

(No Model.)

J. D. LANE & W. S. JAMES.
BALING PRESS.

No. 586,191.

Patented July 13, 1897.

Fig. 1.

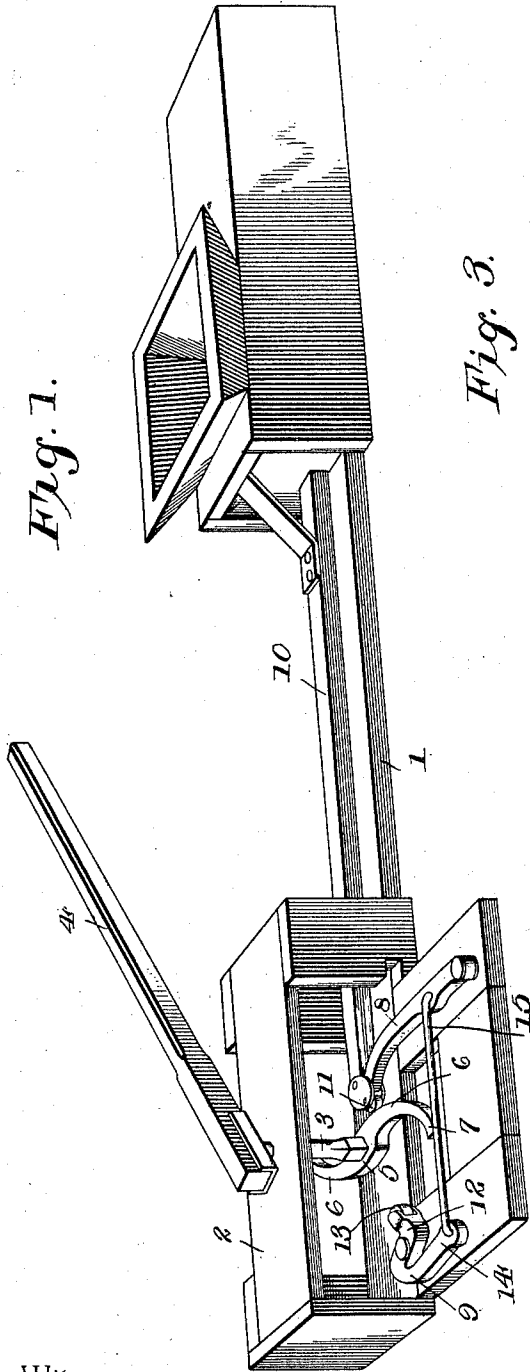


Fig. 3.

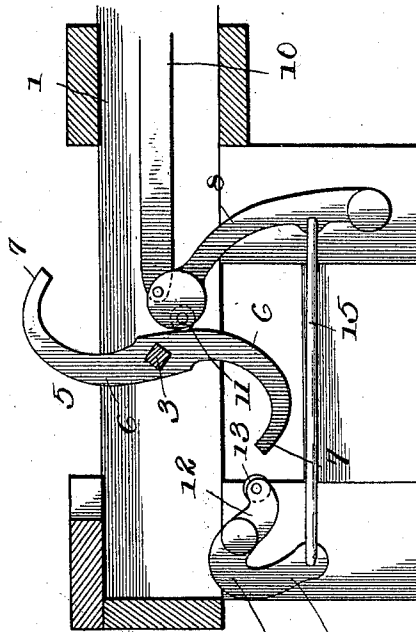
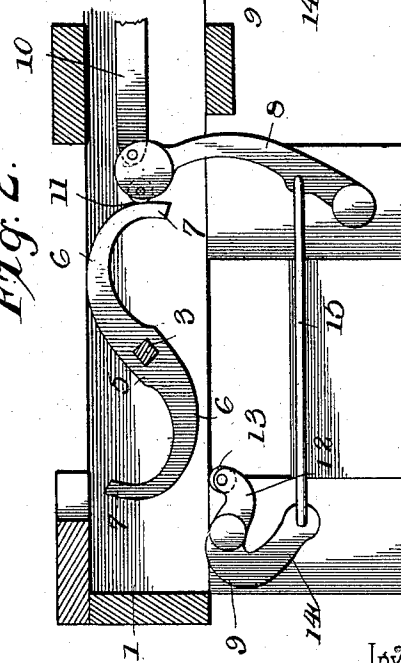


Fig. 2.



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Witnesses

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UNITED STATES PATENT OFFICE.

JEFFERSON D. LANE, OF BEND, AND WILL S. JAMES, OF WACO, TEXAS.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 586,191, dated July 13, 1897.

Application filed March 31, 1896. Serial No. 585,614. (No model.)

To all whom it may concern:

Be it known that we, JEFFERSON D. LANE, residing at Bend, in the county of San Saba, and WILL S. JAMES, residing at Waco, in the county of McLennan, State of Texas, citizens of the United States, have invented a new and useful Baling-Press, of which the following is a specification.

Our invention relates to baling-presses, and has for its object to provide a simple and efficient construction of operating mechanism whereby the plunger is advanced and retracted by positive means applied through a continuously-rotating part and without the use of rebounding springs or their equivalents, the backward movement of the plunger being rapid and following immediately upon the release of the plunger after its forward or compressing movement, and an interval sufficient for introducing the material to be baled being allowed between the backward and the succeeding forward movement.

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

In the drawings, Figure 1 is a perspective view of a baling-press constructed in accordance with our invention. Fig. 2 is a plan view of the operating mechanism, showing the parts in the positions which they occupy during the holding of the plunger to allow time for tying a bale. Fig. 3 is a similar view showing the positions of the parts after the retraction or rearward movement of the plunger and previous to the release of the return-lever by the cross-head.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The frame of the operating mechanism includes a base 1 and a superjacent horizontal bar 2, and in bearings formed in said base and horizontal bar is mounted the driving-shaft 3, to which is secured the sweep or operating-arm 4. Said driving-shaft carries a cross-head 5, having oppositely-extending duplicate arms of which the front sides are convexed and approximately radial, as shown at 6, while the outer extremities thereof are concentric with the driving-shaft, as shown

at 7, and continue the convexity of the approximately radial portions.

Arranged in operative relation with the arms of the cross-head are the advancing and returning levers 8 and 9, the former being pivoted at one extremity to the base and being connected pivotally at the other extremity to the contiguous end of the plunger-beam 10, an antifriction-roll 11 being housed at the free end of the advancing lever for contact with the arms of the cross-head. The returning lever is pivoted at an intermediate point and is provided with a short arm 12, which terminates in the path of the outer ends of the arms of the cross-head, whereby the movement received thereby from the cross-head is rapid. This arm 12 terminates in an antifriction-roll 13 for a purpose similar to that above described in connection with the advancing lever, and the other arm 14 of the retracting lever is of greater length than the arm 12 to increase the throw when the lever receives motion from the cross-head. Said long arm of the returning lever is connected by means of a rod 15 with an intermediate point of the advancing lever contiguous to the stationary pivot thereof, whereby the free end of said advancing lever still further multiplies the movement of the pitman when motion is applied to the mechanism through the returning lever.

From the above description it will be seen that the object in view is to secure a rapid return movement of the plunger similar to that attained by the use of a rebounding spring, and the more rapidly this return movement is commenced and accomplished the more the expansion of the material baled can be utilized in the movement.

The advancing lever is pivoted at a point remote from the axis of the cross-head in such a position that when the plunger-beam is retracted the free end of said lever is located adjacent to and preferably in contact with the cross-head approximately at its center or at the inner end of the convex or front surface of the contiguous arm, as shown clearly in Fig. 3, whereby as soon as the free end of said arm of the cross-head disengages the short arm of the return-lever it will act slowly upon the outer extremity of the advancing

lever and thus force the plunger forward. When the rotation of the cross-head has continued until the outer extremity or concentric portion of the arm thereof is in contact with the extremity of the advancing lever, the plunger will be held positively and firmly at the extreme limit of its movement without advancing or returning to give time at the proper point of the operation for tying or otherwise securing a bale. When the extremity of this arm of the cross-head has passed beyond the end of the advancing lever and thus released the latter, the other arm of the cross-head has reached a point contiguous to the short arm of the returning lever, and inasmuch as the extremity of said short arm is in the path of the outer extremity of the arm of the cross-head the movement of the returning lever as compared with that of the advancing lever will be rapid, thereby accomplishing the return of the plunger promptly to give access to additional material to be baled. The first part of the advance movement of the plunger is so slow as to give ample opportunity for introducing hay or other material.

Inasmuch as the advancing lever is arranged in advance of the fulcrum-point of the cross-head, while the returning lever is pivoted in rear of said fulcrum-point, a draw-rod may be employed to connect said levers, thus utilizing the tensile strength thereof, and as the fulcrum of the cross-head is arranged in the path of the free end of the advancing lever the hub of the cross-head forms a stop to limit the rearward movement of the advancing lever due to the rebound of the plunger.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit

or sacrificing any of the advantages of this invention.

Having described our invention, what we claim is—

The combination of an S-shaped cross-head and means for imparting rotary motion thereto, said cross-head having oppositely-extending forwardly-convexed arms terminating in concentric extensions of which the outer surfaces are at all points at a uniform distance from the axis of rotation, an advancing lever mounted at one end upon a fixed pivot in advance of the fulcrum of the cross-head and having the other end arranged in the path of the arms of the cross-head and connected to a plunger-beam, said free end of the advancing lever being adapted when retracted to occupy a position contiguous to the fulcrum of the cross-head and the center of the cross-head being arranged in the path of said free end of the lever to form a stop therefor, a returning lever pivoted in rear of the fulcrum of the cross-head and having a short arm arranged at its extremity in the path of the outer ends of the arms of the cross-head, and a connecting draw-rod between the long arm of the returning lever and the advancing lever at an intermediate point contiguous to its pivot, substantially as specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

JEFFERSON D. LANE.

WILL S. JAMES.

Witnesses to signature of J. D. Lane:

PHIL. B. MCCONRY,

S. C. PIERCE.

Witnesses to signature of W. S. James:

J. D. BOONE,

BEN. R. THORNBURY.