No. 878,880. PATENTED FEB. 11, 1908.

J. M. & E. C. HOLDERFIELD.

HAY PRESS.

APPLICATION FILED SEPT. 28, 1906.

3 SHEETS—SHEET 1.

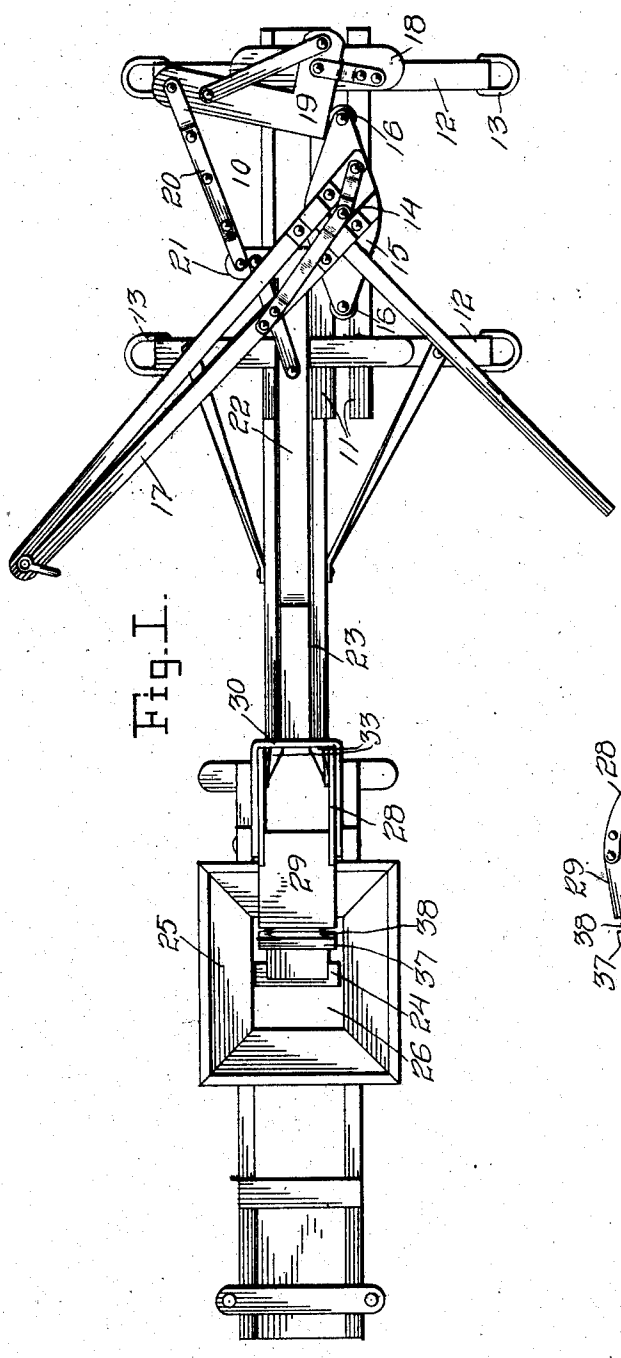


Fig. 1.

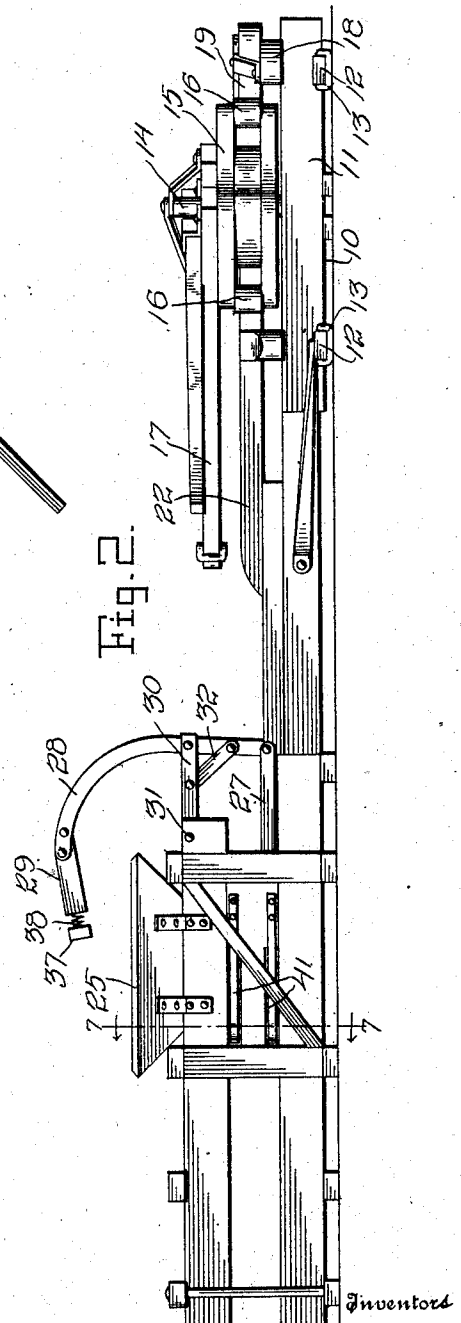


Fig. 2.

Witnesses

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Fig. 3.

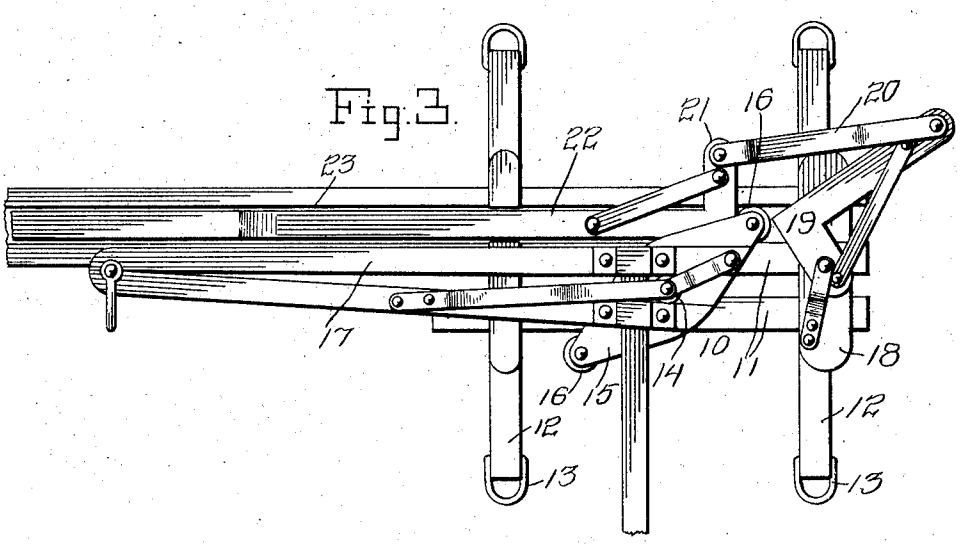


Fig. 4.

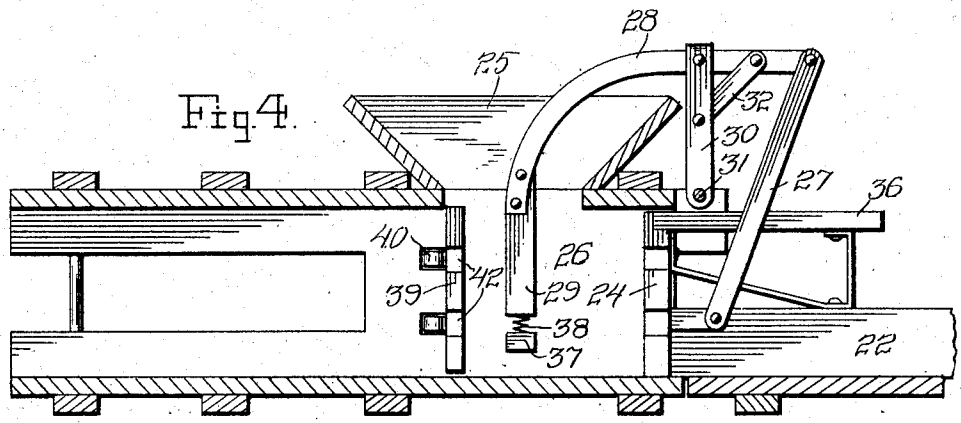
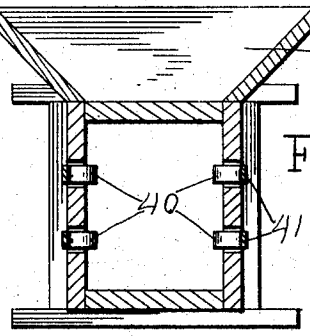


Fig. 7.



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3 SHEETS—SHEET 3.

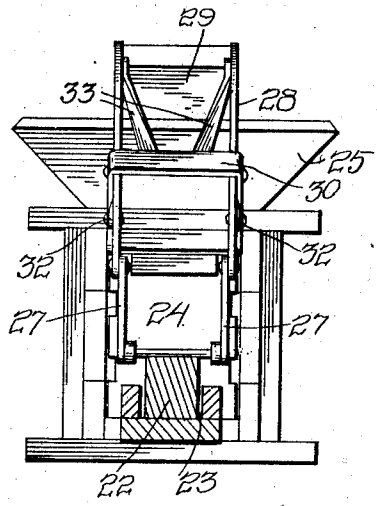


Fig. 5.

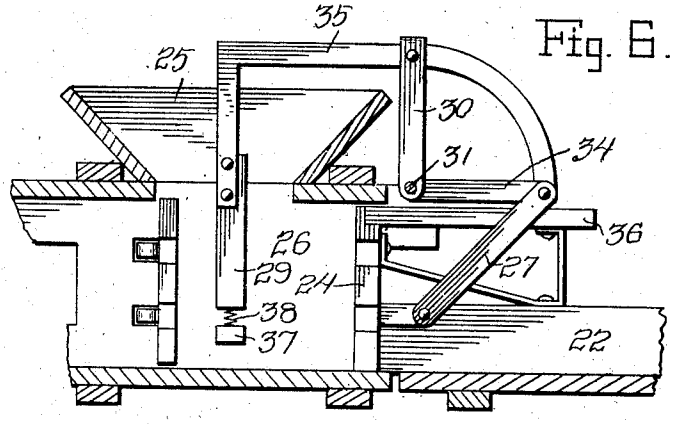


Fig. 6.

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UNITED STATES PATENT OFFICE.

JOSEPH M. HOLDERFIELD AND EDDY C. HOLDERFIELD, OF FOGG, TENNESSEE.

HAY-PRESS.

No. 878,880. Specification of Letters Patent. Patented Feb. 11, 1908.

Application filed September 28, 1906. Serial No. 336,604.

To all whom it may concern:

Be it known that we, JOSEPH M. HOLDERFIELD and EDDY C. HOLDERFIELD, citizens of United States, residing at Fogg, in the county of Hickman, State of Tennessee, have invented certain new and useful Improvements in Hay-Presses; and we 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 has relation to baling-presses for baling hay or other material, and is in the line of self-feeding machines of the class mentioned.

It is the purpose of the invention to provide various improvements in baling-presses the nature of which are disclosed in the annexed drawings, forming a part of this specification, in view of which the invention will first be described with respect to its construction and mode of operation, and then be pointed out in the subjoined claims.

Of the said drawings—Figure 1 is a top plan. Fig. 2 is a side elevation. Fig. 3 is an enlarged plan of the operating mechanism. Fig. 4 is an enlarged detail section of the press chamber and adjacent parts. Fig. 5 is a transverse section taken forwardly of the press chamber. Fig. 6 is a sectional view showing a modified feature of the invention. Fig. 7 is a section showing the means for holding the spacing blocks in place.

Similar numerals of reference designate similar parts or features, as the case may be, wherever they occur.

In the drawings, 10 designates the power-base, consisting of a number of longitudinally arranged sill timbers 11 bound together laterally by strong cross-cleats 12 that are set in the bottom of the sill-timbers and project beyond the sides of the same. The ends of the said cleats are provided with staple-shaped loops 13, yoked together at their ends by a rod which passes through the cleats. The said loops form means for assisting to firmly "ground" the power-base.

A vertical spindle 14 is securely set in the power-base at its lower end, and projects upward through the cross-head having anti-friction rollers 16 supported in its ends, and a sweep, 17, connected at its inner end with the top-plate of the cross-head.

Pivoted by its shorter arm upon an abutment bar 18 secured transversely on the forward end of the power base is a knee or angle lever, 19, linked by a bar 20 to the outer end of an angular projection, 21, at the forward end of the press-rod 22, that moves in a trough-like guideway 23, and carries a follower or press-head 24 on its rearward end, that acts to press the hay or other material fed through the hopper 25 into the baling-hamber 26.

The cross-head 15, in its rotation on the spindle 14 first brings the anti-friction roller 16 in one end against the short arm of the angle-lever 19 throwing the end of the longer arm outward and forward, and, through the medium of the link-bar 20, drawing the press or traverse rod and connected head forward, when said anti-friction roller 16 will be brought against the forward face of the angular projection 21 of the press-rod and force the same and the press-head rearward again. The anti-friction rollers on the ends of the cross-head act successively on the several parts as just described.

On the rear end of the traverse-rod 22, and just in front of the presser-head are pivoted the lower ends of bars, 27, that are in like manner connected at their outer or upper ends with curved arms 28 that have the feeder-block 29 secured to their rear ends. A loop-bar 30 having the lower ends of its legs pivoted on a cross rod, 31, supported at its ends in the frame, extends up along the sides of the curved arms 28 and across their upper sides, binding them together, and angularly disposed braces 32 are riveted at one end to the loop-bar 30, and at their other end to the curved arms 28 and braces 33 extend from the rear edge of the loop-bar rearward to the inner sides of the curved arms. This described-form of means affords a strong structure for operating the feed-block from the traverse or plunger rod 22.

The form of the devices for supporting the feed-block 29 from traverse rod and frame of the machine frame may be varied in form and arrangement, however, without materially departing from the nature of the invention; for instance, the bars 27, instead of extending up to the forward ends of the curved arms 28, may be pivotally connected at their upper ends with rods 34, which are jointed to the lower ends of the legs of the loop-bars 30, the latter being connected at its upper end to straight bars 35, to the lower ends of which the feed-block 29 is connected, braces of suitable character being arranged angularly between right angular parts to

strengthen and stiffen them, all as is represented in Fig. 6. This latter illustration is given merely, as has been stated to show the variation in form that may be given to the feed block-carrying means without varying the invention.

A plate or strip 36 projects forward from the upper side of the presser-head 24, and is supported at its forward end from the traverse-rod, so that no hay or other substance may get in front of the presser-head when the latter is moved rearwardly to its utmost extent, and drag the hay backward clogging the operation of the machine.

The feeder-block 29 operates on the hay fed into the hopper to press it down in the latter, so that as the presser-head 24 moves rearwardly it will press the hay in rear of it into the compression or baling-chamber, 26, as previously stated. As the amount of hay thrown into the hopper on which the end of the feed-block acts varies in quantity, and in order that the feed-block may accommodate itself to the said unevenness in quantity or bulk of the hay acted upon, I make the face of the feeder-block yielding in its nature, by forming the face strip 37 separate from the body, and interposing between the face strip and the body any form of suitable springs 38. In the present instance I have shown the springs to be of helical form. This is an important feature of the invention, with respect to the feed-block. However, in some cases, we may make the feed-block solid and without a yielding face especially where the charges of hay fed into the hopper do not vary materially in quantity or volume.

It is obvious that the springs intermediate of the feed-block and its face strip or block may, if need be, be protected by a suitable casing (not shown) connected with the face-strip and slidingly engaged with the feed-block.

The springs 38 are interposed immediately between the face-strip and the feed-block in order that the direct action of the pressing means may not be interfered with.

39 designates spacing blocks that are arranged between the bales by placing one of the said blocks in the bottom of the hopper, after a complete bale has been compressed in the baling-chamber, the said placement of the block being accomplished when the presser-head is in forward position, so that as it returns the hay that it acts upon will press the spacing blocks rearward beyond the inner projecting ends, 40, of the flat retaining-springs 41 secured to the outer sides of the bottom of the hopper.

The spacing-blocks are provided in their sides with the transverse grooves 42 for the insertion of the tie-wires as is usual.

The machine is constructed so as to be operated with the least possible friction, and with a view to the conservation of strength durability and efficiency in the utmost degree.

What is claimed is—

1. The combination, with the press-frame, a cross rod supported in the same and the traverse rod, the baling chamber of the curved arms provided on their rear ends with the feeder-block, a loop-bar 30, pivoted at its ends on the said cross-rod and extending up and across the curved bars embracing the same, and operative means connecting the traverse rod with the forward ends of the curved arms.

2. The combination, with the press-frame a cross-rod supported in the same, the baling chamber and the traverse rod, of the curved arms provided on their rear ends with the feeder-block, a loop-bar, 30, pivoted at its ends on the said cross-rod and extending up and across the curved bars, embracing the same, brace-bars connected with the loop-bar and curved bars to strengthen and support the latter, and operative means connecting the traverse-rod with the forward ends of the curved arms.

3. The combination, with the press-frame a cross-rod supported in the same, the baling chamber and the traverse rod, of the curved arms provided on their rear ends with the feeder-block, a loop-bar, 30, pivoted at its ends on the said cross-rod and extending up and across the curved bars, embracing the same, brace-bars connected with the loop-bar and curved bars to strengthen and support the latter, and operative means connecting the traverse rod with the forward ends of the curved arms, said feeder-block being provided with a face-strip and springs immediately interposed between the face-strip and the end of the feeder-block, whereby the pressure of face of the presser-block may be cushioned.

4. The combination, with the press-frame, a cross rod supported in the same and a traverse rod, the baling chamber of the curved arms provided on their rear ends with the feeder-block, a loop-bar 30, pivoted at its ends on the said cross-rod and extending up and across the curved bars embracing the same, and operative means connecting the traverse rod with the forward ends of the curved arms, the said feeder-block being provided with a face-strip separate from the block and springs immediately interposed between the face-strip and the end of the feeder-block.

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

JOSEPH M. HOLDERFIELD.
EDDY C. HOLDERFIELD.

Witnesses:
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T. R. ADAIR.