

(No Model.)

4 Sheets—Sheet 1.

P. K. DEDERICK.
BALING PRESS.

No. 575,216.

Patented Jan. 12, 1897.

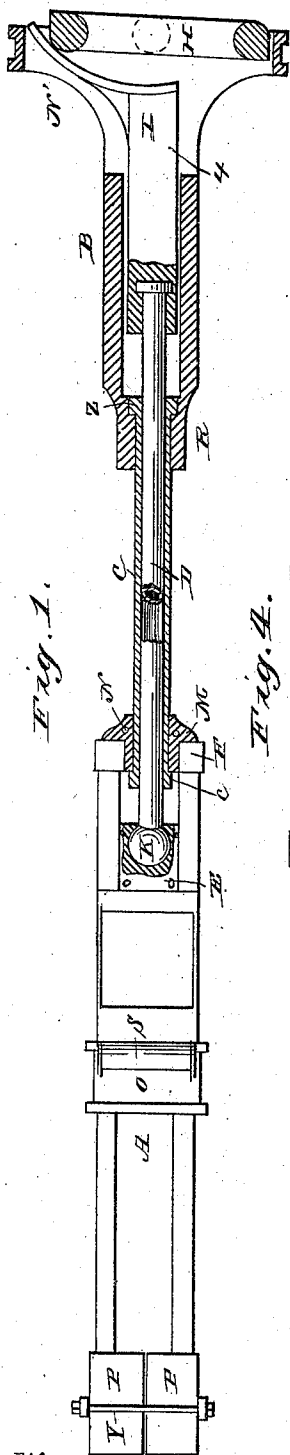


Fig. 1.

Fig. 4.

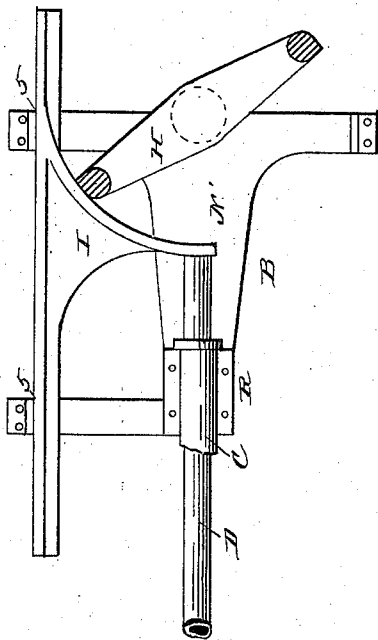


Fig. 5.

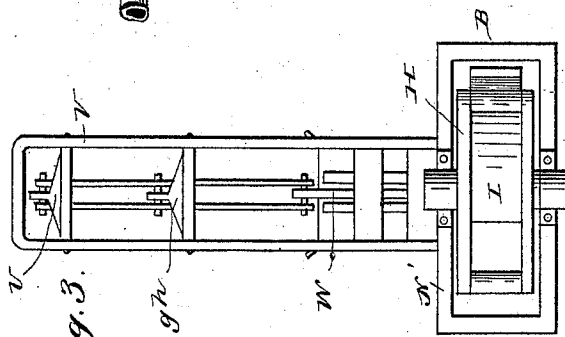
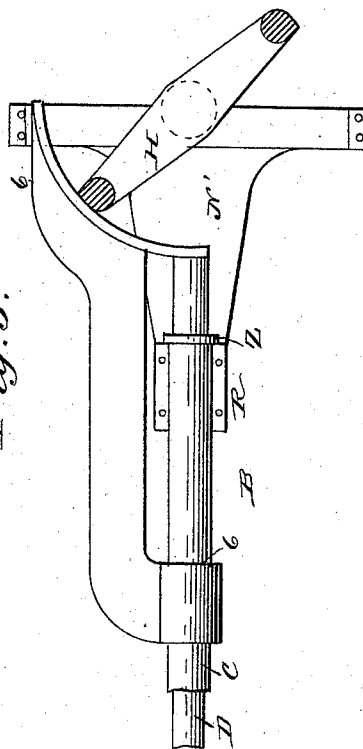


Fig. 3.

Witnesses
Ed Smith
Thomas Durant.

Inventor:
Peter Kells Dederick,
by
Charles K. Church
his Atty.

(No Model.)

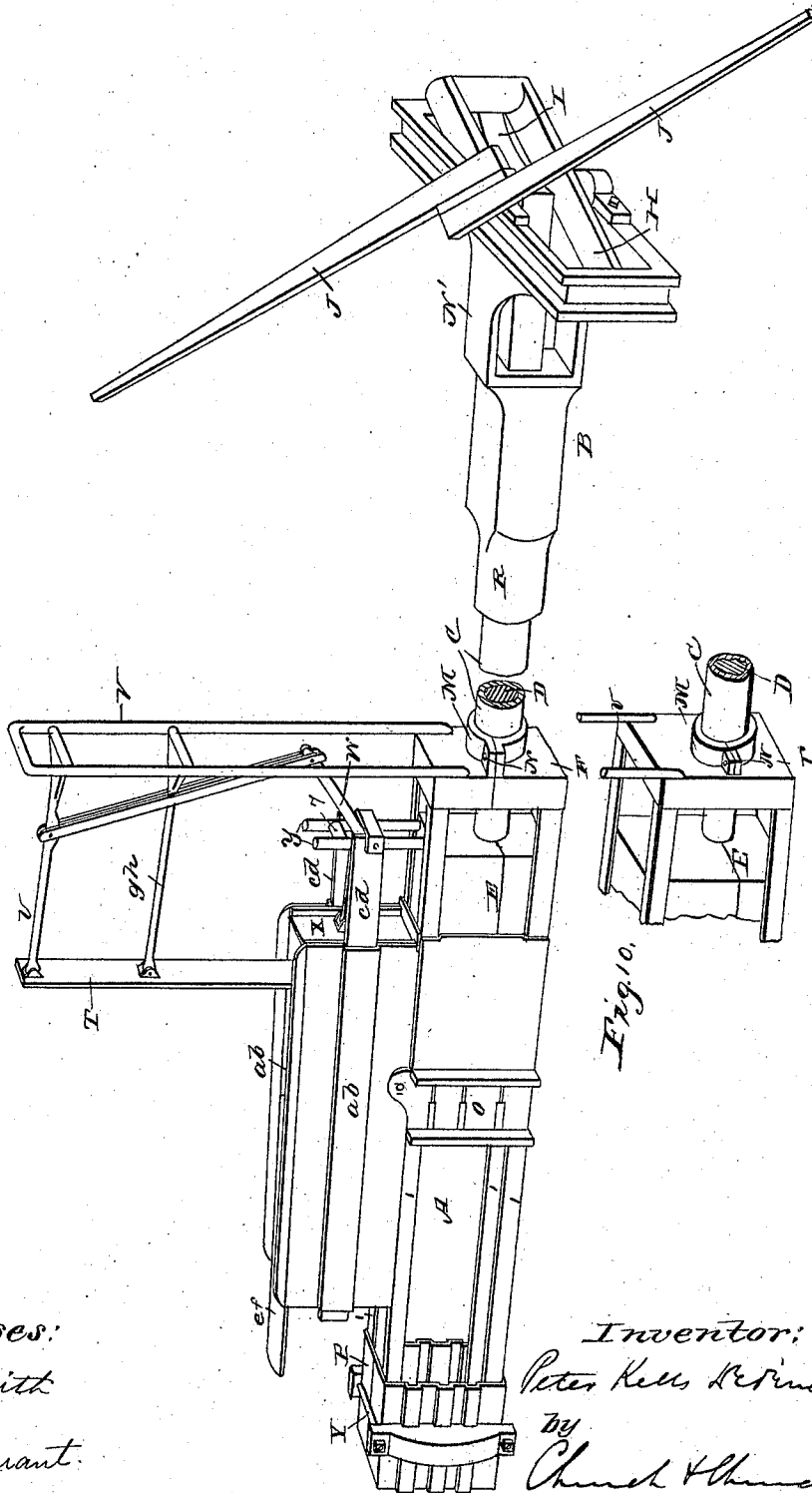
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Fig. 2.



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Fig. 9.

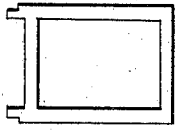


Fig. 8.

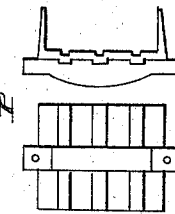
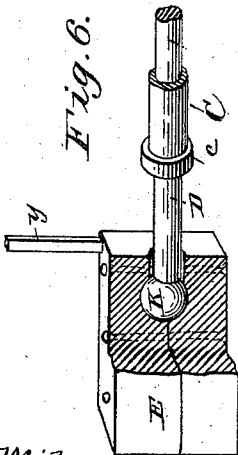


Fig. 6.



Witnesses
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Fig. 11.

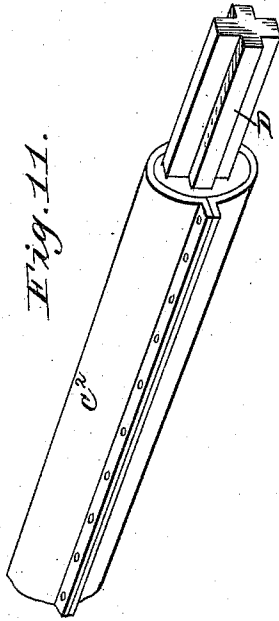


Fig. 7.

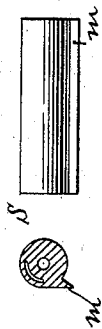


Fig. 12.

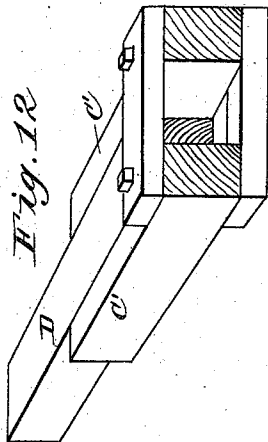
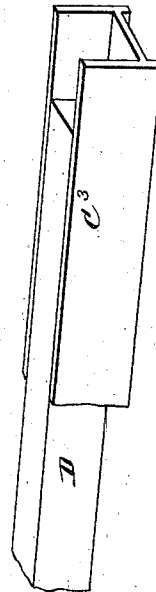


Fig. 13.



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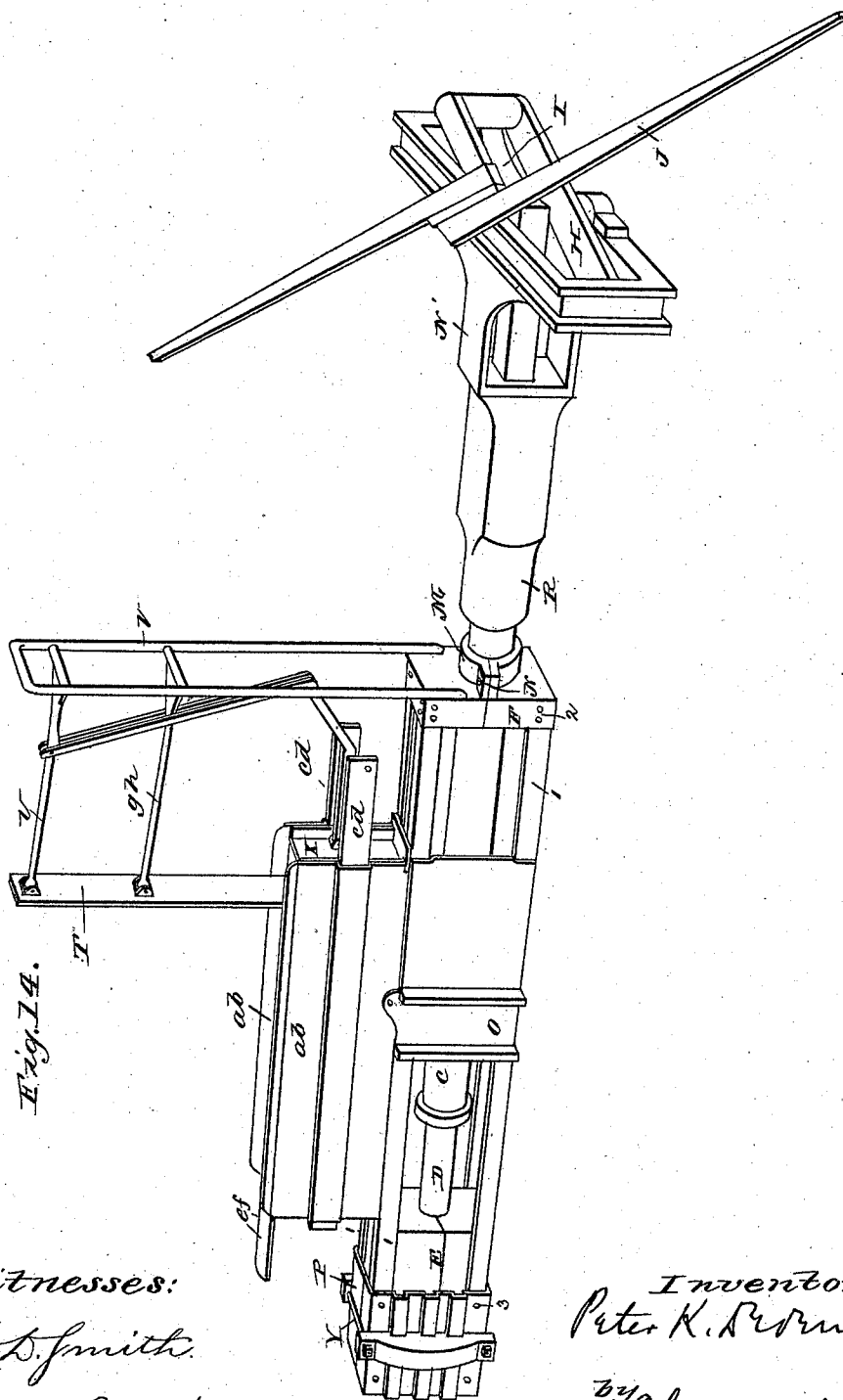
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Patented Jan. 12, 1897.



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UNITED STATES PATENT OFFICE.

PETER K. DEDERICK, OF LOUDONVILLE, NEW YORK.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 575,216, dated January 12, 1897.

Application filed March 8, 1889. Serial No. 302,110. (No model.)

To all whom it may concern:

Be it known that I, PETER KELLS DEDERICK, of Loudonville, 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 a part of this specification, and to the figures and letters of reference marked thereon.

In the accompanying drawings, Figure 1 is a top plan view, partly in section, of a press embodying my improvements, the condensing and feeding devices being removed. Fig. 2 is a perspective view of the same with the condensing and feeding devices in position. Fig. 3 is a front elevation. Fig. 4 is a detail view of the power device. Fig. 5 is a view of a modification of the power device. Fig. 6 is a view showing the connection between the slide-bar or staff and the traverser. Fig. 7 shows the folder detached. Fig. 8 shows the casting P; Fig. 9, the casting O. Fig. 10 is a modification of the means for clamping the pipe connection. Figs. 11, 12, and 13 show modifications of the slide-bar and connection between the press and power ends. Fig. 14 is a perspective view of the press, showing the pipe connection telescoped into the press for moving.

Similar letters and numerals of reference in the several figures indicate the same parts.

A represents the pressing-chamber end of the machine; B, the power end of the machine; C, the hollow connection between the press and power ends; D, the slide-bar or staff within the hollow connection by means of which the traverser E is reciprocated. I preferably form this hollow connection of wrought-iron pipe, for convenience; but it may be made of wood, as shown in Fig. 12, or of cast-iron, or it may be a flanged wrought beam or bar, or may be flanged from wrought plate riveted together or used in two parts, as shown at C² in Fig. 11 and at C³ in Fig. 13, either one of which parts used alone might serve as a cover or protection and through which the power might be communicated, if the staff or slide was also reduced, so as to adapt it to move within the concave side, or two plain bars supporting the slide at oppo-

site sides, as shown at C' C' in Fig. 12, or top and bottom, would serve the same purpose.

The slide-bar or staff within the pipe C may be constructed of wood or metal bar-iron. Star or angle iron might be used and either firmly secured to the traverser E or pivoted to it, as desired; but I have shown it in Figs. 1, 4, and 5 constructed of another pipe D of suitable size to freely slide within the outer pipe C and secured to the traverser by means of a ball K, firmly attached to the end of the pipe D and fitting a socket in the traverser E, as shown in Figs. 1 and 6, that portion of the traverser E which encircles the pipe between the socket and end being cutaway, so as to allow the pipe to move and not bind, after the manner of the well-known ball-and-socket joint. This hollow connection and the internal slide may be attached to the ordinary press-case constructed of wood, if desired; but I have shown it connected to case A, constructed wholly of iron.

The four longitudinal corners are constructed of angle-iron, secured in position at or near the center of the pressing-chamber end of the machine at the junction of the press-box and bale-chamber by a casting, so constructed as to form the inner surface of the chamber, and a continuous band O, to which the four corners are secured by bolts or rivets. The traverser E reciprocates within this band O to complete the pressing operation within it, and its inner surfaces give form to the section or bale.

The forward ends of the angle-irons forming the longitudinal corners of the pressing-chamber are held in position by a single casting, or by the same in two parts, as castings F, forming the end of the case, and to which the ends of the angle-irons are bolted, as shown at 2 in Fig. 14.

The rear ends of the angle-irons forming the longitudinal corners of the pressing-chamber are held in position by the twin castings P, which together pass nearly around the pressing-chamber and form the inner friction-surfaces, but leaving sufficient space for adjustment toward and away from each other, one upper and one lower angle-iron or corner being secured to each casting P by bolts or rivets 3, and the two castings P P are secured by a bolt or rod Y, passing through

each one at the top and passing over the pressing-chamber, and a similar bolt or rod passing through each one at the bottom and passing under pressing-chamber, said bolts or rods being threaded in each end to allow the nuts to be drawn tight or loosened, for the purpose of regulating the tension or friction on the bale, by adjusting the inner surfaces of the castings P against the bale or pressed column more or less. These castings are slotted or grooved, as shown, to admit of passing the bands in discharging the bale. These twin castings might be on the top and bottom instead of the sides, if preferred, in which case the slots to pass the bands must be in the projecting ends of the casting.

The pipe or hollow connection C is connected or clamped to pressing-chamber A by having a collar *c* upon said pipe, as shown in Fig. 6, which rests against the inside of the casting or castings F, which are bolted together at M, clamping or clamping the pipe securely. If the castings F are cast in one piece, then a half-box may clamp the pipe, as shown in Fig. 10. If desired, the bolts N of this clamp pipe connection may be loosened, the standard *y* removed, and the pipe moved or telescoped through the casting into the pressing-chamber to shorten it for moving, as shown in Fig. 14.

Any suitable power device may be employed, so that it communicates a sliding or reciprocating motion to the internal pipe or bar D. I have shown it connected to a new power device, which consists of a sliding cam I, attached to the end of the internal pipe or bar D, a double crank or arms H H, and horse-lever J, as in Figs. 1 and 2.

The crank has its bearings in the power-frame N', into which the outer pipe C is clamped or otherwise secured at R. I have shown it clamped between the castings, and with a collar Z for a bearing, as at the other end of the pipe.

The outer pipe C might be split and the parts be extended to the bearings of the crank-shaft and around the same to form the bearings and from thence pass on and be secured together at the outer side of the crank in order to strengthen and stiffen the frame thus formed.

To the power end of the slide I attach the curved cam I, against which the crank-arms H H bear.

In the preferred construction the crank-casting is open, *i. e.*, has the bearings at the ends, while the center part is entirely open. Thus the cam may pass through it in rebound. ing without striking the crank-casting at all.

The cam I may have a bearing between the curved part and the pipe, as shown at 4 in Fig. 1, or the sliding or bearing surface may be at the other end, as shown at 5 in Fig. 4, or that portion forming the slide or bearing may be extended from the curved part back and encircle the outer pipe C, as shown at 6 in Fig. 5.

The folder S, as shown in Figs. 1 and 7, consists of a roller with a blade attached, extending below its face and secured in position by suitable bearings in the casting O, as shown in Figs. 1, 2, and 9, said folder having the curved slot in the ends, to which are adapted pins, or otherwise constructed with stops to admit of its moving on its axis but part of a revolution. As the charge of hay passes through under the folder the blade of the same is moved with it and is in position to be carried back by the expanded material when the traverser is withdrawn, thus folding the ends of the charge projecting over the traverser or projecting from the end of the bale.

The feeding device consists of a condensing-hopper and tramping device. The hopper consists of an outer case or frame having the sides *a b*, one end X, and a bottom cut away at the forward end to conform to the feed-orifice of the pressing-chamber, and a sliding frame or inner case having two parallel slides or bars *c d*, one end, and a top *e f*.

The parallel bars *c d* are fitted into the opposite sides of the outer case *a b* loosely, so as to allow them to be reciprocated freely, and the ends of the bars or slides *c d* are secured by bolts or rivets to the uprights V, Fig. 2, of the traverser E, which causes it to be reciprocated at the same time and in the same direction as the traverser E.

As the traverser advances into the pressing-chamber the movable portion of the condenser, comprising side bars *a b*, top *e f*, and pressing end, is carried with it and away from the end or head X of the outer case, thereby enlarging the condenser-hopper, into which the loose hay is thrust, and as the traverser is returned the movable head of the condenser is caused to approach the fixed head X, thus condensing or compressing the hay over the feed-orifice.

The tramping device for forcing the charge through the feed-orifice, which may be used either with or without the condensing-hopper, consists of a blade T, and a lever of the third order U, pivoted to the blade T at one end and pivoted to the upright frame V at the other end.

A brace or guide bar *g h* is pivoted in the same manner at a distance suitable for convenience for the purpose of having the end of the blade move as near as possible in a line straight down into the press-box.

The lever U is connected by rods, bands, or straps of iron or wood, pivoted between the blade T and its fulcrum at the upright frame at one end, and the other end being pivoted to a lever W of the same order having its fulcrum at the forward end of the condensing-hopper.

The lever W passes between rollers 7 or other guides having their bearings between the two upright pieces V V, attached to the traverser as shown or in any other suitable manner, the said lever W being deflected from

a straight line, forming an angle at a point between its extremities, in order to secure the proper movement of the feed-blade T.

As the traverser is reciprocated the lever or bar W, passing between the rollers attached to the uprights, is given a vertical swinging motion, and being connected by said rods, bands, or straps to the lever U communicates to said lever U a corresponding motion, and through said motion causes the blade T to move up and down, and the brace with the lever U causes the end of blade T to move through the hopper and into the press-box and feed down the charge.

Having thus described my invention, what I claim as new is—

1. In a baling-press, the combination with the traverser E, and slide D, of the cam I and open double-crank casting H, substantially as and for the purpose set forth.

2. In a baling-press, the combination with the press-box, and traverser, of the adjustable clamps surrounding and forming the complete discharge-opening, said clamps being adjustably connected together to vary the size of the discharge-opening; substantially as described.

3. In a baling-press, the combination of the adjustable clamps P P at the discharge end of the bale-chamber and the angle-bars 1 connected rigidly to said clamps, substantially as described.

4. In a baling-press, the combination with the press-box, traverser, and the angle-bars 1 secured to the press-box, of the clamps mounted on the angle-bars and surrounding and constituting the complete discharge end and means for adjustably connecting said clamps; substantially as described.

5. In the baling-chamber of a baling-press, the center encircling-band O forming the junction between the bale-chamber and press-box and the inner surfaces of which are the mold to give form to the sections and bale in combination with the traverser E reciprocating therein to complete the pressing and move forward the pressed material substantially as set forth.

6. In combination with the baling-chamber of a baling-press, the reciprocating traverser E, encircling forming-chamber O and angle-bars 1; substantially as set forth.

7. The combination with the baling-chamber of a baling-press the angle-bars 1 with the encircling forming-band O, reciprocating traverser E and adjustable clamps P as and for the purpose set forth.

8. The combination with a baling-press case of the head-castings F with the angle-bars 1 and the reciprocating traverser E.

9. The combination with a baling-press

case of the head-castings F, angle-bars 1, forming-band O and reciprocating traverser E.

10. The combination with the baling-chamber of a baling-press, of the head-castings F, angle-bars 1, adjustable clamps, P, forming-band O and reciprocating traverser E, as and for the purpose set forth.

11. In a baling-press, the combination of the baling-chamber thereof with the head-castings F and pipe C, clamped, substantially as and for the purpose set forth.

12. In a baling-press, the combination with the traverser, of the feed-blade T, lever U, guide-bar g, h, and curved or bent lever W, connected with the blade and operated by a projection moving with the traverser; substantially as described.

13. In a baling-press, the combination with the press-box, and traverser, of the roller S coöperating with the traverser and provided with a folding-blade and stops for arresting the rotation of said roller in both directions; substantially as described.

14. In a baling-press, the combination with the press-box, and traverser, of the roller S coöperating with the traverser and having a rotary motion in each direction and provided with a folding-blade whereby the hay is folded by the reverse movement of the roller; substantially as described.

15. In a baling-press, the combination with the traverser, press-case, power-frame and pipe C connected rigidly to the power-frame and press-case respectively, of the staff D working through the pipe, the slide I on said staff guided in bearings parallel to the pipe and the cam coöperating with the slide to reciprocate the traverser; substantially as described.

16. In a baling-press, the combination with the press-case, traverser, and slide-bar or staff having the cam-face arranged transversely on its outer end and moving bodily therewith, of the pivoted head to which the power is applied having the crank arm or projection coöperating with the cam-face to force the plunger inward; substantially as described.

17. In a baling-press, the combination with the press-case and the staff having the curved cam rigidly secured to its outer end, of the rotary head to which the power is applied having a plurality of crank arms or projections thereon for coöperation with the cam-face to force the traverser inward; substantially as described.

PETER K. DEDERICK.

In presence of—

R. J. VAN SCHOONHOVEN,
W. A. SKINKLE.