

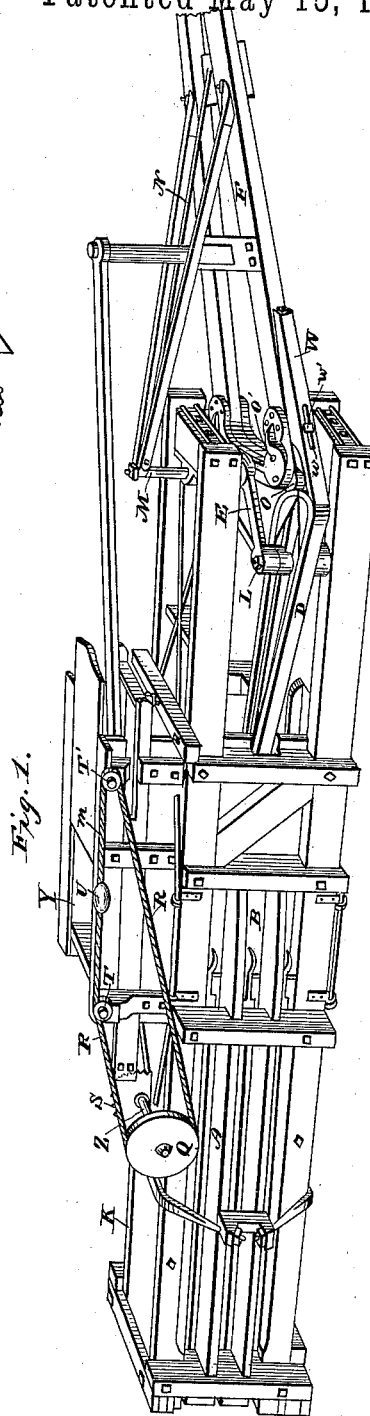
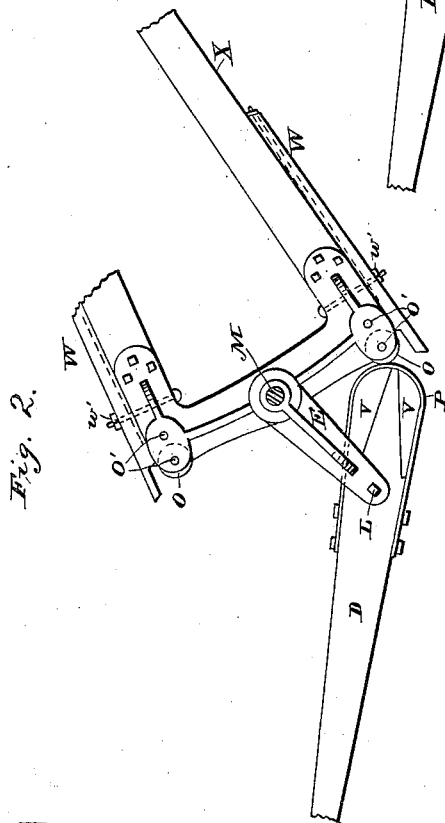
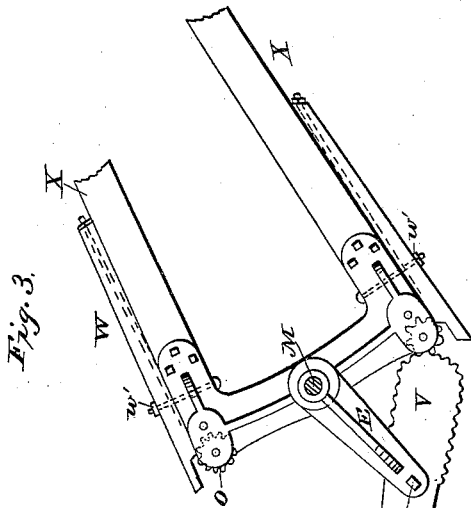
(No Model.)

P. K. DEDERICK.

BALING PRESS.

No. 382,954.

Patented May 15, 1888.



Witnesses.
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UNITED STATES PATENT OFFICE.

PETER K. DEDERICK, OF ALBANY, NEW YORK.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 382,954, dated May 15, 1888.

Application filed January 4, 1883. Serial No. 80,908. (No model.)

To all whom it may concern:

Be it known that I, PETER K. DEDERICK, a citizen of the United States, residing at Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Baling-Presses; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, and to the figures and letters of reference marked thereon.

This invention relates to that class of baling-presses for which Letters Patent of the United States were granted to me October 29, 1872, Nos. 132,566 and 132,639, and for which other Letters Patent have since been granted me for various modifications of the same, notably Letters Patent No. 257,153, dated May 2, 1882.

My present improvements consist, first, in a novel construction of the power-applying devices, whereby the efficiency and durability of the same are increased, and, secondly, in novel means for determining the length of the bales, all which I will now proceed to describe.

Referring to the drawings, Figure 1 represents a perspective view of a press embodying my present improvements. Fig. 2 is a plan view of the power-applying devices detached and represented on an enlarged scale, and Fig. 3 is a plan view of a modification of the devices shown in Fig. 2.

Similar letters of reference in the several figures denote the same parts.

The construction of the bale-chamber A, press-box B, and the traverser, which plays in the latter, is the same as represented in my Patent No. 257,153, before referred to, and need not be particularly described herein.

D and E E represent the arms composing the toggle of the power-applying devices. Arm D is connected at its forward end to the traverser, and near its rear end is pivoted to the arms E E by a bolt, L, while arms E, (which are preferably two in number, though one would serve,) are in turn mounted upon a shaft or fulcrum-pin, M, so as to turn freely thereon, as is also the horse lever or sweep F. The horse-lever in this instance I form of timbers bolted together at their outer ends and

connected together by plates or timbers at the press end, and I prevent it from sagging by means of a rod, N.

The horse lever or sweep operates upon the extended end *p* of the lever D, and forces the toggle up to and slightly past the center, the reaction or back expansion of the pressed material, when this point is reached, then serving to throw the joint of the toggle out at the other side of the press in position to be acted upon in a similar manner by the horse-lever when the latter is reversed.

I have found from experience that the cam-shaped outer end of the arm D, as well as the rollers O O on the sweep, are rapidly worn away and are liable to become crushed under the severe pressure and heavy concussions to which they are subjected, and the result is the same where, instead of the rollers, a shoe or slide is employed, as mentioned in my before-named Letters Patent No. 257,153. To remedy this defect and increase the durability of the parts referred to, I cast the cam end of the arm D in a chill, and thus harden it, or, what I deem still better, I form recesses in it and cast in chills separate pieces V V to fill such recesses, as shown in Fig. 2. There is but little stress upon the extreme end of the arm D in the operation of the press, and I therefore locate the pieces V V on the sides and on the end on opposite sides of the middle where the wear and strain are greatest.

To further strengthen the parts, I preferably apply around the end and sides of the arm D a steel band, P. I also apply a steel band or tire to the wheels O O.

In ordinary pressing the chilled cast-iron will suffice; but where it is desired to press to great density, the application of the steel banding I strongly recommend.

The steel bands may be applied to the arm D, whether the end is chilled, or cast whole, or in parts.

I find that under certain circumstances it is advantageous to corrugate the cam end of the arm D, or the band encircling it, and to also corrugate the co-operating rollers correspondingly, as seen in Fig. 3. This provision gives a greater area of bearing-surface and prevents

the rollers from sliding and decreases the liability of breakage.

It will be observed by reference to the drawings that the casting on the sweep in which the rollers are mounted is provided with two pin-holes, O', for the pin of each roller, so as to permit the adjustment of the rollers inward or outward, as the occasion may require.

When the press is to be operated in a barn and the horse lever or sweep is required to extend outside, the horse attached to the sweep will strike the barn before he can make the ordinary full half-circle in either direction. To obviate this, the distance necessary for the horse to travel must be reduced, and this is accomplished by adjusting the rollers upon the pins in the outermost holes, as shown in Fig. 2; but under ordinary circumstances, where there is plenty of room for the horse, the roller may be adjusted on the pins in the inner holes.

For the purpose of arresting the rebound of the traverser and arm D and protecting the rollers O O from receiving the blow of such rebound, I attach upon the sweep a pair of bumpers, W W, one on each side, as shown. Each of these bumpers is provided with a longitudinal slot, w, through which extends a bolt, w', that serves to clamp the bumper to the sweep. By means of the slot the bumper is enabled to be adjusted longitudinally in and out. A bolt, X, secured at one end to the sweep, passes longitudinally of the bumper, and has a nut on its end, by means of which the bumper may be firmly held in any position of its adjustment. The bumpers may be made of wood or other suitable material, and may be of any form, so long as they project and prevent the arm D and the rollers from coming in contact on the rebound of the traverser and said arm.

In the operation of presses of this kind the bales are built up of separate and successive sections by the operation of the reciprocating traverser, and when the operator feeding conceives the forming bale to be of proper size, he puts a partition-follower into the press-box, and the next subsequent forward movement of the traverser carries such follower into the bale-chamber and the sections of the succeeding bale are pressed up against it. The formed bale in advance of the partition is then tied off while yet in the bale-chamber.

As the feeding operator is often so positioned as to be unable to see the bale through the tying-slots, some bales are made larger than others, and if the variation in their size be considerable they cannot be packed to the best advantage in a given space. To obviate this variation in the bales and to produce bales of uniform size, I provide a suitable measuring device, one form of which I show in Fig. 1, consisting of a cross-shaft, Z, mounted in suitable bearings upon the bale-chamber, and carrying at or near its middle a spur-wheel, S, which projects down through a slot in the case into the bale-chamber, so as to rest upon the formed bale in the latter with suffi-

cient force to cause it to revolve when the bale is moved. Said shaft also carries at one end a grooved pulley, Q, and around this pulley and also around guide-pulleys T T', mounted on the side of the press, passes an endless rope or rubber triangular belt, or a wire rope, or chain, R. On this belt or chain is secured an indicator, Y, consisting of a ball or other form of device held to the belt by friction, in any suitable manner, so that it may be caused to move when the belt moves, or may be slipped along upon the belt by hand or otherwise, when desired.

The operation of this bale-indicator is as follows: The operator having put in a partition-follower, moves the indicator-ball close up to the pulley T, and when it moves to a given mark on the hopper-side—as at m, for instance—it shows the length of the bale desired and warns him to put in another follower, which he does, and then moves the ball back to starting-point with his fork or otherwise. By this means all the bales are enabled to be formed of uniform size. Instead of employing a sliding indicator on the belt, a fixed ball, or knot, or other device may be attached to or formed in the belt, and a full or half revolution of the belt may be made to indicate the length of the bale.

Having thus described my invention, I claim as new—

1. In a baling-press, the combination, with the arm or pitman connected to the traverser, of the chilled pieces inserted in the outer end of said arm, and the metal band encircling the outer end of said arm and the inserted pieces, substantially as described.

2. In a baling-press, the combination, with the two arms comprising the toggle and the horse lever or sweep, of the adjustable rollers mounted on said sweep, substantially as described.

3. In a baling-press, the combination, with the two arms comprising the toggle, of the horse lever or sweep, the rollers mounted on said sweep, and the bumpers attached to said sweep and projecting out beyond the rollers, the whole constructed and arranged substantially as described.

4. In a baling-press, the combination, with the horse lever or sweep carrying the rollers, of the bumpers secured to said sweep and capable of adjustment in and out, substantially as described.

5. In a continuously-operating baling-press, the combination, with the press-case, of a wheel projecting in the path of the moving column of pressed material in the press, and a movable indicator operated from said wheel, denoting by its position the length of the bale being formed, substantially as described.

6. The combination, with the press, of the shaft carrying the toothed wheel and the pulley, the belt, the indicator on the belt, and a guide pulley or pulleys, substantially as described.

7. In a baling-press, the combination, with the two arms comprising the toggle, of the horse lever or sweep and the bumpers attached to said sweep, substantially as described.
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8. In a baling-press, the combination, with the two arms comprising the toggle, of the

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Witnesses:

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