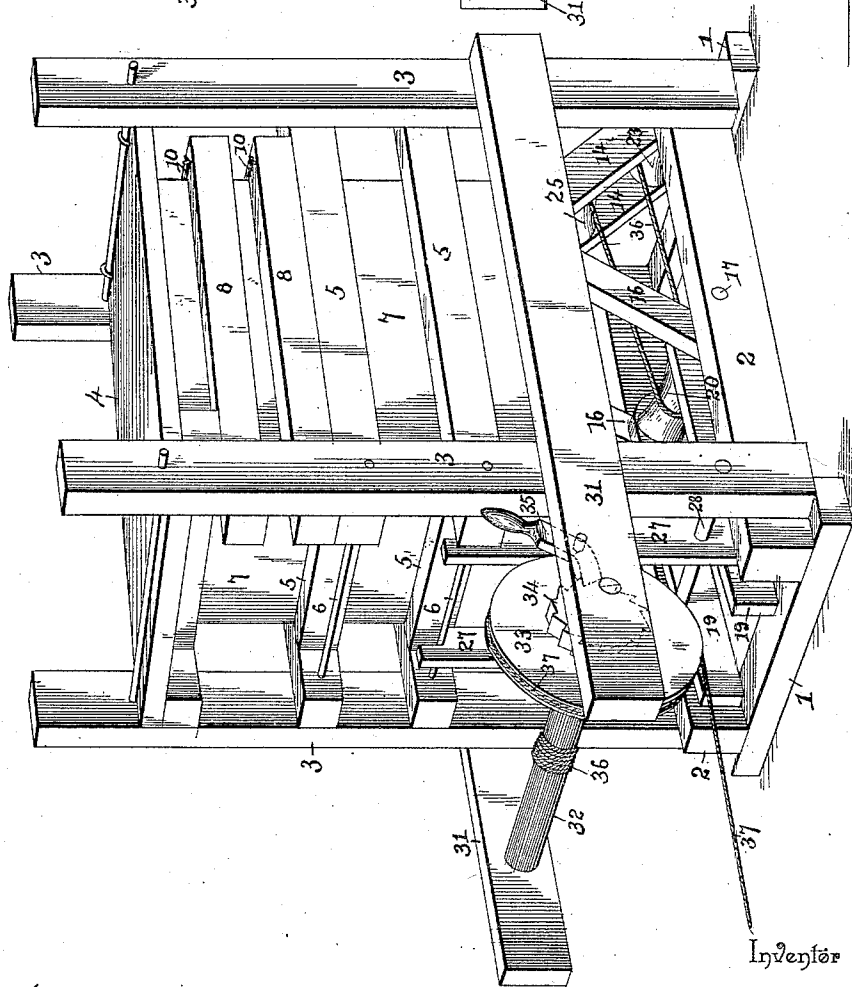


FIG. 1.



Witnesses:

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By his Attorneys,

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T. J. Finch

Inventor

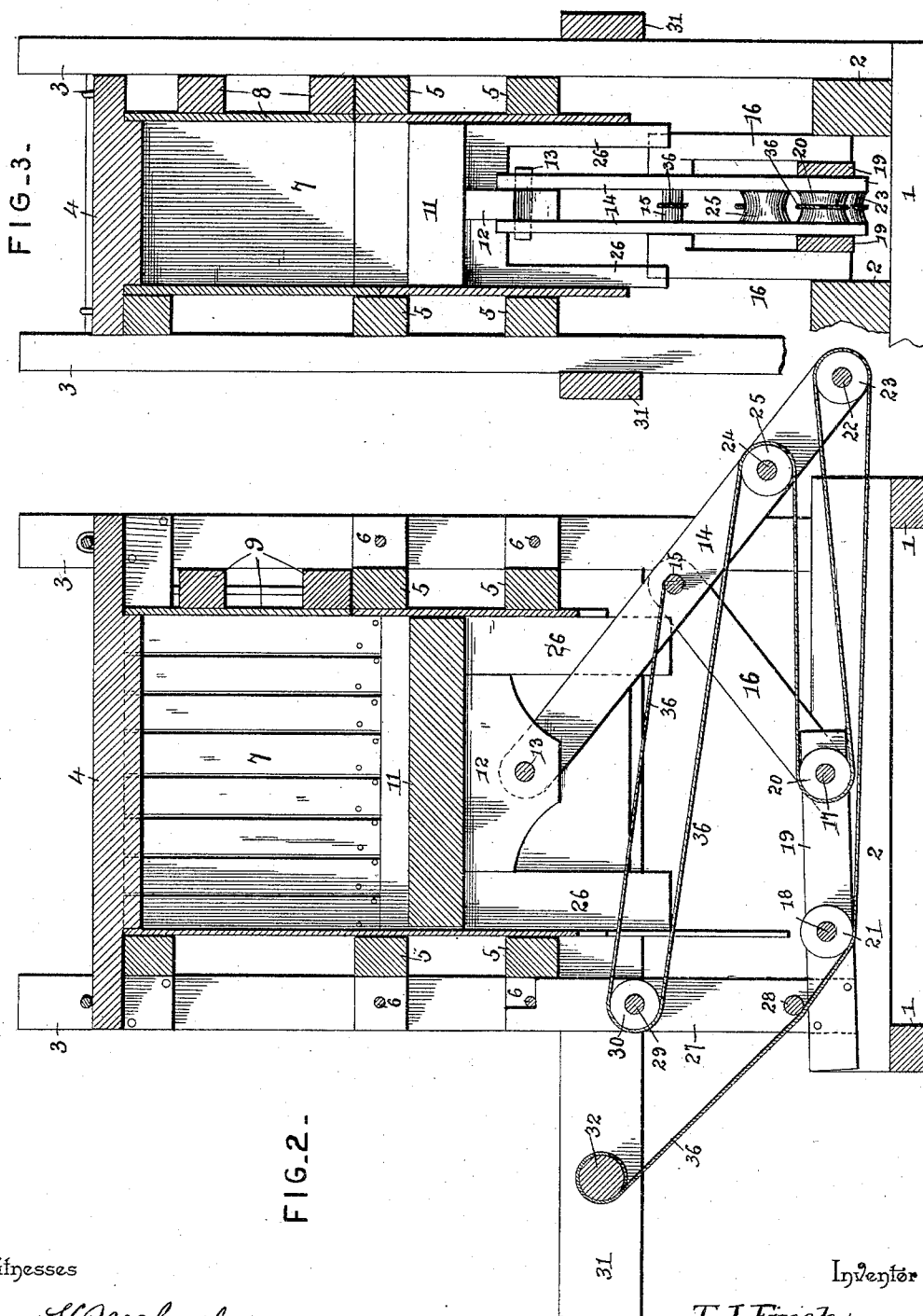
(No Model.)

2 Sheets—Sheet 2.

T. J. FINCH.
HAY PRESS.

No. 474,498.

Patented May 10, 1892.



Witnesses

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UNITED STATES PATENT OFFICE.

THOMAS J. FINCH, OF LEONA, TEXAS, ASSIGNOR OF ONE-HALF TO JOHN I. FINCH, OF UNION CITY, TENNESSEE.

HAY-PRESS.

SPECIFICATION forming part of Letters Patent No. 474,498, dated May 10, 1892.

Application filed December 18, 1891. Serial No. 415,504. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. FINCH, a citizen of the United States, residing at Leona, in the county of Leon and State of Texas, have invented a new and useful Improvement in Hay-Presses, of which the following is a specification.

This invention relates to improvements in hay-presses; and the objects in view are to provide a cheap and simple machine adapted to be operated by horse-power and to convert the draft applied to the horse to an increased and powerful leverage for the purpose of operating a plunger or follower.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claim.

Referring to the drawings, Figure 1 is a perspective view of a hay-press constructed in accordance with my invention. Fig. 2 is a vertical longitudinal sectional view. Fig. 3 is a transverse sectional view. Fig. 4 is a front elevation.

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

Upon two cross-sills 1 there is mounted a pair of opposite longitudinal sills 2, from the opposite ends of which rise the vertical standards or posts 3, provided at their upper ends with a head or lid 4, hinged at one end and adapted to be opened back to receive hay, then shut down and secured with a movable cross-bar passing through the top ends of standards 3 on top of the opposite end of head or lid 4 from the hinged end against which hay is to be pressed.

The four standards or posts 3 are at intervals connected by rectangular frames 5, which are securely bolted together and connected to the standards or posts 3 by transverse tie-rods 6, passing through the ends of the side bars of the frames and through the posts 3. Within the series of frames thus supported within the posts there is located a baling chamber or box 7, provided with a hinged side door 8 and an end door 9 at the upper end thereof. These doors are secured at their free ends by secure fastenings—in this instance latches 10—and complete two of the

four walls of the chamber when the same is in operation.

11 designates the plunger or follower, and the same has depending from its under side a bearing-lug 12, in which is formed an opening occupied by a bearing-pin 13, the ends of which project beyond the opposite faces of the lug. A pair of levers 14, having their upper ends provided with bearing-openings, embrace the lug and receive the opposite ends of the pin 13. A bearing-pin 15 is passed through the centers of the levers 14, extends beyond the same, and serves as a means of pivoting a pair of links 16, the lower ends of which are fulcrumed on a cross-shaft 17, supported by and connecting the two sills 1 at about their centers. A similar shaft 18 connects the sills near their front ends, and a pair of longitudinally-disposed bars are mounted upon and connect the shafts 18 and 17. Between the sills 1 and the outer faces of the bars 19 are located the lower ends of the links 16, while between the bars themselves there is located upon the shaft 17 a grooved pulley or roller 20 and upon the shaft 18 in the same position a corresponding pulley or roller 21. Upon a bearing-pin 22, passed through the rear ends of the levers 14, a grooved pulley or roller 23 is mounted for rotation, and upon a corresponding pin 24, located between the pin 15 and the lower ends of the levers 14, a pulley 25 is mounted for rotation. The follower or plunger is provided with front and rear pairs of depending guide legs or arms 26, which embrace the links 16 and bars 19 when the plunger descends to its lowermost position.

To the front ends of the bars 19 there is bolted a pair of vertical standards 27, a cross-shaft 28 also passing through the standards and the standards or posts 3 at a point above the bars. These standards 27 have a shaft 29 mounted therein near their upper ends, and upon the same is loosely mounted a grooved pulley 30.

In a pair of longitudinal side bars 31, bolted to the standards or posts 3 and extending at one end beyond the front of the press-frame, there is journaled a windlass-shaft 32, and upon the same is mounted and rigid therewith an operating-wheel 33, the diameter of

which is considerably greater than the shaft. A ratchet-wheel 34 is located at one side of the wheel 33 and fixed upon the shaft 32, and a pivoted locking-lever 35 is secured to that bar 31 adjacent to the wheel and is adapted at its lower end to engage with the teeth of said ratchet-wheel, whereby the same becomes locked.

36 designates a cable, and the same has one end secured to the pin 15 at the middle of the levers 14, passes to the front around the pulley 30, thence rearwardly and around the pulley 25, again to the front, around and over the pulley 20, thence rearwardly around and over the pulley 23 at the lower ends of the levers 14, thence to the front and under the pulley 21, and upwardly to the windlass-shaft, where it is secured. It will now be seen that the winding of the windlass-shaft will, through the medium of this cable and the various pulleys mentioned, cause the lower ends of the levers 14 to be swung inwardly, or, in other words, the levers brought nearly to a vertical position, and thus the plunger or follower elevated within the baling-chamber and any material located in said chamber pressed against the head-block at the upper end of the same, whereby the bale is formed. It may be tied in the usual manner and afterward discharged by a removal or opening of the doors of the baling-chamber. The follower or plunger may be maintained in this elevated position during the operation of tying by means of the locking-lever engaging with the ratchet-wheel of the windlass-shaft.

In order to return the parts to their first position ready to receive a fresh supply of material—as, for instance, hay, cotton &c.—it is simply necessary to throw the locking-lever out of engagement with the teeth of the ratchet, and the weight of the follower will serve to return the parts.

Various means may be employed for rotating the windlass-shaft; but in the present instance I employ horse-power and wind upon the wheel 33 a draft-cable, the same being reversely wound to the cable for operating the parts. The draft-cable 37, it will be seen, is wound upon the wheel 33 as the cable 36 is unwound from the windlass, and the parts resume their normal position. A horse is hitched to the end of the cable 37 and, being

started, unwinds the cable, revolving the wheel 33 and the windlass, winding the cable 36 on the latter, thus raising the levers 14 to a vertical position and pressing the hay or other material that may be above the follower against the head-block into the form of a bale.

From the foregoing description, in connection with the accompanying drawings, it will be seen that I have provided a press specially adapted to be used upon farms for the purpose of baling hay, and that is also capable of use for forming "plantation bales" of cotton for storage or transportation purposes to the point of compression. By the arrangement of the levers and pulleys and the increase of diameter of the windlass-operating wheel over the windlass great power is secured and a compact bale may be formed.

Having described my invention, what I claim is—

In a baling-press, the combination, with the frame-work and the baling-chamber mounted therein, of the vertically-reciprocating plunger located in the chamber, a pair of operating-levers pivoted at their upper ends to the plunger, a pair of links pivoted to the frame-work below the plunger and having their upper ends pivoted to the plunger-operating levers near their centers, pulleys located at the lower ends of the operating-levers and at a point between the same and the point of connection with said levers and links, a pulley located in front of the frame-work, a winding device, and a cable connected with the plunger-operating levers and the links at their points of connection, passed forwardly over the front pulley, rearwardly over the intermediate pulley of the plunger-operating levers, again forwardly over a guide-pulley, thence rearwardly over the lower pulley of said operating-levers, and finally forwardly and connecting to the winding device, 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.

THOMAS J. FINCH.

Witnesses:

W. L. ROGERS,
SIM HOPKINS.