



H. KILE.  
BALING PRESS.

No. 437,120.

Patented Sept. 23, 1890.

Fig. 3.

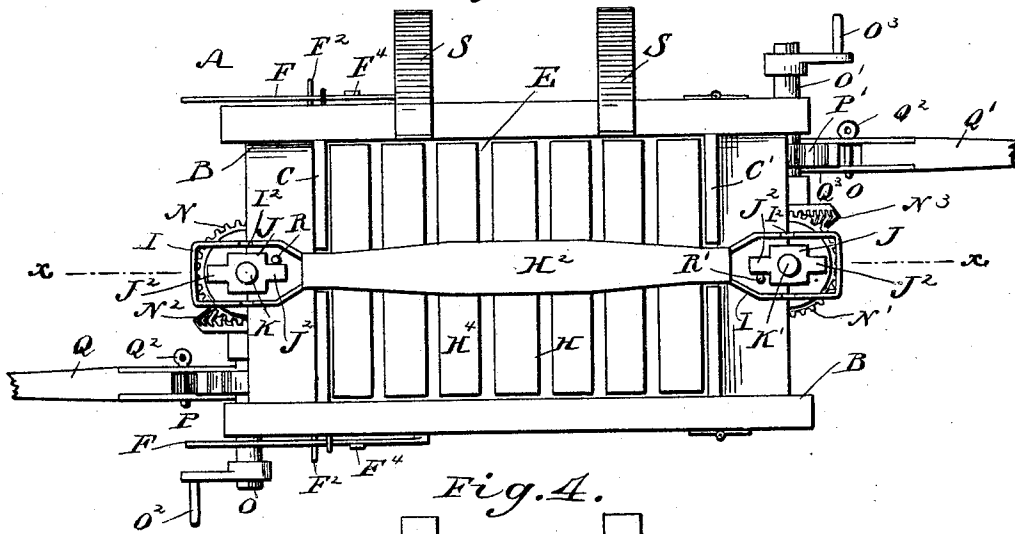
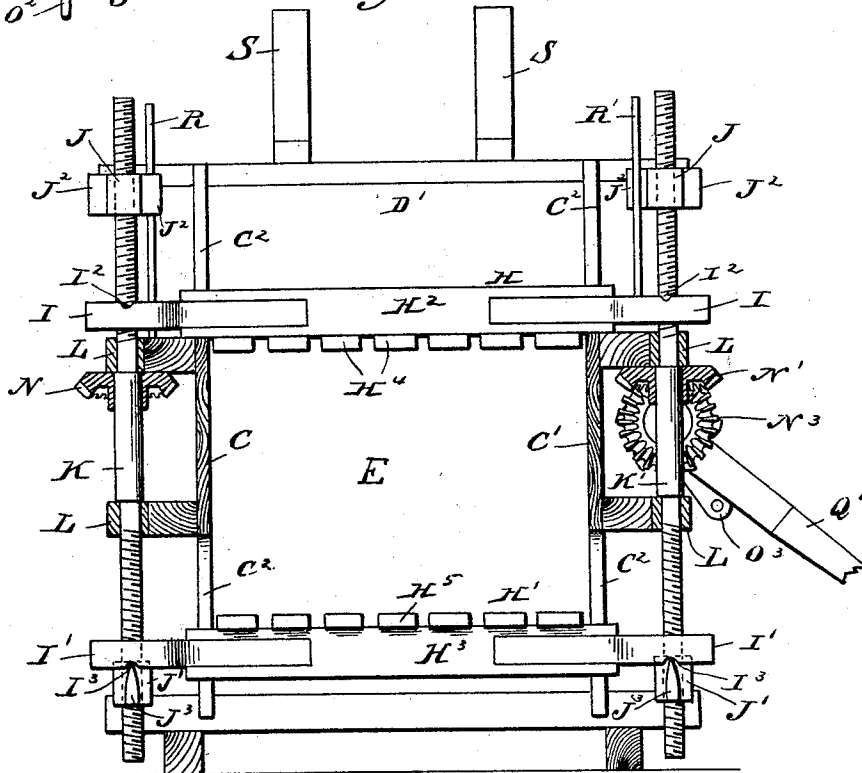


Fig. 4.



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# UNITED STATES PATENT OFFICE.

HENRY KILE, OF MARSHALL, ILLINOIS.

## BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 437,120, dated September 23, 1890.

Application filed July 8, 1889. Serial No. 316,806. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY KILE, of Marshall, in the county of Clark and State of Illinois, have invented a new and Improved Baling-Press, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved baling-press, which is simple and durable in construction, very effective in operation, and specially designed for pressing broom-corn, hay, cotton, &c., into compact bales for storing and shipping.

The invention consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of a press embodying my improvements, a portion of the frame being broken away. Fig. 2 is an end elevation of the same. Fig. 3 is a plan view of the same, and Fig. 4 is a sectional side elevation of the same on the line  $x x$  of Fig. 3.

The improved baling-press A is provided with a skeleton frame B, supporting the fixed ends C and C', and provided on its sides with doors D and D', said ends and side doors forming a box E, in which the material to be pressed is placed. Each of the doors D and D' is hinged to the frame B and provided with two latches F and F', adapted to engage the catches F<sup>2</sup> and F<sup>3</sup>, respectively, secured on one of the posts of the skeleton frame B. The two latches F and F' are connected with each other by a bar F<sup>4</sup>, so that when one of the latches is raised or lowered the other is moved in the same direction. The side doors D and D' are adapted to swing outward and serve for conveniently removing the finished bale.

In the box E are held the two followers H and H', each provided with a longitudinally-extending beam H<sup>2</sup> and H<sup>3</sup>, respectively, supporting on opposite sides the transversely-extending boards H<sup>4</sup> and H<sup>5</sup>, placed suitable distances apart so as to form a bottom and top, respectively, for the box E.

On the ends of the longitudinal beams H<sup>2</sup> and H<sup>3</sup> are secured the loops I and I', respectively, provided with notches I<sup>2</sup> and I<sup>3</sup>, respectively,

adapted to be engaged by projections J<sup>2</sup> and J<sup>3</sup>, respectively, formed on the nuts J and J', respectively, screwing on the screw-rods K and K', respectively, mounted to turn in suitable bearings L, secured on the ends of the skeleton frame B. The screw-rods K and K' are threaded, the upper end having a right-hand screw-thread, while the lower end has a left-hand thread. The nuts J J screw on the upper ends, while the nuts J' J' screw on the lower ends, of the screw-rods K and K', as is plainly shown in the drawings. The notches I<sup>2</sup> in the loops I are formed on the top edge, and the projections J<sup>2</sup> on the nuts J engage the said notches, and when the screw-rods K and K' are turned the nuts J press against the loops I and move the top plunger H downward. The notches I<sup>3</sup> in the loops I' are formed on the under side and are engaged by the upper edges of the projections J<sup>3</sup> on the nuts J', so that when the screw-rods K and K' are turned the loops I' are moved upward, thus carrying the lower follower H' in an upward direction. The screw-rods K and K' pass through the loops I and I', and the nuts J and J', the projections of which extend lengthwise, can freely pass through the said loops.

Near the middles of the screw-rods K and K' are secured the bevel gear-wheels N and N', respectively, meshing with the bevel gear-wheels N<sup>2</sup> and N<sup>3</sup>, respectively, secured on the shafts O and O', respectively, extending transversely and mounted to turn in suitable bearings in the ends of the skeleton frame B.

On the outer ends of the shafts O and O' are secured the crank-arms O<sup>2</sup> and O<sup>3</sup> for conveniently turning the said shafts O and O', so as to turn the screw-rods K and K', respectively. On the shafts O and O' are also secured the ratchet-wheels P and P', adapted to be engaged by a pin Q<sup>2</sup>, held in the levers Q and Q', respectively, each provided with a hook Q<sup>3</sup>, adapted to be hooked over the respective shaft O or O'.

Alongside the screw-rods K and K' are held the rods R and R', serving to prevent the nuts J and J' from turning when disengaged from the loops I or I'.

On one side of the skeleton frame and on top are secured the outwardly and upwardly extending U-shaped brackets S, serving to

support the upper plunger H, while the box E is filled with material to be pressed.

The operation is as follows: In order to remove the upper plunger H, the nuts J J are turned into the position shown in Figs. 3 and 4, so that the projections J<sup>2</sup> extend lengthwise, and when the plunger H is now lifted upward the loops can pass over the said nuts J. The plunger H is placed in the brackets S and the operators now fill the box E with the material to be pressed, the material resting on the boards H<sup>2</sup> of the lower plunger H', which is now in its lowermost position, its loops J' resting on the projections J<sup>3</sup> of the nuts J'. When the box E has been filled, the upper plunger H is again placed in position in the box, its boards H<sup>1</sup> resting on top of the material in the box. The nuts J are then given a quarter-turn, so that the projections J<sup>2</sup> engage the notches I<sup>2</sup> in the upper edges of the loops I. The two operators now turn the screw-rods K and K', respectively, first by turning the crank-arms O<sup>2</sup> and O<sup>3</sup> and then by operating the levers Q and Q' in such a manner that the pins Q<sup>2</sup> engage the teeth of the ratchet-wheels P and P', respectively, and turn the same. The shafts O and O' are thus turned and impart a similar motion by means of the gear-wheels N and N' and N<sup>2</sup>N<sup>3</sup> to the screw-rods K and K', which latter move the nuts J J and J' J' toward each other, whereby the plungers H and H' are forced in the same direction and compress the material placed in the box E between said plungers. It will be seen that as the nuts J J and J' J' are not rigidly connected with the plungers H H' one operator can turn slower or faster without straining any of the parts of the machine. When the material has been pressed to the desired extent, the operators disconnect the levers Q and Q' from the shafts O and O', respectively, and the doors D and D' are opened, so as to permit the operator to put baling-bands around the bale in the usual manner. The operators then turn the crank-arms O<sup>2</sup> and O<sup>3</sup> in opposite directions, whereby the screw-rods K and K', with their nuts J and J', move outward, thereby releasing the plungers H and H' from the bale, which is pushed out of the box through one of the side doors.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a baling-press, the combination, with the frame having a baling-chamber, of a removable follower, loops or yokes on the ends of the follower, screws mounted on the frame and provided with nuts over which said loops or yokes are adapted to pass when said nuts are turned lengthwise with respect thereto, said nuts being of a length to cross the loops when turned transversely thereto, substantially as set forth.

2. In a baling-press, the combination, with the frame having a baling-chamber provided with a removable follower, of oblong notched loops or yokes projecting from the ends of the follower, screws mounted on the frame and provided with nuts having two opposite projections to rest in the notches of the loops or yokes when the nuts are turned transversely thereto, the loops or yokes being adapted to pass over the nuts when the latter are turned lengthwise thereof, substantially as set forth.

3. In a baling-press, the combination, with the frame having a baling-chamber and two followers movable toward and from each other and having oblong loops or yokes at their ends, having notches in the outer edges of their sides, of the right and left hand screw-rods mounted on the frame and having opposite projections to enter the respective notches when the nuts are turned transversely across the loops, substantially as set forth.

4. In a baling-press, the combination, with the two followers or platens movable toward and from each other and each having loops projecting from their ends, said loops having notches I<sup>2</sup>, of two rotary right and left hand screws provided with nuts having end projections engaging said notches, and fixed guide-rods parallel with the screws and against which the nuts bear and by which they are prevented from rotating, substantially as set forth.

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Witnesses:

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