(No Model.)

A. C. MILLER.

BALING PRESS.

No. 524,597. Patented Aug. 14, 1894.

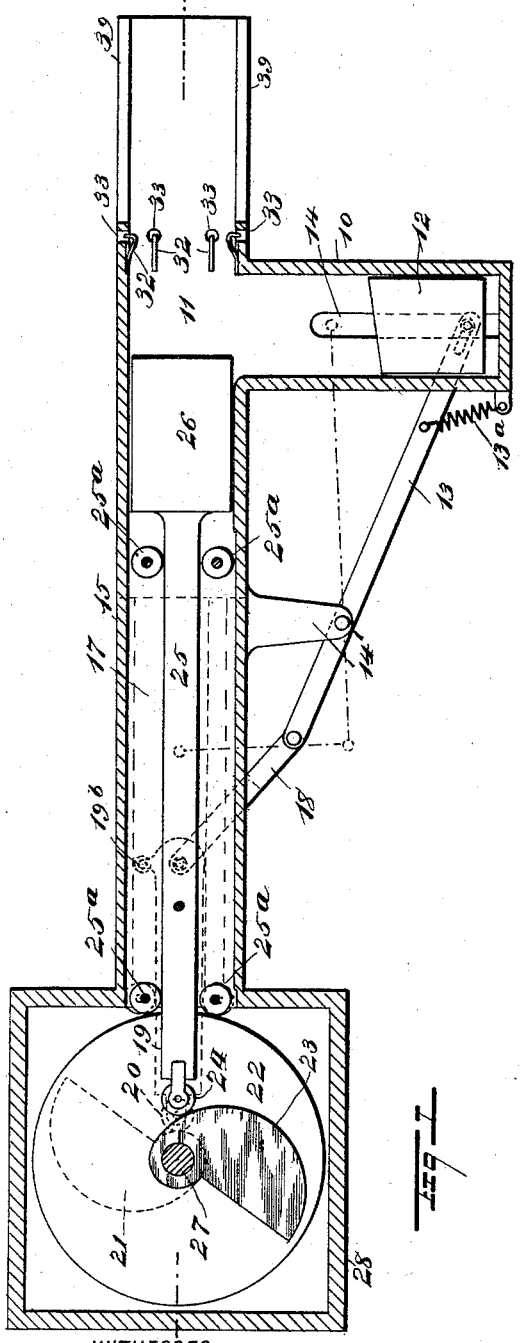

FIG. 1.

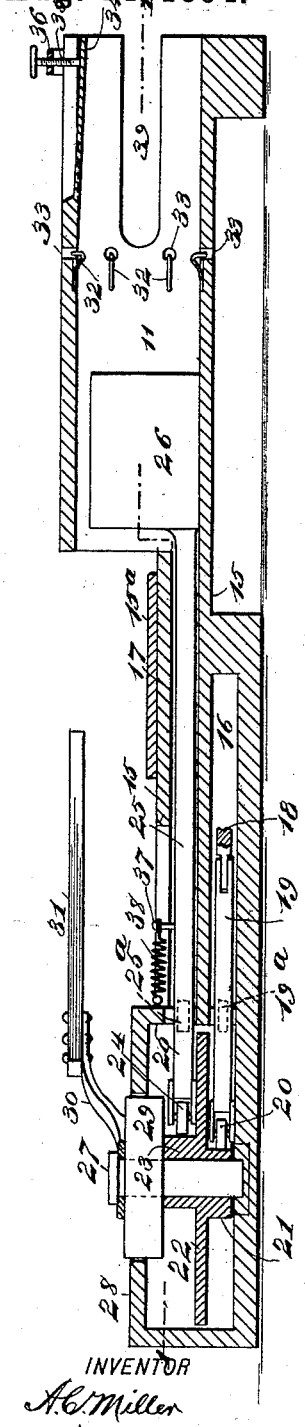

FIG. 2.

WITNESSES:

H. Walker

C. Sedgwick

INVENTOR

A. C. Miller

BY Munn & Co

ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ANDREW C. MILLER, OF COMMERCE, MISSOURI, ASSIGNOR OF ONE-HALF TO EDWARD A. JOHNSON, OF SAME PLACE.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 524,597, dated August 14, 1894.

Application filed November 25, 1893. Serial No. 491,989. (No model.)

To all whom it may concern:

Be it known that I, ANDREW C. MILLER, of Commerce, in the county of Scott and State of Missouri, have invented a new and Improved Baling-Press, of which the following is a full, clear, and exact description.

My invention relates to improvements in baling presses, such as are used for baling hay, straw and analogous articles; and the object of my invention is to produce a very simple and powerful press, which may be conveniently, easily and rapidly operated, and which is adapted to bale material of the kind named in an efficient manner and automatically force the material into the press box and the formed bales from the press box.

To these ends my invention consists of certain features of construction and combinations of parts, which will be hereinafter described and claimed.

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

Figure 1 is a sectional plan, on the line 1—1 of Fig. 2, of the press embodying my invention; and Fig. 2 is a section on the line 2—2 of Fig. 1.

The press is provided with a feed box 10, which is arranged at right angles to the press box 11 and delivers into the same, the material which is placed in the feed box being forced into the press box by a reciprocating plunger 12, which is operated by a swinging lever 13, the lever being pivoted to one side of the plunger, and the feed box is longitudinally slotted, as shown at 14, to provide for the movement of the pivot pin.

The plunger 12 is drawn normally to the outer end of the feed box by a spiral spring 13^a which is fastened to the lever 13 and to a lug on the box, see Fig. 1. The lever 13 is pivoted in lugs 14′ on a casing 15, which casing is arranged at one end of the press box and in longitudinal alignment therewith, the casing being divided into two lower and upper compartments or slideways 16 and 17 in which the mechanism, to be described below, works; and the casing is covered on top by a platform 15^a over which the horses travel when working the press.

One end of the lever 13, the end opposite that which is pivoted to the plunger 12, is pivotally connected by means of a rod 18 with a slide bar 19 which moves longitudinally in the slideway 16 between anti-friction rollers 19^a, and the slide bar carries an anti-friction roller 19^b which also assists in guiding the bar. The slide bar is provided at one end with a roller 20, which contacts with a cam 21 on one face of a horizontally rotating wheel 22, while on the opposite face of the said wheel is a similar cam 23 which contacts with a roller 24 on the plunger rod 25, which moves longitudinally in the slideway 17 between anti-friction rollers 25^a and which carries a plunger 26 adapted to move longitudinally and snugly in the press box 11.

The wheel 22 and its cams are journaled on the shaft 27, and the shaft, the wheel, and the cams are held in a suitable housing 28. The shaft is provided with a collar 29 which turns in an opening in the housing, and secured to the shaft is a yoke 30 which projects from diametrically opposite sides of the shaft. The yoke on each side of the shaft is provided with a projecting arm 31, thus forming a double sweep to each end of which a horse may be attached to turn the sweep and the cam wheel. Only one arm 31 is shown in the drawings, the arm yoke being shown in section in Fig. 2.

If desired, the shaft may be provided with a pulley or gear wheel, so that power may be used, in any ordinary way, to turn it.

When the plunger 26 is thrown forward into the press box, it carries with it the material in the box, which is forced toward the the tail of the box and beyond the springs 32, which are fastened in a transverse line in the press box and have bent ends projecting into holes in the box so that they may have the necessary freedom of movement.

The press box 11 is provided at its tail end with a tension device, of substantially the usual kind, having an inwardly pressible spring plate 34, which is moved inward by a screw 35 mounted in a suitable bracket or

support 36, and by adjusting the screw, the plate may be forced inward the desired distance so as to produce the proper tension on the material which is squeezed in the press box.

The plunger 26 is thrown in one direction by the cam 23 striking on the roller 24 at the end of the plunger rod 25, and it is pulled back in the opposite direction when the cam passes the roller 24, by a spring 38 which is attached to a pin 37 on the plunger rod and to the housing 28.

The press is operated as follows:—The material to be baled is placed in the feed box 10 through an opening in the side or top of said box, a door being arranged to close either the side or top openings as desired. Each stroke of the plunger 12 forces a quantity of the material into the press box 11; and by reference to Fig. 1, it will be observed that the arrangement of the actuating cams is such that the plunger 26 will be withdrawn when the plunger 12 is forced inward and vice versa, and consequently after each stroke of the plunger 12, the plunger 26 is thrown into the press box so as to squeeze the material into the rear end of the box, and a bale is thus formed. The rear end of the press box is longitudinally slotted in substantially the usual way, as shown at 39, so that the binding wires may be conveniently placed around the formed bale. The completed bale is forced out of the rear end of the press box as the succeeding bale is formed. The plungers are actuated by turning the shaft 27 either by means of the sweep described, or by equivalent power.

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

1. A baling press, comprising a press box, a feed box arranged at right angles to the press box, and delivering into the same, plungers arranged respectively in the press box and feed box, longitudinally reciprocating rods or bars arranged one above the other and one of them connected with each of the said plungers, and a cam mechanism engaging the free ends of said rods or bars to give alternate movements to the plungers, substantially as described.

2. A baling press, comprising a press box, a feed box arranged at right angles to the press box and delivering into the same, a reciprocating plunger in the press box, a plunger rod secured to the plunger, a reciprocating plunger in the feed box, a lever mechanism for operating the feed box plunger, a longitudinally moving slide bar connected with the said lever mechanism, a revoluble cam acting on said slide bar and controlling the said lever mechanism, and a similar cam acting on the plunger rod and controlling the movements of the plunger in the press box, substantially as described.

3. A baling press, comprising a press box, a feed box arranged at right angles to the press box, a reciprocating plunger in the press box, a plunger rod secured to the plunger, a reciprocating plunger in the feed box, a lever mechanism for operating the feed box plunger, a slide bar connected with the said lever mechanism, a revoluble shaft provided with cams adapted to contact alternately with the plunger rod and the slide bar, and operate the said plungers in the feed box and press box, and springs for retracting the said plungers, substantially as described.

ANDREW C. MILLER.

Witnesses:
G. G. MATTHEWS,
CHARLES I. ANDERSON.