

P. K. DEDERICK.

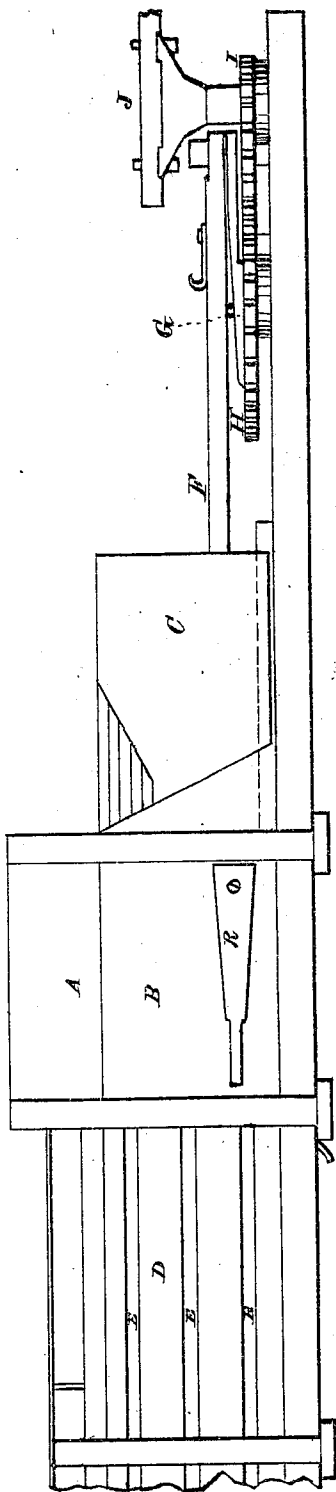
2 Sheets--Sheet 1.

Improvement in Baling-Press.

No. 132,639.

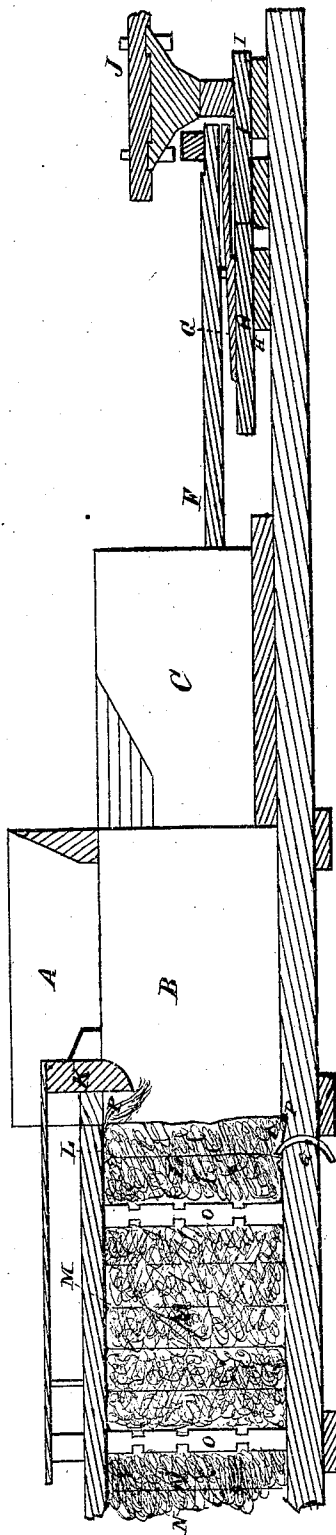
Patented Oct. 29, 1872.

Fig. 1.



Witnesses.
J. West Wagner.
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Fig. 2.



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Fig. 3.

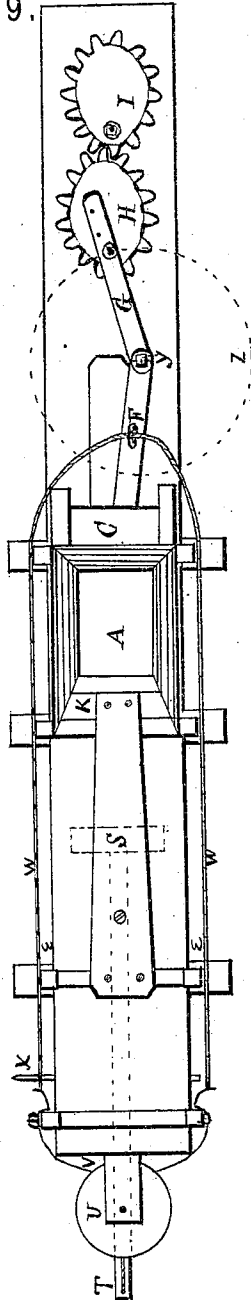


Fig. 5.

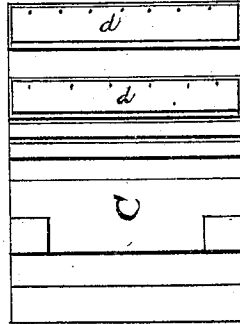
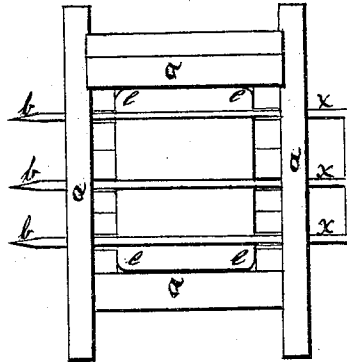


Fig. 4.



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UNITED STATES PATENT OFFICE.

PETER K. DEDERICK, OF ALBANY, NEW YORK.

IMPROVEMENT IN BALING-PRESSES.

Specification forming part of Letters Patent No. 132,639, dated October 29, 1872.

To all whom it may concern:

Be it known that I, PETER K. DEDERICK, of the city of Albany, in the county of Albany and State of New York, have invented a new and Improved Baling-Press, of which the following is a specification:

My invention consists, first, in the peculiar manner of gearing to produce a progressive power, thus greatly increasing the pressing power when required, and without loss of time; second, the folder or doubling arrangement, constructed to fold down the material overlapping the plunger; third, the additional retaining-guards to further retain the hay from expanding into the press-box when the plunger is withdrawn; fourth, the guard for retaining the loose hay in the box and drawing through the ties; fifth, the friction-follower arrangement, and manner of closing the door; sixth, the adjustable or stationary tapering box, so as to impinge the bale and produce more friction to form a head to press against; seventh, the guards over the slots in the plunger, to prevent their filling with material and rendering the springs inoperative; eighth, forming the head of the press by means of two finished bales, as shown, in order to make the operation continuous; ninth, the followers, constructed with tying grooves for insertion of the ties between the bales.

Figure 1 is a side view of the principal parts of the machine; Fig. 2 is a sectional elevation, showing the working parts and manner of operation; Fig. 3 is a top view, also illustrating the working parts and their operation; Fig. 4 is a sectional view of the end of the bale-chamber, and showing the guard and tie inserted; and Fig. 5 is a sectional or face view of the plunger, showing the guards to the slots.

In Fig. 1, A is the hopper, into which the loose hay or material is placed; B the press-box, into which it falls by its own gravity, and in which it is pressed by the plunger C and forced into the bale-chamber D. E E E are the tying-slots, through which ties are inserted, there being corresponding slots on the opposite side of the box. F is the pitman or connection to the crank G. H and I are spur-wheels, and J is the sweep to which the horses are attached.

In Fig. 2 the same letters denote the same

parts, as also in all the other figures. K is the folder or doubler, which forces or doubles down the hay overlapping the plunger as soon as the plunger is withdrawn, thus forming the side of the bale smooth. This doubler may be of either roller or wedge form, and projected below the hopper and into the press-box, so as to turn down the ends, which are then secured by the next charge. This folder may be operated by spring, as shown, or weight, or by attaching it to the plunger or power, if desired. L is the forming bale; M, the finished bale; and N, the bale being discharged. O O are the grooved followers. P represents the shoulder for retaining the hay, and extends around the entire box. Q and R are retaining-guards, self-operating, and further secure the hay from expanding back, as does also the folder K.

In Fig. 3, S is the friction-follower, provided with the staff T, and retained or retarded by the wheel and friction-strap U, to which the follower or staff is connected. V is the end door; W W, the lines connecting with the power for closing the door. X is a top view of the guard and tie-inserter as placed for use. The pitman F is connected with the crank G, which is attached to the spur-wheel H in a line from the axle or journal, on which it turns in the direction of the nearest portion of the periphery, thus presenting the longest side or lever to the corresponding wheel I, which, being in the same position, must operate upon it with the short side or lever, thus greatly increasing the power when the material is hardest, and correspondingly diminishing it when no power is required; or, in other words, forming a progressive gearing. The horse-lever J' is attached to the wheel I, or, when no increase of power is required, may be attached to the crank G, over the pitman at Y, and is constructed to fit either place. An eccentric or cam may be used as an equivalent for the crank in operating the pitman, as its formation would be simply enlarging the journal of the crank so as to reach or overlap the center, as shown by the dotted lines z z.

In Fig. 4, a a a a are the ends of the sides of the bale-chamber which gives form to the bale, and is square or rectangular, with small concave or bevel pieces l l l, Fig. 4, formed or

inserted in the corner so as to form a rounding corner, or to remove the sharp corners to a square or rectangular form of bale with straight sides. X X X is the guard to prevent the hay from expanding out of the box, and has slots or eyes at the ends b b b for inserting the ties when they are drawn through at once on removing the guard.

In Fig. 5, d d are plates overlapping the spaces or slots in the plunger C, as shown, thus preventing the compressed hay from crowding between the slats, and securing free play to the springs when the hay overlaps the plunger.

In operation, the hay or other material is thrown into the hopper A and falls of its own gravity into the press-box B, from whence it is forced into the bale-chamber D by the plunger C, thus forcing the friction-follower S back. Meantime the material for the next charge is thrown into the hopper on the top of the plunger, which thus forms an adjustable bottom to the hopper, and the operation is thus continued until the bale-chamber is filled. The bale is then tied off and the door V removed, and another bale formed in like manner against the other, thus ejecting it from the box; but before it is entirely out the door-guard X must be passed through the slots to prevent the hay from expanding out with the bale. The door V is then replaced and closed by the power to which it is connected by the lines W, and the second bale completed. The ties or hoops are then attached to the ends of the forks of the guard at b b b, and all drawn through in removing the guard, and inserted at the opposite end of the bale. The friction-follower and staff is of no further use after the first bale, and is then removed.

This press is also a perpetual baling-machine by a slight change in the operation, as follows: The first bale is pressed as in former case. The sides of the box E E are then set or screwed up so as to impinge or form an additional friction on the bale, if required, when forced along by the new charges in forming the next bale, and the follower O with tying-grooves is inserted in the press-box in the rear of the finished bale and forced along with the bale, as at LM. The operation is continued until another bale is formed, when another

follower is inserted, and the operation is still continued, thus forming a third bale while the second bale is being tied off and the first bale being ejected, and at all times there being two bales or equivalent to two bales or more in the box at the same time, as the operation could not be continued if much less than two bales of material remained in the box. The operation is thus continued without stopping, one man filling the box and another tying off.

Having thus described my invention, I claim as follows:

1. The eccentric spur-wheels H and I, operated by the sweep J, in combination with the toggle or crank G and pitman F, substantially for the purpose set forth.
2. The spur-wheels H and I, in combination with the toggle or crank G, and pitman F and plunger C, substantially for the purpose set forth.
3. The folder or doubler K, projected within the press-box B, for the purpose set forth.
4. The retaining-guards Q R, in combination with horizontal press-box and bale-chamber B D and plunger C, for the purpose set forth.
5. The guard X, constructed as described, in combination with the slots E E E and bale-chamber D, for the purpose set forth.
6. The follower S, staff T, and friction strap and wheel U, in combination with the bale-chamber D, for the purpose set forth.
7. The bale-chamber D with adjustable sides E E, or constructed tapering or smaller toward the discharge end, for the purpose set forth.
8. The plunger C, provided with guards d d, for the purpose set forth.
9. The press-head formed of the previously-completed bale, substantially for the purpose set forth.
10. The followers O O, constructed with grooves on both sides for the ties, in combination with the bale-chamber D provided with slots E E E, substantially for the purpose set forth.
11. The beveled or rounded corners l l l l, Fig. 4, formed in the bale-chamber or press-box, for the purpose set forth.

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Witnesses:

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