

(No Model.)

M. C. NIXON.  
BALING PRESS.

No. 523,681.

Patented July 31, 1894.

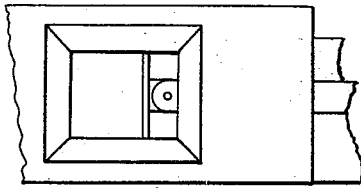


Fig 1

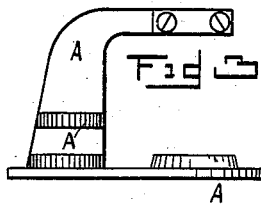
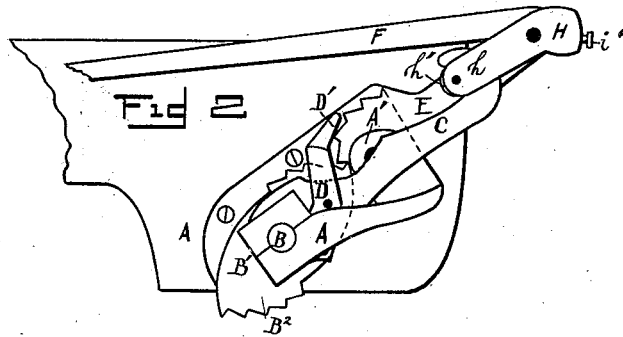


Fig 3

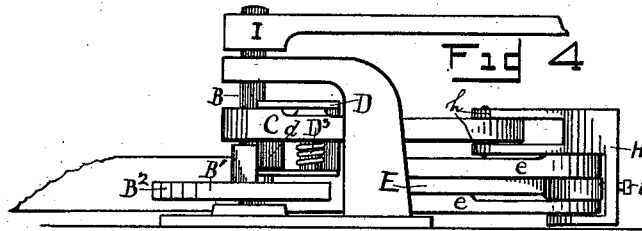


Fig 4

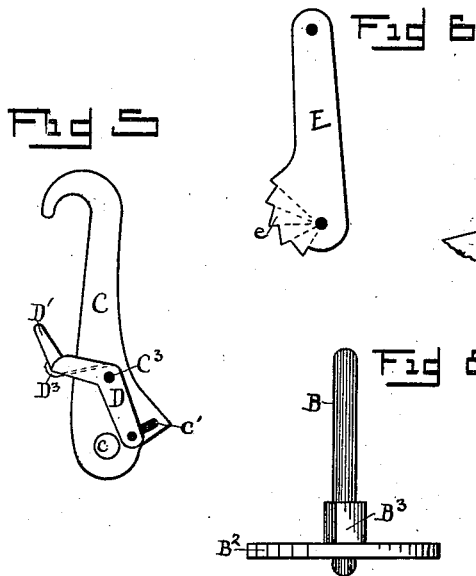


Fig 5

Fig 6

Fig 7

Fig 8

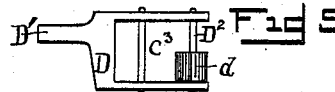


Fig 9

WITNESSES:

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# UNITED STATES PATENT OFFICE.

MOSES C. NIXON, OF OMAHA, NEBRASKA.

## BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 523,681, dated July 31, 1894.

Application filed May 11, 1892. Serial No. 432,674. (No model.)

*To all whom it may concern:*

Be it known that I, MOSES C. NIXON, of Omaha, in the county of Douglas and State of Nebraska, have invented certain useful Improvements in Baling-Presses; and I do hereby declare that the following is 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, reference being had to the accompanying drawings, which form a part of this specification.

This invention has relation to a new and novel improvement in baling presses.

The object of this invention is, to provide a horse power baling press, that shall be simple of construction and the working elements of which shall be accessible and readily operated.

In the accompanying drawings, Figures 1 and 2 show a broken top view of a baling press, illustrating the power mechanism in its upper extreme position. Fig. 3 is an elevation of the supporting standard; Fig. 4 a side elevation of Fig. 2; Fig. 5 a top view of the power arm; Fig. 6 a top view of the toggle arm; Fig. 7 a top view of the power mechanism, with parts broken away in its lower extreme position; Fig. 8 a side elevation of the rack plate and shaft, and Fig. 9, a side elevation of the latch block.

A represents a supporting standard and base plate, the upper curved portion of which extends at right angles, and is adapted to serve as a bearing.

A' is an extending ear integral with the standard, which may be cast in any suitable metal.

Vertically journaled within the standard, and working at the lower end, within a seating of the base plate, is the main operating shaft B, provided with an oval rack plate B', which is provided at each end, and upon opposite sides with the projecting teeth B<sup>2</sup>, as shown in Figs. 2 and 7. Above the plate and encompassing the shaft, is the scroll cam B<sup>3</sup>.

Loosely working upon the shaft B, and supported by the scroll cam is the hook-shaped power arm C, as shown in Fig. 5. This arm is provided with the shaft opening c and the pin opening c'. Working upon this block is the spring actuated latch block D, pivotally mounted upon the arm by means of the pin

C<sup>3</sup>. The latch block is bifurcated so as to straddle the arm, and in front is provided with the nose D'. The block is further provided with the pulley pintle D<sup>2</sup>, which works within the slot c', of the power arm, and a spring D<sup>3</sup> as shown in Fig. 4, so that the block and connected roll d always lies adjoining and is forced upon the cam B<sup>3</sup>, as illustrated in Fig. 7.

Pivotally working between the ear A' and the base plate A, is the toggle arm E shown in Fig. 6, provided upon one side and end with a semi-circular head having the serrations or teeth e, each succeeding tooth being a greater distance from a common center than the preceding one, as will be understood by referring to the figure. To the free end of this arm E, is attached the plunger bar F, the shoe e' of which is bifurcated so as to better hold the arm, the bar and arm being secured by means of the head block H, of suitable metal, a top and side view of which is shown respectively in Figs. 2 and 4, and the pin of which secures said arm and bar. This block is provided with the extending arms h, h, between the forward ends of which is secured the roll h'. At the lower end the block is provided with the ear h<sup>2</sup>, between which and the arm h is movably held the forward end or shoe of the plunger bar F, as shown in Fig. 4. At the rear, and in line with the arm E within the shoe, is secured the stop screw i, as will be noticed in Figs. 2 and 4. Above the standard and secured to the shaft B is the sweep I, (shown only in Fig. 4) by means of which the press is operated, the animal being attached to the free end thereof.

When all the parts have been properly constructed and assembled, the operation of my device is as follows: It is immaterial at what point the press is set in motion, but for the sake of illustration it will be assumed, that the instrumentalities were positioned as shown in Fig. 2. The power arm in starting has its hooked end positioned between the arms h, h, works against the roll h', and is operated by means of the scroll cam B<sup>3</sup>, as will be understood by referring to Fig. 7. This arm C works loosely upon the shaft B, but the roll d of the spring actuated latch block normally presses against the shaft B, and so is within the path and engaged by the scroll cam B<sup>3</sup>.

In this position the power arm would be carried in an arc, and so operate the plunger bar E by means of the roll within the head block H against which said arm works. As the arm E however is carried in its circular path, the head block H is bound at the rear, against the arm E, by means of the screw  $i$ , so as to force the roll  $h'$  against the nose  $D'$  of the latch block, which promptly throws the roll  $h'$  out of its seating within the cam  $B^3$  forcing it to ride upon the curved portion  $d'$  and thus unlatching and permitting the power arm,  $c$  to ride "dead," upon the shaft B, and between the arms  $h$ . At this instant, the teeth  $B^2$  of the revolving rack plate  $B'$ , would engage the corresponding teeth  $e$  of the arm E, which in the interval had come within the path of the plate  $B'$ , as may be seen in Fig. 7, and as the teeth were successively engaged the arm E and connected plunger F would be returned to its first position, with increasing speed, until the teeth had all escaped. During the interval, the power arm C would have been riding idle, but as the teeth escaped, the roll  $h'$  rode upon the face of the second scroll of the cam  $B^3$ , so that the power arm and connected plunger was again forced forward, as in the first instance. It will be noticed, that the plunger bar is operated twice during one revolution of the sweep.

If the packed hay should be elastic enough to give the necessary rebound after the plunger had been released to carry said plunger into its first position, as often happens, the plunger and connected toggle and power arm, are given an uninterrupted path, as in working backward the serrated head  $e'$  works away from the serrations of the rack plate so that the toggle arm could rebound the full distance unimpeded or remain dead at any intermediate point. As the rack plate which is continuously revolved came within the path of the toggle arm, the teeth of said arm would be found by one or the other of the rack teeth and carried into position.

It will be noticed, that the plunger is carried forward by means of the power arm, and rearward by means of the rack-plate, which actuates the toggle arm E.

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

1. The combination with a supporting standard of an operating shaft provided with an oval rack plate, a power arm connected to said operating shaft, said rack plate being provided with teeth upon each end and upon opposite sides, and a toggle arm mounted adjoining said rack plate, and provided with a serrated head adapted to coincide with the serrations of said plate to operate a plunger bar in a rearward direction, all substantially as and for the purpose set forth.

2. The combination with a supporting standard, of an operating shaft, an oval rack plate provided with serrations at each end and a

scroll cam, mounted upon said shaft, a toggle arm mounted adjoining said cam, and provided with a serrated head, adapted to coincide with and be intermittently engaged by the serrations of said oval rack plate, a plunger bar connected to said toggle arm by means of a head block, said head block being provided with forwardly extending arms provided with a roll, a hooked power arm loosely mounted upon said shaft, the hooked forward end working between said arms and against the roll of said head block, a spring actuated striding latch block pivoted to said power arm and provided with a roll adapted to work upon and over said scroll cam, and a nosing to engage the roll of said head block to lock and release said power arm, all substantially as and for the purpose set forth.

3. In a hay press, the combination with a supporting standard and operating shaft, of a return mechanism, comprising the arrangement of the following instrumentalities, to wit: the oval rack plate  $B'$  provided with the teeth  $B^2$ , the toggle arm E, provided with the teeth  $e$  adapted to mesh with those of said plate, each succeeding tooth of said plate and arm being a greater distance from the common center than the preceding one, so that said plate and arm can work away from each other without interference, and the plunger bar F connected to said arm E, all substantially as and for the purpose set forth.

4. In a hay press, the combination with a supporting standard and operating shaft, of a power mechanism, comprising the arrangement of the following instrumentalities, to wit: the cam  $B^3$ , forming part of a main operating shaft, a power arm C working upon said shaft, the striding spring actuated latch block D secured to the arm C provided with the roll  $d$  working upon the cam  $B^3$ , the toggle arm E pivoted to the plunger bar F, and the head block H, securing said toggle arm and plunger bar and provided with the arms  $h$  and roll  $h'$ , all arranged to operate said plunger bar in one direction, substantially as and for the purpose set forth.

5. In a hay press, the combination with a supporting standard and operating shaft, of the cam B, power arm C, spring actuated latch block D mounted upon said arm C provided with the projecting nose  $D'$ , and roll D working upon the cam  $B^3$ , the toggle arm E, plunger bar F and head block H, said block being provided with the arms  $h$  and roll  $h'$ , the latter being adapted to work upon said power arm and against the nose  $D'$  of said latch block H, to lock and release said power, all substantially as and for the purpose set forth.

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

MOSES C. NIXON.

Witnesses:

G. W. SUES,  
WM. M. LORRIMER.