

No. 764,925.

PATENTED JULY 12, 1904.

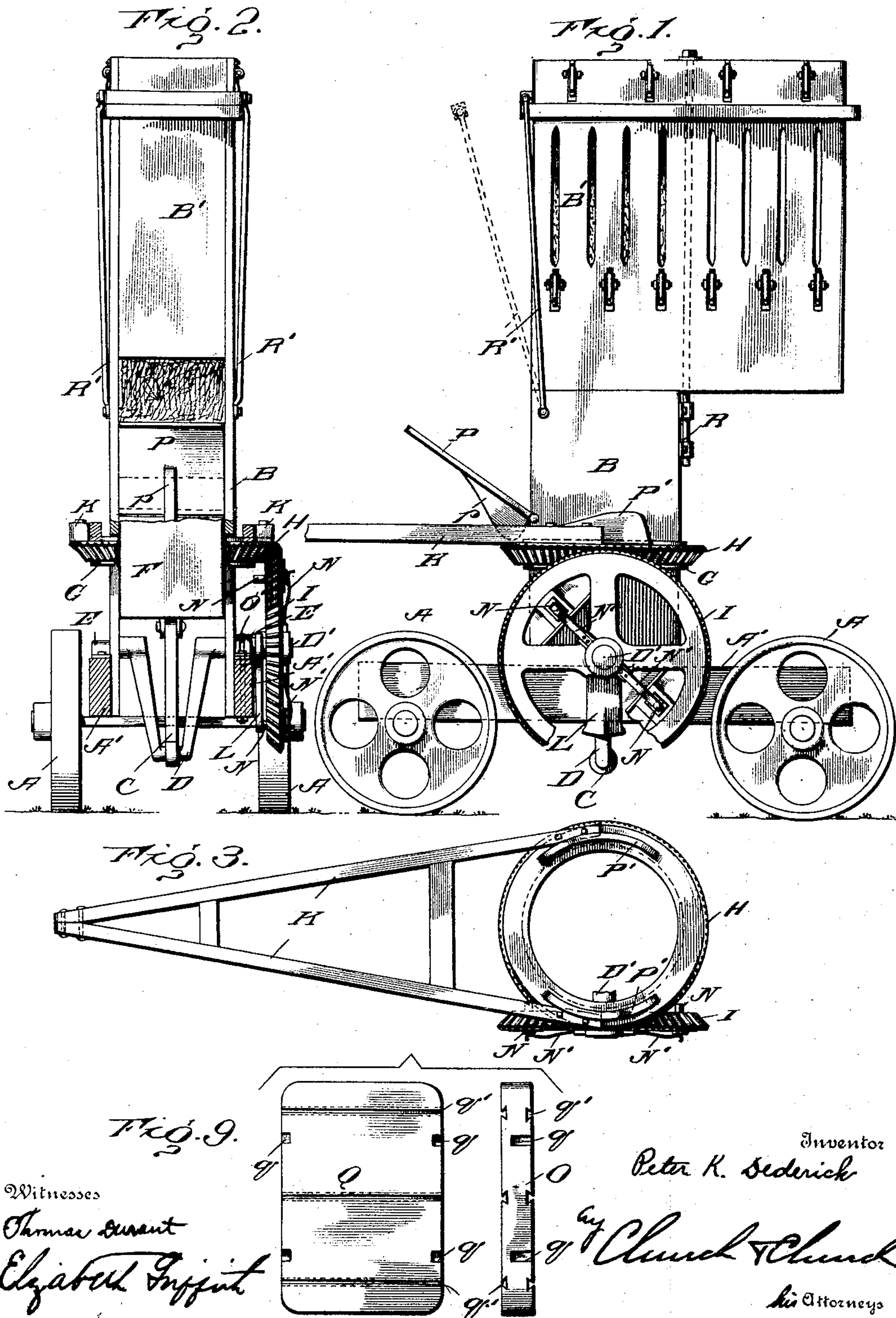
P. K. DEDERICK.

BALING PRESS.

APPLICATION FILED NOV. 8, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



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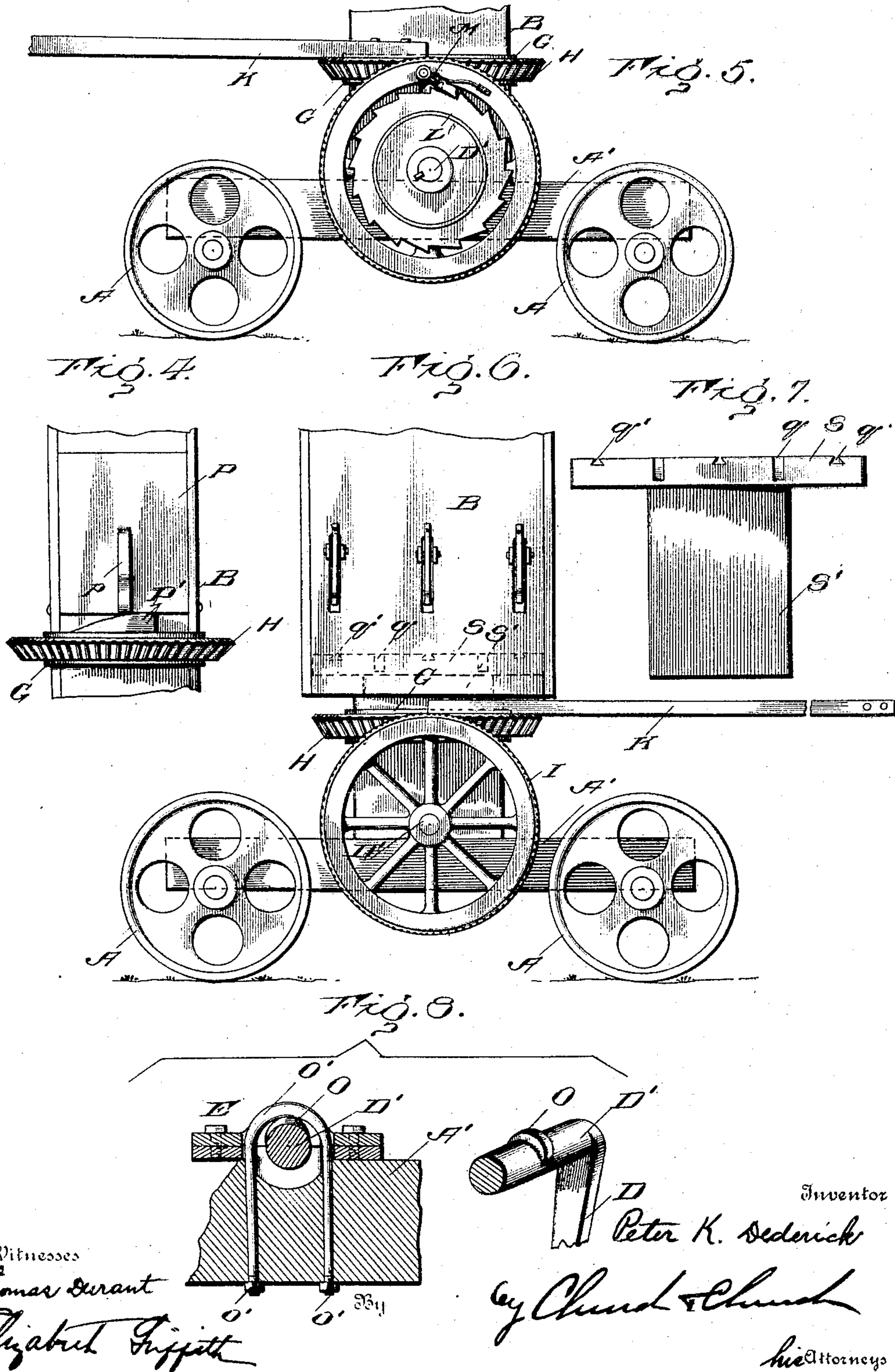
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# UNITED STATES PATENT OFFICE.

PETER K. DEDERICK, OF ALBANY, NEW YORK.

## BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 764,925, dated July 12, 1904.

Application filed November 8, 1902. Serial No. 130,559. (No model.)

*To all whom it may concern:*

Be it known that I, PETER K. DEDERICK, of Albany, county of Albany, State of New York, have invented certain new and useful  
5 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  
10 letters of reference marked thereon.

The object of the present invention is to provide an improved press for baling hay and other fibrous material in which the parts shall be simple and compact, the power mechanism highly efficient, and so constituted that  
15 the traverser may make more than one stroke to each rotation of the power-wheel without any reduction of the power developed on the traverser.

The invention consists, primarily, in a press having a traverser with a power mechanism therefor embodying a power-wheel surrounding or through which the traverser or its power connections reciprocate.

The invention further consists in a press embodying a vertically-arranged press-box, a traverser working therein, and a power-wheel working on a vertical axis, the supporting portion of the press-box framing extending through the center of the power-wheel.  
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Further, the invention consists in certain novel details of construction and combinations and arrangements of parts, all as will  
35 be now described, and pointed out particularly in the appended claims.

In the accompanying drawings, Figure 1 is a side elevation of a press embodying the present invention, a portion of one of the  
40 power-wheels being broken away. Fig. 2 is a sectional elevation looking toward the right, Fig. 1. Fig. 3 is a top plan view of the two power-wheels and sweep or horse-lever. Fig. 4 is a detail elevation showing the feed-door closed and taken from a point of view corresponding to that of Fig. 2. Figs. 5 and  
45 6 are side elevations illustrating modifications. Fig. 7 is a detail of the traverser of the press shown in Fig. 6. Fig. 8 is a detail  
50 of a friction mechanism for retarding the

movement of the parts on the return stroke of the traverser. Fig. 9 is a face and edge view of one of the partitions to be interposed between bales.

Similar letters of reference in the several  
55 figures indicate like parts.

The press with its power mechanism is illustrated as mounted on or forming part of a truck, the latter being shown conventionally with ground-wheels A, on which the press  
60 may be transported. The framing A' constitutes the truck-frame and, preferably, also the base-framing of the press itself. From this base framing or timbers A' the press-frame extends upwardly, being formed into a  
65 press-box B, the upward continuation of which forms the bale-chamber B'. The lower end of the press-frame is preferably open for the passage of the power connections, which  
70 connections in the type of press illustrated consist of a pitman C and crank D, the latter forming part of a crank-shaft D', journaled in bearings E on the frame, while the former is jointed to the traverser F. The power  
75 mechanism for driving the crank-shaft consists of a power-wheel arranged horizontally or on a vertical axis, but having a central opening of sufficient size for the passage of the supporting portion of the press-frame and  
80 the power connections.

In the preferred construction the press-frame is provided with an annular bearing G of large diameter, and the power-wheel H, which is of similar form, is mounted in said  
85 bearing, leaving the whole central portion of the press-frame unobstructed and open for the passage of the power connections.

The power-wheel is preferably in the form of a bevel gear-wheel the teeth of which mesh with the teeth of a second power-wheel I on  
90 the crank-shaft. The driving connection, such as the horse-lever or sweep K, is connected directly with the power-wheel H, and thus has a free and unobstructed path of travel entirely around the press.  
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With the second power-wheel rigidly connected to the crank-shaft but one reciprocation of the traverser would be effected by each full rotation of the wheel and the number of reciprocations could not be increased without  
100



reducing the effective power applied to the traverser; but by introducing a loose or ratchet connection in the power mechanism the traverser may be allowed to drop as soon as the crank has passed its center, and the ratchet mechanism will effect the reengagement as soon as the crank reaches the bottom of its stroke or as soon as the driving portion of the mechanism moves faster than the driven portion. The traverser may thus be given more than one reciprocation to each rotation of the power-wheel without reduction in the effective power.

In the preferred construction the loose or ratchet connection is introduced between the crank-shaft and the power-wheel mounted thereon, for which purpose the said power-wheel is journaled on the crank-shaft, and the latter is provided with an arm or projection, as at L, Figs. 1 and 2, or with a ratchet-wheel L', as in Fig. 5, while the wheel is provided with a suitable pawl or pawls to engage with the arm or ratchet-wheel, as the case may be. In Fig. 5 a simple pawl M is shown, and in Figs. 1, 2, and 3 two pawls N are shown at opposite points on the wheel and held in by springs N'. Each pawl is adapted to be moved out by the forward movement of the arm past the same, but to spring in behind and cause the arm and crank-shaft to move in unison with the wheel whenever the wheel moves faster than the arm or the movement of the latter is resisted. With this arrangement two strokes of the traverser may be effected to each rotation of the power-wheel, and as the traverser works vertically its weight is sufficient to cause its descent the moment the crank passes its center.

In some instances it may be found desirable to provide a friction mechanism for arresting the movement of the traverser at the bottom of its stroke, and where this is desired I prefer to provide the crank-shaft with a projection or cam, such as shown at O, Fig. 8, with which an adjustable friction-surface—such, for instance, as the yoke O'—will engage when the traverser is down. For convenience and strength one of the bearings E may be slotted for the reception of the projection and yoke, and the arms of the yoke may then extend down through the framing and have nuts O' applied thereto for adjustment.

The feed-opening is usually formed in the side of the press-box above the horizontal power-wheel and is adapted to be closed by a door P, preferably hinged at the bottom and having a projection p on the outer side, beneath which a cam or incline P', moving with the power-wheel, is adapted to pass to close and hold the door closed during the advancing movement of the traverser. When the traverser makes more than one stroke to each rotation of the power-wheel, the number of cams or inclines on the wheel is correspond-

ingly increased and properly disposed to close the door during each advance movement of the traverser.

The pressed material is retained in the bale-chamber preliminary to tying off by the usual retainers or heads, although it is preferred to use partitions Q, having edge recesses q for the retainers and grooves q' in both sides for the passage of the bands. Thus one completed bale may be forced out by the bale being formed and the retainers will engage the partition to form a solid abutment against which the final pressure will be exerted all in the well-understood manner.

In some instances it may be found desirable to employ more than one bale-chamber, and the vertical arrangement is particularly advantageous in such cases, for the bale-chambers may be formed side by side, as in Fig. 1, and mounted on a vertical shaft, such as R, supported at the lower end on the frame of the press-box, so as to permit either bale-chamber to turn into line with the press-box. Sway-bars R' may be utilized for holding the chambers down in position when receiving the charge, said bars being preferably located on the side of the chamber opposite the pivot.

When it is desired to make a bale large in cross-section or to reduce the size of the power-wheel, it is obvious that the press-box may be enlarged above said wheel, as shown, for instance, in Fig. 6, and the traverser may then be formed with a wide head or face S, Fig. 7, and a depending trunk or body S' of reduced size.

The power connections consisting of the crank and pitman are shown as of usual construction, for which other well-known or preferred power connections may be substituted, and it is further obvious that the lower end of the traverser need not rise above the level of the power-wheel, this depending upon the length of the crank and pitman and the lower portion of the follower, all forming a portion of the power connection in the sense in which that term is used herein.

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

1. In a press for fibrous material, the combination of an annular power-wheel, a press-box, a traverser mounted to reciprocate in the press-box, a traverser-reciprocating mechanism located below the wheel, and power connections between the traverser and its reciprocating mechanism, working through the central opening in the said wheel; substantially as described.

2. In a press for fibrous material, the combination of a power-wheel having an open center, a press-box on one side of said wheel, a traverser working in said box, a traverser-reciprocating mechanism located on the opposite side of the wheel; and power connections



between the traverser and its reciprocating mechanism passing through the open center of the wheel; substantially as described.

3. In a press for fibrous material, the combination of a power-wheel having an open center, a press-box having a supporting-frame extending through the wheel, a traverser and power connections between the wheel and traverser working through the wheel and within the supporting-frame of the press-box; substantially as described.

4. In a baling-press, the combination of the vertically-arranged press-frame, the traverser therein, the power connections for moving said traverser and the power-wheel for said connections having a vertical axis and extending around the press-frame, and power connections; substantially as described.

5. In a baling-press, the combination of the vertically-arranged press-frame, the traverser therein, the power-shaft extending horizontally at the end of said frame connections between the same and the traverser, a gear-wheel on the shaft, a horizontally-arranged gear-wheel meshing therewith and journaled on and passing around the press-frame; substantially as described.

6. In a baling-press, the combination with the base-frame and vertically-extending press-frame mounted thereon, of a horizontally-arranged power-wheel passing around outside of the lower portion of the press-frame, whereby an unobstructed path is provided for the sweep, a sweep connected with the power-wheel, a traverser and power connections between the traverser and power-wheel working up through the power-wheel and lower portion of the press-frame; substantially as described.

7. In a baling-press, the combination with the base-frame and vertically-extending press-frame mounted thereon, of an annular journal around the lower end of the press-frame, a power-wheel journaled thereon and extending around the press-frame whereby an unobstructed path is provided for a full circle sweep, a sweep attached to the power-wheel, a traverser and power connections between the traverser and power-wheel; substantially as described.

8. In a baling-press, the combination with the base-framing, and vertically-extending press-frame mounted thereon, of a horizontal crank-shaft, a gear-wheel thereon, an annular journal around the lower end of the press-frame, an annular power-wheel journaled thereon and meshing with the wheel on the

crank-shaft, a sweep connected with the annular power-wheel, a traverser and connections between the traverser and crank-shaft; substantially as described.

9. In a baling-press, the combination with the vertically-arranged press-box, traverser reciprocating vertically therein, crank-shaft for reciprocating the traverser, power-wheel and pawl-and-tooth connection between the crank-shaft and power-wheel whereby the traverser is free to drop when the crank has passed its center, of a projection on the crank-shaft and a friction-piece with which the projection engages when the crank is at the bottom of its stroke; substantially as described.

10. In a baling-press, the combination with the vertically-arranged press-box, traverser, crank-shaft and power-wheel journaled on the crank-shaft located below the traverser, of the arm on the crank-shaft and oppositely-disposed spring-pressed pawls on the power-wheel adapted to engage said arm to elevate the traverser and to be moved out by the forward movement of the arm past the same when the traverser descends by gravity; substantially as described.

11. In a baling-press, the combination with the press-box having the feed-opening in the side and the door for closing said opening, of a power-wheel having a path of travel in proximity to said door, a projection moving with the power-wheel and cooperating with the door to close the same periodically, a traverser and connections between the traverser and power-wheel; substantially as described.

12. In a baling-press, the combination with the press-case having a feed-opening in the side, a door for closing the opening and a traverser working in the press-case, of an annular power-wheel passing around the press-case in proximity to the door, a projection moving with the wheel for closing the door periodically and connections between the wheel and traverser; substantially as described.

13. In a baling-press, the combination with the vertical press-case having a feed-opening in the side, a door for closing the opening hinged at the bottom and a traverser working in the press-case, of an annular power-wheel journaled on the press-case below the feed-opening, a projection on the wheel for closing the door and connections between the wheel and traverser; substantially as described.

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Witnesses:

F. X. CLEMENT,

R. J. VAN SCHOONHOVEN.