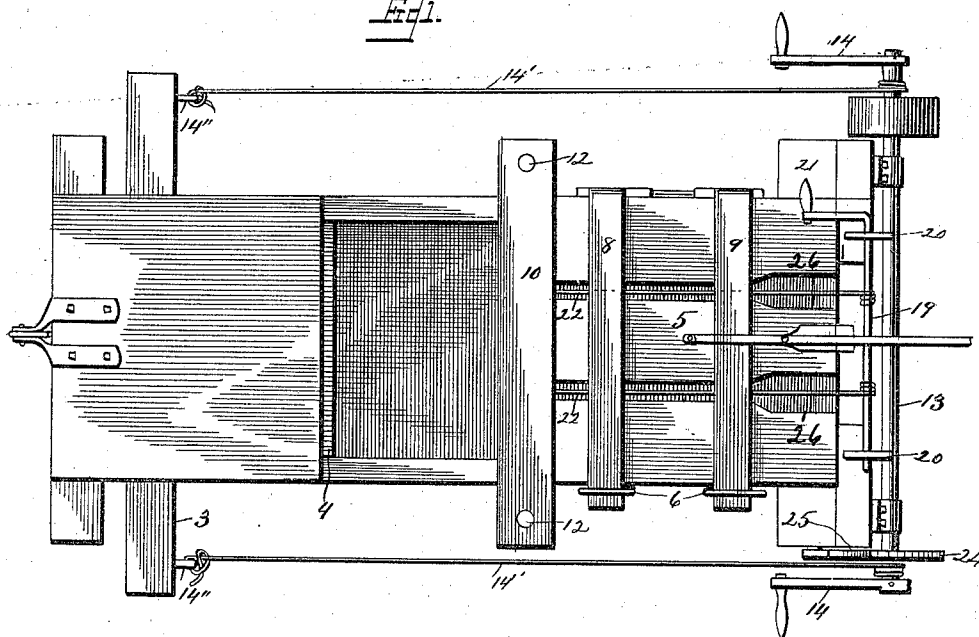


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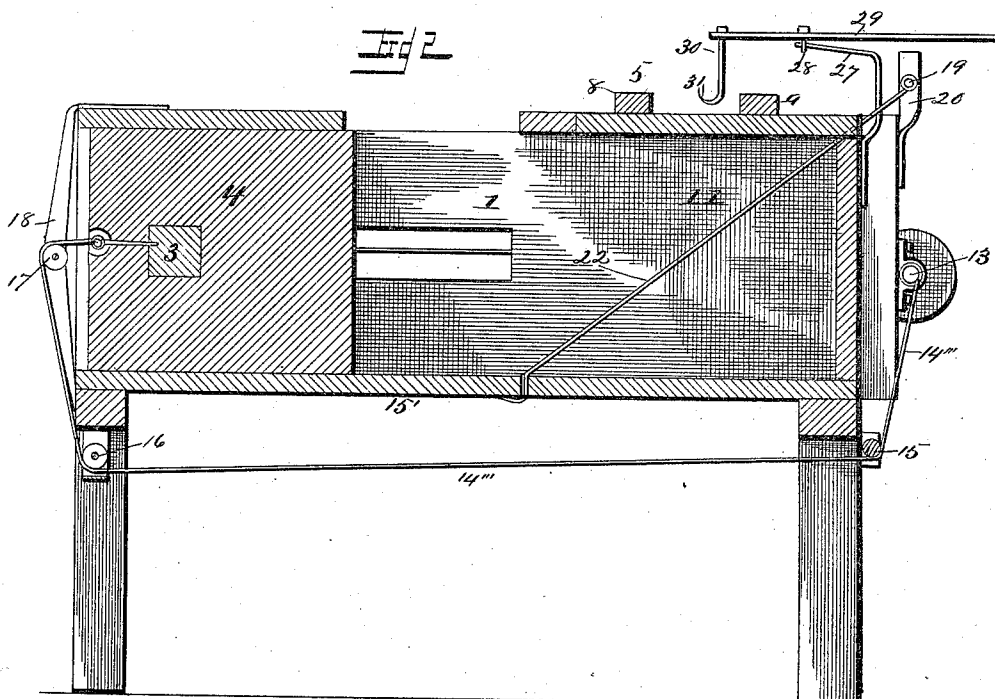
No. 470,488.

Patented Mar. 8, 1892.

Fig 1.



Ed 2



Witnesses

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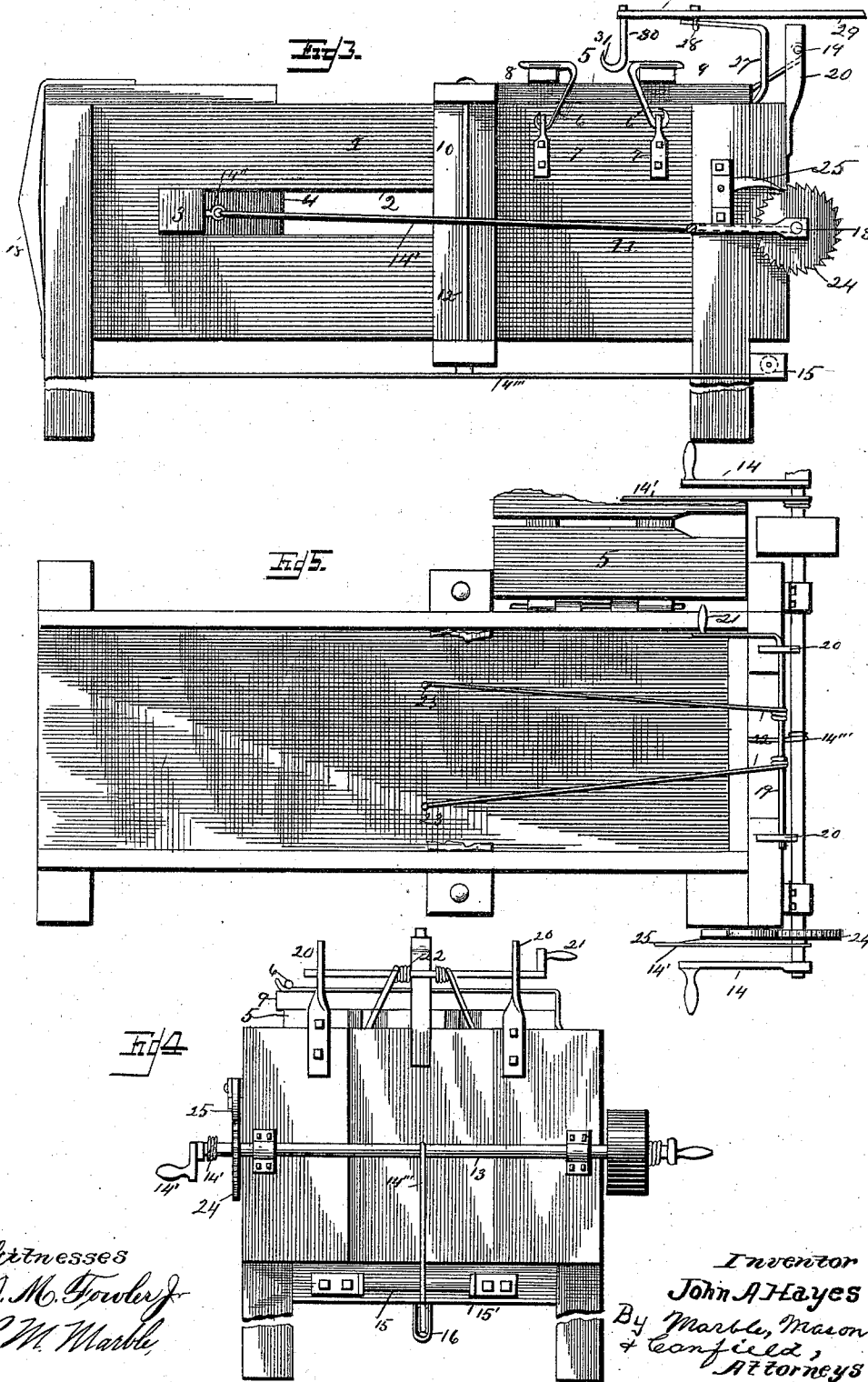
(No Model.)

2 Sheets—Sheet 2.

J. A. HAYES.
HAY PRESS.

No. 470,488.

Patented Mar. 8, 1892.



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UNITED STATES PATENT OFFICE.

JOHN A. HAYES, OF ROGERS, ARKANSAS.

HAY-PRESS.

SPECIFICATION forming part of Letters Patent No. 470,488, dated March 8, 1892.

Application filed September 18, 1891. Serial No. 406,158. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. HAYES, a citizen of the United States, residing at Rogers, in the county of Benton and State of Arkansas, have invented certain new and useful improvements in Hay-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.

My invention relates generally to baling-presses, and particularly to improvements in that class thereof which is employed for baling hay, straw, and the like; and it consists in the improved construction and arrangement or combination of parts hereinafter fully disclosed in the description, drawings, and claims.

The object of my invention is to provide a baling-press which shall be simple in construction, strong, easily operated by hand-power, and which shall occupy but small space and be comparatively cheap to manufacture. This object is accomplished by the improved construction of press illustrated in the accompanying drawings, forming part of this specification, in which the same reference-numerals indicate the same or corresponding parts, and in which—

Figure 1 represents a top plan view of my improved baling-press; Fig. 2, a longitudinal section of the same; Fig. 3, a side elevation thereof; Fig. 4, a front end view thereof; and Fig. 5, a top plan view of the bottom of the baling-chamber, the plunger being omitted.

Referring to the drawings, the numeral 1 indicates the sides of the press, which are formed with the longitudinal slots 2 for the passage of the arms 3 of the plunger 4; 5, the slotted top or gate, which is hinged at the right side of the press and removably secured at the left side thereof by the pivoted hooks 6, which are secured at their lower ends to the vertical plates 7 and at their upper curved ends they pass over the horizontal plates 8 and 9, the ends of which are upturned to prevent the hooks from slipping off, and 10 indicates the vertical and horizontal tie-bars, which pass around and hold together the baling-chamber 11, being strengthened by the vertical tie-bolts 12. At the front end of the press, at a point about opposite the middle of

the baling-chamber, is journaled the power-shaft 13, which is provided at its respective ends with the cranks or windlasses 14. Just inside of these cranks, at the opposite ends of said power-shaft, are secured the front ends of the ropes or chains 14', which are attached at their rear ends to the staples 14'' on the front edges of the plunger-arms 3 for drawing the plunger forward. One end of a cord or rope 14''' is secured to the shaft 13. The rope is led down and under the friction-roller 15, under the press, under the pulley 16 at the rear end of the press, then upward and over the pulley 17, which is mounted in the two-part standard 18 at the rear end of the press, and the end of the rope is secured to an eyebolt located in a recess in the rear face of the plunger. It will thus be seen that by turning the cranks in one direction the plunger will be drawn forward by the ropes or chains 14', while by turning the cranks in the other direction the rope 14''' will draw the plunger back.

Above the shaft 13 is placed the wire-shaft 19, which is supported by bearings in the vertical standards 20 and is provided with a crank 21 at one end. From this shaft wires pass downwardly through spaces between the slats of the gate 5, through holes 23 in the bottom of the press, and are temporarily secured to any projecting part of the frame of the press. The method by which these wires are bound around the bale will be hereinafter described. The shaft 13 carries a ratchet-wheel 24, and a pawl 25 engages with this ratchet-wheel and serves to hold it in any desired position.

To the forward portion of the baling-chamber is secured a bracket 27, which forms a support for the lever 29, which carries at its end the hook 30. This lever is used for raising the bale out of the baling-chamber and swinging it to one side.

The operation of my press is as follows: In commencing a bale the plunger is drawn as far back as possible. The hay or other material to be baled is fed in through the opening 26 in the top of the press between the gate 5 and the plunger-chamber. When a sufficient quantity of hay has been fed in, the plunger is run forward, packing the hay in the forward portion of the baling-chamber. The

movement of the plunger likewise unwinds the wire from the wire-shaft and lays it along the bottom of the baling-chamber and against the front of the bale. The plunger is then
 5 run back, more hay fed in, and another stroke made, as before. Thus by successive strokes of the plunger the bale is formed. When the baling-chamber is full, the plunger is run
 10 back again, the ends of the wires are unfastened, drawn up through the holes 23, and are brought up to the top of the press. The plunger is then run forward again, compressing the bale as much as possible, and the pawl 25
 15 is dropped, holding the bale in this position. The gate 5 is then raised, wire is drawn from the reel and carried over the top of the bale, and the ends of the wires are looped around the portion carried back. The crank 21 is
 20 then turned to wind up the wire on the wire-shaft and draw it tightly around the bale. The ends of the wire are then well tied or twisted and the wire is cut to free the bale.

Having thus completely described the construction and operation of my baling-press,
 25 what I claim as new is—

1. In a hay-press, the combination, with a baling-chamber having slotted sides in its rear part, a hinged cover or gate at the front end adapted to be temporarily fastened, and
 30 a fixed cover at the rear end, said covers being separated from each other sufficiently to leave a space for feeding in the material to be compressed, of a reciprocating plunger provided with arms passing through and sliding in the slots of the baling-chamber, and
 35 means, as the power-shaft 13, provided with cranks and ropes or chains, as 14' and 14'', for moving said plunger forward and backward, substantially as described.

2. In a hay-press, the combination, with a baling-chamber having an opening in the top for the feeding in of the material to be compressed and a hinged and locking cover at the front end to permit the bale to be removed,
 45 of a reciprocating plunger within said chamber, means, as the power-shaft 13, provided with means for rotating the same,

ropes or chains, as 14', secured to said shaft and plunger for moving said plunger forward, and a rope or cord, as 14'', wound on and secured to said shaft 13 and passing around a
 50 friction-roll under the chamber and over friction-pulleys at the rear end of said chamber and attached to the plunger for drawing said plunger backward, substantially as described.

3. In a hay-press, the combination, with a reciprocating plunger within the baling-chamber, of a power-shaft journaled in bearings at the front end of the press, a rope or chain secured to said shaft and plunger and passing
 60 under the press for moving the plunger backward, friction rolls or pulleys for guiding said rope, and devices, substantially as described, for placing ties upon the finished bale.

4. In a hay-press, the combination, with a baling-chamber, of a wiring shaft or windlass journaled in standards secured to the front end of said press and wires or cords wound thereon and secured thereto, passing into and
 70 through the bottom of said baling-chamber, whereby said wires or cords may be placed under and around the bale and then drawn taut and fastened, substantially as described.

5. A hay-press comprising a baling-chamber having slotted sides and a hinged locking-cover at one end and a fixed cover at the opposite end, said covers being separated from each other by an opening for feeding in the material to be pressed, a plunger provided with laterally-projecting arms, a power-shaft
 80 provided with cranks for turning the same and a ratchet and pawl for locking it in place, ropes or chains connecting the power-shaft and plunger for moving the plunger forward and backward, a windlass for holding, releasing, and tightening the bale cords or
 85 wires, and suitable means for removing the bale, substantially as described.

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

JOHN A. HAYES.

Witnesses:

T. T. HINDE,

RICHARD PRIEST.