

(No Model.)

2 Sheets—Sheet 1

A. PUNTENY.
BALING PRESS.

No. 555,970.

Patented Mar. 10, 1896.

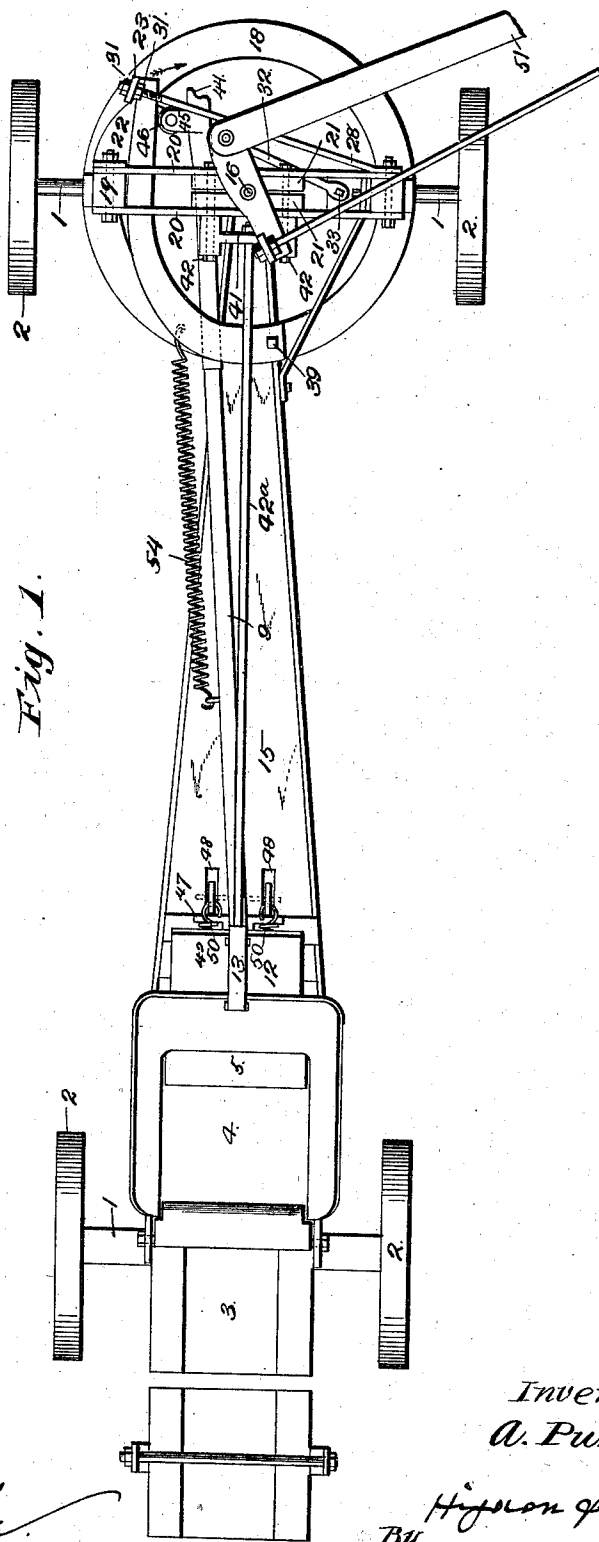


Fig. 1.

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(No Model.)

2 Sheets—Sheet 2.

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BALING PRESS.

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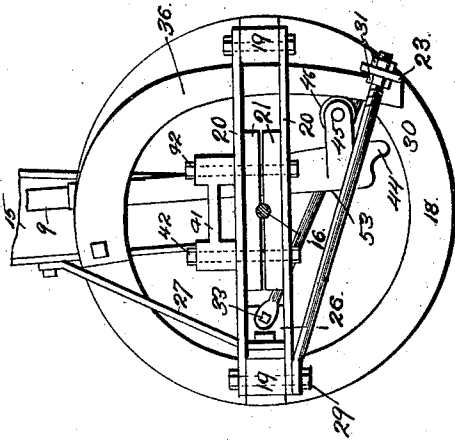


Fig. 4

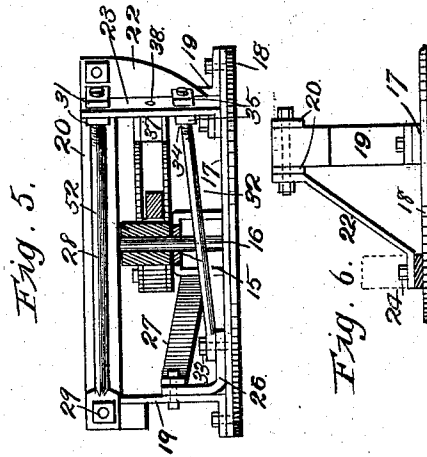


Fig. 5.

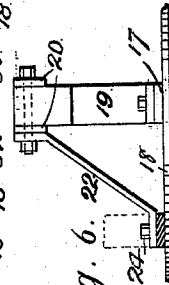


Fig. 6.

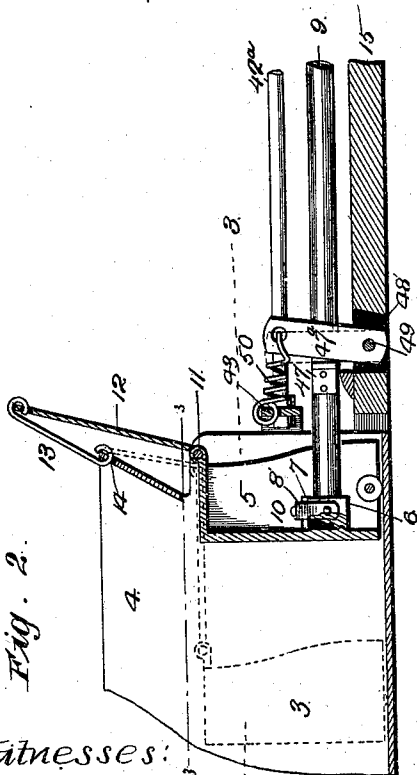


Fig. 2.

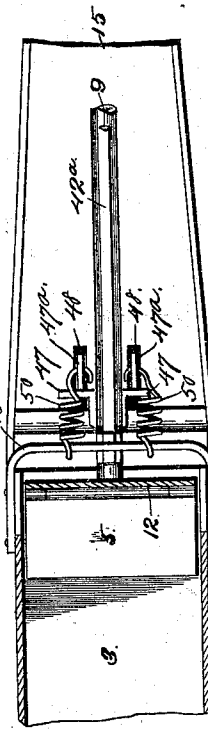


Fig. 3.

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UNITED STATES PATENT OFFICE.

ARCHIEBALD PUNTENEY, OF KANSAS CITY, MISSOURI.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 555,970, dated March 10, 1896.

Application filed September 28, 1895. Serial No. 563,957. (No model.)

To all whom it may concern:

Be it known that I, ARCHIEBALD PUNTENEY, of Kansas City, Jackson county, Missouri, have invented certain new and useful Improvements in Baling-Presses, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to baling-presses, and contemplates the employment of guide-tracks which are adjusted as to pitch or inclination with respect to the reciprocating movement of the pitman, and spring-buffers to ease the shock or jar incident to the rebound of the pitman.

It consists in its novel and peculiar construction and organization of parts, as hereinafter described and claimed.

Referring to the accompanying drawings, Figure 1 represents a top plan view of a baling-press constructed in accordance with my invention. Fig. 2 represents a longitudinal section of a part of the press. Fig. 3 represents a horizontal section taken on the line 3 3 of Fig. 2. Fig. 4 represents, on an enlarged scale, a horizontal section taken just below the sweep. Fig. 5 is a front view of the same, but showing the power-arm and the pitman in section. Fig. 6 represents one of the standards and its brace, upon which are secured the bars which carry the boxing for the power-shaft.

Referring to the drawings, 1 designates the axles.

2 designates the carrying-wheels.

3 designates the baling-chamber.

4 designates the hopper through which the material to be baled is fed into the chamber.

5 designates the plunger, which is provided with a semicircular arm 6, and a suitable distance above the same with an arm 7. A semicircular band 8 embraces externally said arms and bridges the spaces between them.

9 designates the pitman, in the form of a cylinder or pipe, which has its rear end fitting between the plunger-arms and pivoted therein on the vertical bolt 10. The top plate of the plunger at its rear end is hinged, as at 11, to the plate 12, and said plate 12 is in turn hinged to the link-plate 13, which link-plate is pivotally connected at its opposite end to the adjacent end of the hopper, as shown at

14. The top plate of the plunger, together with the plates 12 and 13, forms the apron, which, when the plunger is advanced, closes the feed-opening and prevents the descent into the baling-chamber of baling material until the plunger again withdraws.

15 designates the reach or bed-plate, which extends forward and forms a bearing for the power-shaft 16, as shown in Figs. 5. This reach may be of any suitable or preferred material and form of construction, and at its front end it rests upon the cross-bar 17, bolted or otherwise rigidly secured to the upper section 18 of the fifth-wheel. Erected vertically near the opposite ends of said bar 17 are the standards 19, and connecting their upper ends are the parallel cross-bars 20. Between said cross-bars are secured the sections 21, which form the bearing-box in which the shaft is journaled. One of said vertical standards 19 is braced at its front side by the inclined brace 22, which is bolted at its upper end to said standard and at its lower end to the horizontal arm of the vertical standard 23, as shown at 24. Said vertical standard 23 is provided with openings hereinafter referred to. It is arranged at such an angle that its inner face is presented toward the standard 19 at the opposite side of the power-shaft, as shown clearly in Figs. 1, 4 and 5. Said standard is braced in its vertical position by means of the angle-plate 26 and the inclined brace-bar 27. The bolt which secures the brace-bar 27 against the angle-bracket 26 also extends through the said standard preferably as shown.

28 designates a brace-rod, which is bolted at one end, as at 29, to the upper end of the standard 19 just referred to and to the cross-bars 20 carried thereby. Its opposite end, which is screw-threaded for some distance, as shown at 30, extends through the opening (not shown) in the upper end of the standard 23, which is engaged at opposite sides of the standard 23 by means of the adjusting-nuts 31.

32 designates a second inclined brace-rod. Said brace-rod is bolted at one end, as at 33, to the horizontal arm of the bracket 26, and at its opposite end, which is screw-threaded, as shown at 34, extends through an opening (not shown) near the lower end of the standard 23. Said brace-rod at opposite sides of

said standard is engaged by adjusting-nuts 35, whereby, it will be observed, said standard 23 may be caused to approach or recede from the power-shaft. The movement of said standard toward the shaft is accomplished by reason of the inward pressure or force applied upon the standard by screwing the said nuts farther upon the rods, and the movement is resisted only by the yielding outward pressure of the spring-metal brace and the spring-metal track-rails, to the free ends of which said standard is permanently connected. Therefore it is obvious that as the standard cannot move independently of the track-rails and the brace the movement of the former by the application of a positive force or pressure must move the latter, and that as the latter—*i. e.*, the track-rails and the brace 22—are fixed at one end they must necessarily bend to accommodate such movement. This outward movement takes place automatically when the nuts are adjusted in the opposite direction upon the rods, owing to their natural tendency to spring outward and reassume their original positions.

36 designates a pair of horizontal and parallel guide-rails, which are arranged in a plane between the reach and the bars 20. They also extend between the power-shaft and the standard 19, to which the brace 23 is bolted. At their front ends they are bolted to and separated by block 37, which in turn is bolted or otherwise rigidly secured to the standard 23 about midway its length, as shown at 38. At their opposite ends said guide-tracks are bolted, as shown at 39, to the reach. The bolts 40, which secure the bearing-box for the power-shaft to the cross-bars 20, also secure to said bars the bracket 41, and bolted to said bracket at its front end is the tie-rod 42. Said tie-rod at its rear end is secured to the bail 43, attached to the baling-chamber in the customary manner. The pitman at its front end projects through the space between the parallel guide-tracks and is curved to form the horn 44, and projecting from the pitman near its front end are arms 45, (one only of which is shown,) between which is journaled the antifriction-roller 46, which bears against and is adapted to travel upon the inner faces of the guide-tracks. Near its rear end it is provided with the angle-brackets or buffer-plates 47, which are adapted to come into forcible contact upon each rebound of the plunger with the vertical buffer-bars 47^a. Said buffer-bars are pivoted at their lower ends, as at 49, in slots 48 of the reach or in any other suitable manner, and at their upper ends are connected to the bail 43 by means of the retraction-springs 50, which tend to hold said bars in their vertical position.

In operation, as the sweep 51 is revolved around its axis by the draft-animals in the customary manner, the antifriction-rollers (not shown) of the power-arm 52 come successively into contact with the straight opposing face 53 of the pitman. This causes,

owing to the fact that the front portion of the guide-tracks—that is, the portion in advance of the front axle—extends rearwardly and outwardly, the antifriction-roller, with the pitman, to follow a parallel course. By the time said pitman has moved about half its stroke the engaging antifriction-roller of the power-arm engages the front end of the pitman and exerts a more positive and direct pressure thereon in order that the latter part of the compression or baling stroke may be made with the requisite power. When the pitman has completed its power-stroke, the power-arm becomes automatically disengaged therewith, and the expansion of the baling material, together with the retraction-spring 54, which connects the pitman with the upper portion of the fifth-wheel or any other suitable fixed point, causes the pitman to rebound with tremendous force. The forcible rebound of the pitman is prevented from injuring or racking the machine in this instance by means of the buffer-bars 47^a, which, projecting into the path of the buffer-plates, are contacted thereby, and the bars 47^a yield slightly to this contact, owing to their connection with the fixed part of the machine by the springs 50, which thus provides for a gradual stop of the pitman and thereby obviates the injurious shock or jar which always occurs when the return movement of the pitman is suddenly arrested. All succeeding operations are repetitions of that described. With this machine the customary two strokes of the plunger are obtained to one revolution of the sweep. If desired at any time to reduce friction and thereby facilitate the operation of the machine, the front or free end of the guide-tracks may be moved in the direction indicated by the arrow, Fig. 1, by adjusting the nuts 31 and 35 properly upon the rods 28 and 32 respectively. By so doing the inclination of the front portion of the guide-tracks is increased, and consequently the antifriction-roller 46 will travel upon the track more freely. The adjustment of said nuts of course causes a similar movement of the standard 23 and consequently the bending of the spring-metal brace-bar 22.

From the foregoing it will be apparent that I have produced a baling-press which embodies the advantages enumerated in the statement of invention, and which combines in a high degree simplicity, strength, durability and inexpensiveness of manufacture. Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A baling-press, comprising a suitable wheeled framework, a power-shaft, provided with power-arms, a pair of curved parallel track-rails, secured at their rear ends to a fixed part of the framework, a standard secured to the front ends of said track-rails, a pitman projecting between said track-rails and provided with an antifriction-roller engaging the same, and means to adjust the

front ends of said track-rails to change their inclination, substantially as described.

2. A baling-press, comprising a suitable wheeled framework, a vertical power-shaft 5 therein, a sweep mounted upon the same, a pair of spring-metal track-rails arranged horizontally and parallel and secured at their rear ends to a fixed point of the framework, a spring-metal brace secured to the frame- 10 work, a standard secured thereto and carrying the front ends of said rails, inclined rods extending through said standard, adjustable nuts thereon, a pitman extending through the space between said rails and provided 15 with an antifriction-roller near its front end, and power-arms upon the shaft, whereby the pitman is operated in one direction, substantially as set forth.

3. A baling-press, comprising a suitable 20 wheeled framework, a power-shaft provided with arms, standards, bars connecting said standards and carrying a bearing-box for the power-shaft, a vertical standard in advance of the power-shaft, a spring-metal brace connecting the same with one of the first-named 25 standards, spring-metal track-rails secured to a fixed part of the framework at their rear ends, and to said standard at their front ends,

a pair of inclined brace-bars bolted to a fixed part of the framework at their rear ends and 30 screw-threaded and projecting through openings in the standard to which the track-rails are secured, adjusting-nuts engaging said threaded end at opposite sides of said stand- 35 ard, and a pitman projecting through the space between said track-rails at one side of the power-shaft, and provided with an antifriction-roller, which engages the inner edges of said track-rails, substantially as described.

4. A baling-press, comprising a wheeled 40 framework, including a slotted reach, a baling-chamber and a power mechanism, a plunger and pitman operated by the power mechanism, vertical plates 47^a pivoted in the slots 45 of the reach, a bail 43 attached to the baling-chamber, springs 50 connecting the bail and the pivoted plates, and plates 47 secured to and projecting from the pitman and adapted to come into forcible contact with the plates 47^a, substantially as shown and described. 50

In testimony whereof I affix my signature in presence of two witnesses.

ARCHIEBALD PUNTENEY.

Witnesses:

M. R. REMLEY,
G. Y. THORPE.