

No. 664,233.

Patented Dec. 18, 1900.

E. R. BRYANT.
HAY PRESS.

(Application filed Apr. 28, 1900.)

(No Model.)

2 Sheets—Sheet 1

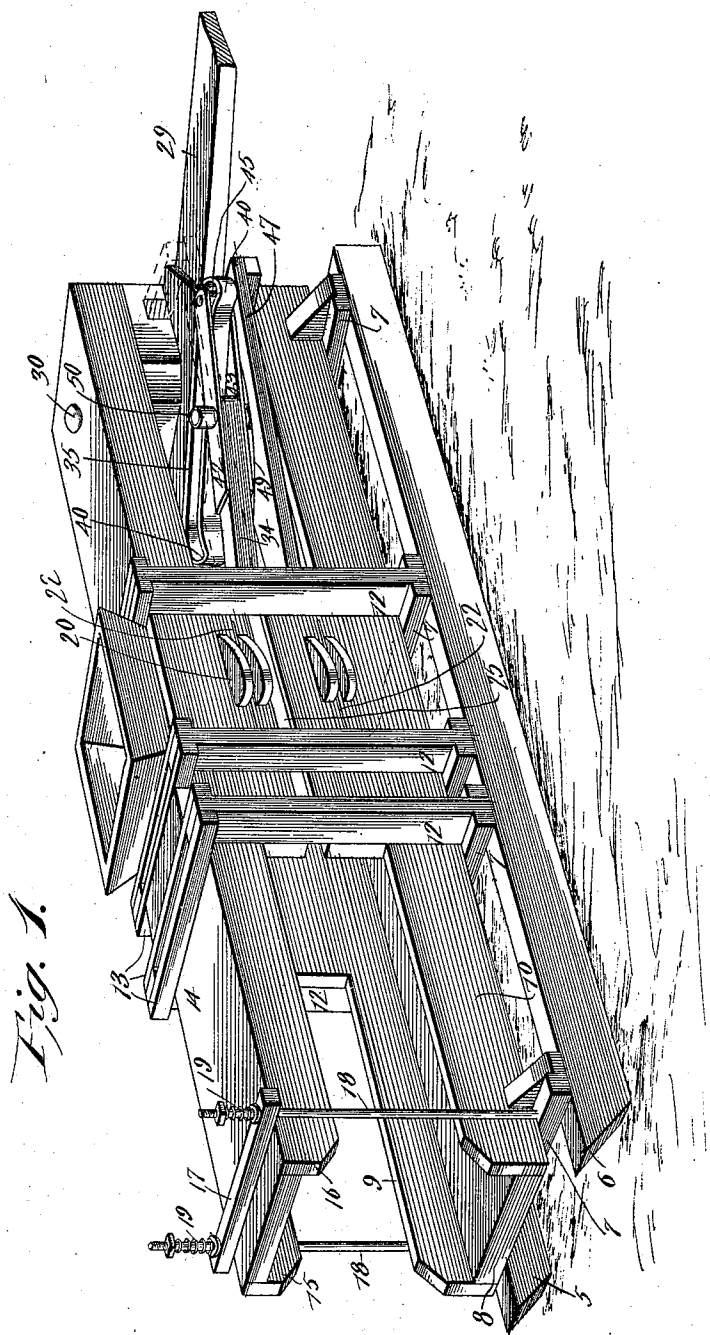


Fig. 1.

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Attorneys

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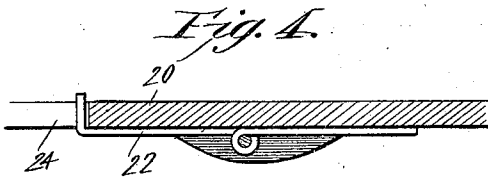
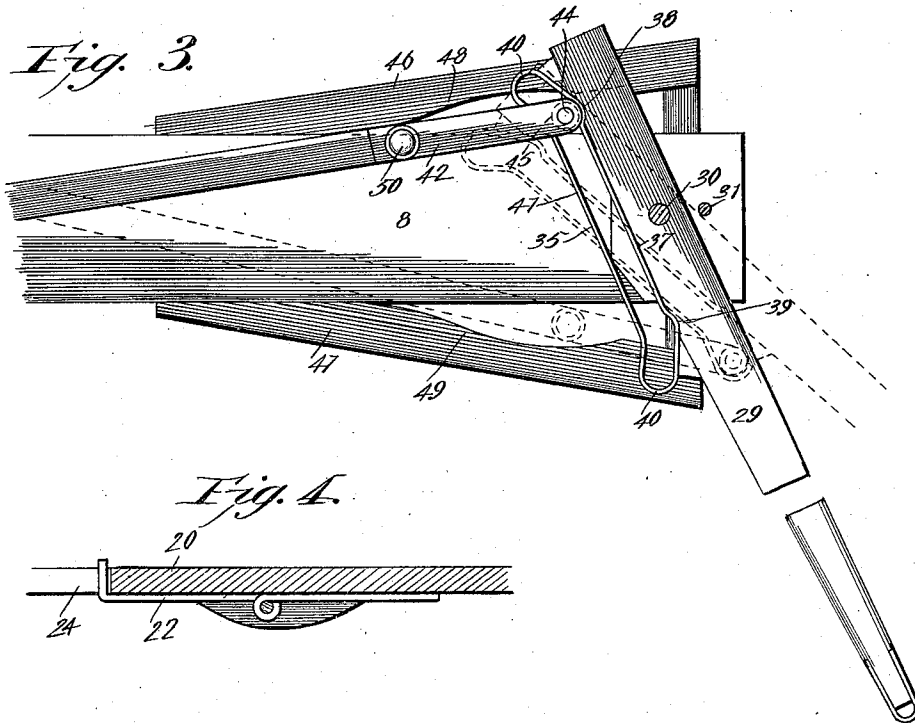
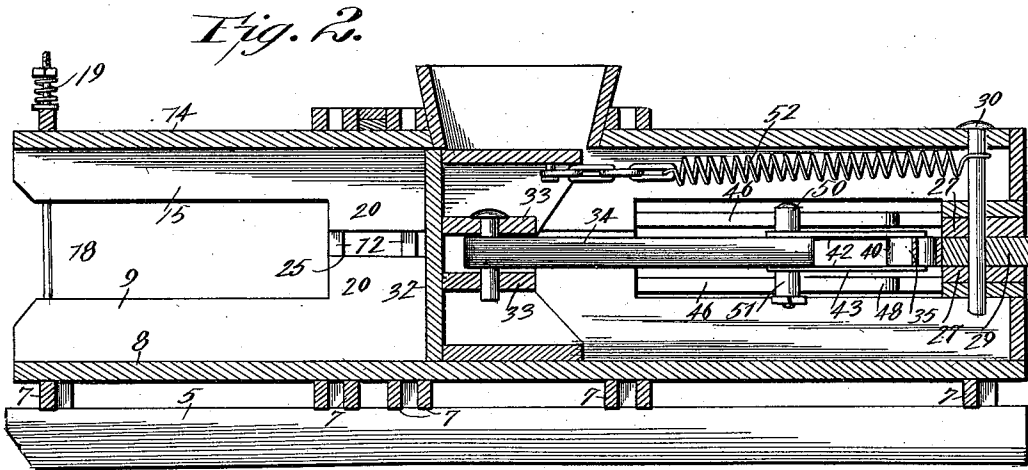
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Witnesses

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E. H. Walker.

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UNITED STATES PATENT OFFICE.

EDWARD R. BRYANT, OF RANGER, TEXAS, ASSIGNOR OF ONE-HALF TO
JAMES H. HARRISON, OF SAME PLACE.

HAY-PRESS.

SPECIFICATION forming part of Letters Patent No. 664,233, dated December 18, 1900.

Application filed April 28, 1900. Serial No. 14,743. (No model.)

To all whom it may concern:

Be it known that I, EDWARD R. BRYANT, a citizen of the United States, residing at Ranger, in the county of Eastland and State of Texas, have invented a new and useful Hay-Press, of which the following is a specification.

This invention relates to presses in general, and more particularly to the class of hay-presses used for baling hay, one object of the invention being to provide a construction operable by horse-power in which the plunger will be operated as the sweep is moved in both directions and in which, furthermore, there will be an efficiency of operation and an economy of power.

Further objects and advantages of the invention will be apparent from the following description.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a perspective view showing the complete press with the outer end of the sweep broken away. Fig. 2 is a longitudinal section taken through the press and showing the plunger moved forwardly into its pressing position. Fig. 3 is a detail plan view of the inner end of the sweep and the outer end of the plunger-rod and showing the connections between the two and the construction of the cooperating parts. Fig. 4 is a detail section taken through the side of the press-box and showing the arrangement of one of the retaining-dogs.

Referring now to the drawings, the press of the present invention consists of longitudinal supporting-sills 5 and 6, which form in effect runners through the medium of which the press may be readily hauled from place to place, and upon these sills are secured cross-pieces 7, which carry the press proper. The press proper comprises a bottom 8, which extends throughout the length of the press and to the side edges of which are secured side pieces 9 and 10, the end portions of which are reduced in height, and against the outer faces of the side pieces at their middle higher portions there are secured uprights 12, which are mounted upon the cross-pieces and are

connected at their upper ends above the press-box by ties 13, as shown.

A top 14 is arranged above the bottom 8 and conforms in extent thereto, and the ties 13 lie against the upper face thereof. This top has also side portions 15 and 16, which depend from the edges thereof, and the central parts of these side portions are of greater height than the end portions thereof and lie above the corresponding central portions of the sides 9 and 10 and against the uprights 12.

A cross-tie 17 is disposed upon the upper face of the top adjacent its rear end and projects beyond the sides thereof, and with these projecting ends are engaged tie-bolts 18, which are also engaged with the cross-piece 7 therebelow, the tie-bolts being adapted for adjustment to properly brace the top and bottom against spreading during the operation of the machine. The adjustment of the bolts is secured by means of their nuts 18, between which and the cross-tie there are disposed helical springs 19, which encircle the bolts, so that the top is held yieldably in its relation to the bottom.

The portions 20 of the side pieces of the press, and which portions are those of greatest height, form in conjunction with the top and bottom the press-box, and communicating with this box is a hopper 21 upon the top 14 and through the medium of which the hay to be pressed is contributed to the press-box. Upon the outer faces of the portions 20 of the side pieces are fixed or formed ears, disposed in pairs, and between each pair of ears is disposed a spring-dog 22, consisting of a spring-wire bent upon itself to form a loop and lying at both sides of the loop against the outer face of the adjacent portion 20, one end of each wire being bent at right angles to project into the box through an opening or slot 24 therein. The portions 20 at each side of the press-box are separated by a slight interspace 25, as shown, to permit insertion of a binding-wire in the usual manner.

Upon the upper face of the bottom 8 and at the forward end thereof is fixed a block 26 and upon the under face of the top 14 is fixed a second block 27, these blocks lying one above the other and separated by an inter-

space 28, in which operates the sweep 29, which is pivotally mounted upon a bolt 30, which is passed through the blocks, as shown, and through the top 14. A second bolt 31 is passed through the top and through the bottom of the press and acts to hold the parts from separation. The sweep 29 operates the plunger or piston 32, which is slidably mounted in the press-box and is hollow, as shown. Ears 33 are formed upon the inner face of the front end of the piston, and between these ears is pivoted the plunger-rod 34, which is operatively connected with the sweep. This connection of the plunger-rod with the sweep is secured by means of a metallic endless strap 35, which is secured to the side face of the sweep 29. The strap comprises a straight and flat central portion 37, at the ends of which portion the strap is bent rearwardly to form two curvilinear recesses 38 and 39, after which the strap is continued divergently and away from the sweep, after which it is bent at each end portion of the resultant guideway to form arc-shaped ends 40, the strap being then continued inwardly and finally terminating in a straight portion 41, which lies parallel with the portion 37. To the upper and lower faces of the outer end of the plunger-rod are secured plates 42 and 43, which lie above and below the unattached portions of the strap 35 and carry a pivot 44, upon which is mounted a roller 45, which is adapted to move along and in engagement with the sides of the strap adjacent to the sweep.

Extending forwardly and divergently from the forward end of the press-box are guides 46 and 47, having cam-faces 48 and 49, against which operate rollers 50 and 51, the operation thereof being as follows: The parts being in the positions shown in full lines in Fig. 3, the roller 45 will lie in the recess 38, due to the retractile action of the helical spring 52, which is connected at one end to the pivot pin or bolt of the sweep and at its other end to the plunger. The rollers 50 and 51 rest at this time against the cam-faces 48 above and below the plane of the plunger-rod, and hence if the sweep be moved to the right its inner end will be moved to the left and will press the roller 45 and therewith the plunger-rod to operate the plunger. When, however, the sweep has moved to the position shown in dotted lines, it will begin to act to move the plunger-rod, with rollers 50 and 51, away from the cam-face 48 until finally roller 45 will move from recess 38, and the plunger being released will return under the influence of the spring 52. The return movement of the plunger-rod under the influence of its spring causes the rear end of said rod to travel laterally, the roller 45 running along the track 37 and into the arc-shaped opposite end 40 of the guideway. The sweep is then returned, and because of the rollers 50 and 51 lying against the cam-faces 49 the plunger-rod is held from further lateral movement, and as soon as the divergent end of the guideway

reaches a position at an acute angle to the plunger-rod the roller 45 runs down and into the recess 39. Continued movement of the sweep pushes the rod and the plunger forward until the end of the stroke, when rollers 50 and 51 in running upon the cam-faces 49 push the plunger-rod laterally and the roller 45 slips from the recess 39 and runs to the opposite end 40 of the guideway. In this manner a continued reciprocation of the plunger is secured so long as the sweep is oscillated. The process of tying the bales is of course well understood and needs no description, nor does the specific operation of the plunger in the press-box.

Various changes in structure, materials, and proportions may be made within the scope of the claims without departing from the spirit of the invention.

What is claimed is—

1. In a baling-press, the combination with a press-box having its upper and lower walls extended in advance of the box and having a sweep disposed therebetween, braces disposed divergently from the press-box and lying in a plane between the planes of the upper and lower walls of the box, a cross-piece connecting the braces, a pivot for the sweep mounted in the cross-piece and the extended upper wall of the box, a guideway carried by the sweep and having recesses, a plunger having a rod connected with the guideway and adapted to lie with its end in the recesses interchangeably, seats beyond the recesses adapted to initially receive the plunger-rod, and cam-faces at the inner sides of the braces for engagement by the plunger-rod to move it laterally from the seats to the recesses.

2. In a baling-press the combination with a press-box having its upper and lower walls extended in advance of the box and having a sweep disposed therebetween, pairs of braces at opposite sides of the press, the pairs of braces being disposed divergently from the press-box and lying with a brace of each pair above and one below the sweep, a cross-piece connected between the braces of each pair, a pivot for the sweep mounted in the cross-piece and in the upper extended wall of the box, a guideway carried by the sweep and having recesses, a plunger having a rod connected with the guideway and adapted to lie with its end in the recesses interchangeably, seats beyond the recesses adapted to initially receive the plunger-rod, said braces having cam-faces at their inner sides, and friction-rollers mounted upon the plunger-rod and disposed for engagement with the cam-faces to move the rod laterally from the seats to the recesses.

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

EDWARD R. BRYANT.

Witnesses:

W. M. MYERS,
J. D. WILLIAMS.