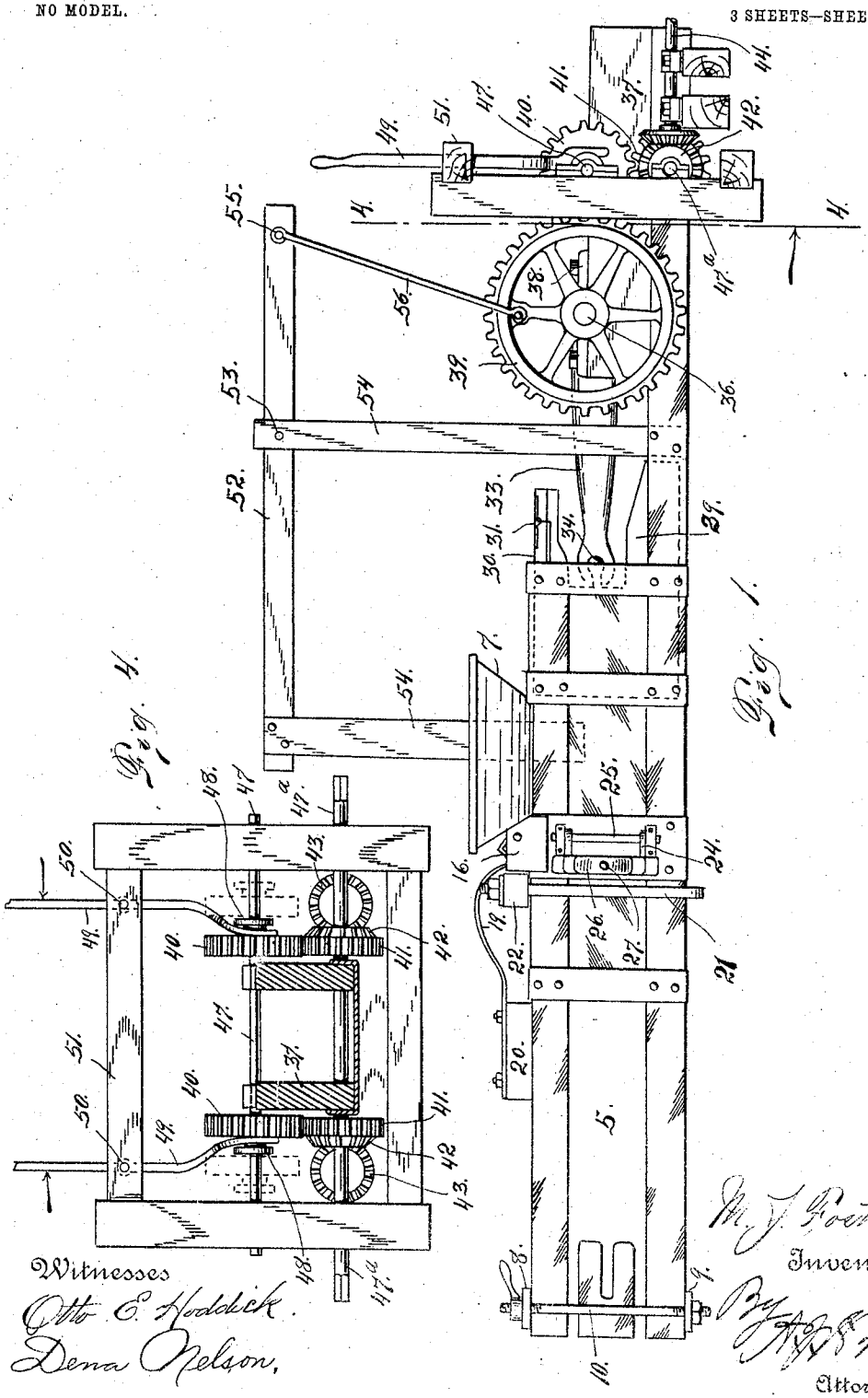
No. 772,929. PATENTED OCT. 25, 1904.

M. J. FOSTER.

BALING PRESS.

APPLICATION FILED MAY 11, 1903.

NO MODEL. 3 SHEETS—SHEET 1.



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NO MODEL. 3 SHEETS—SHEET 2.

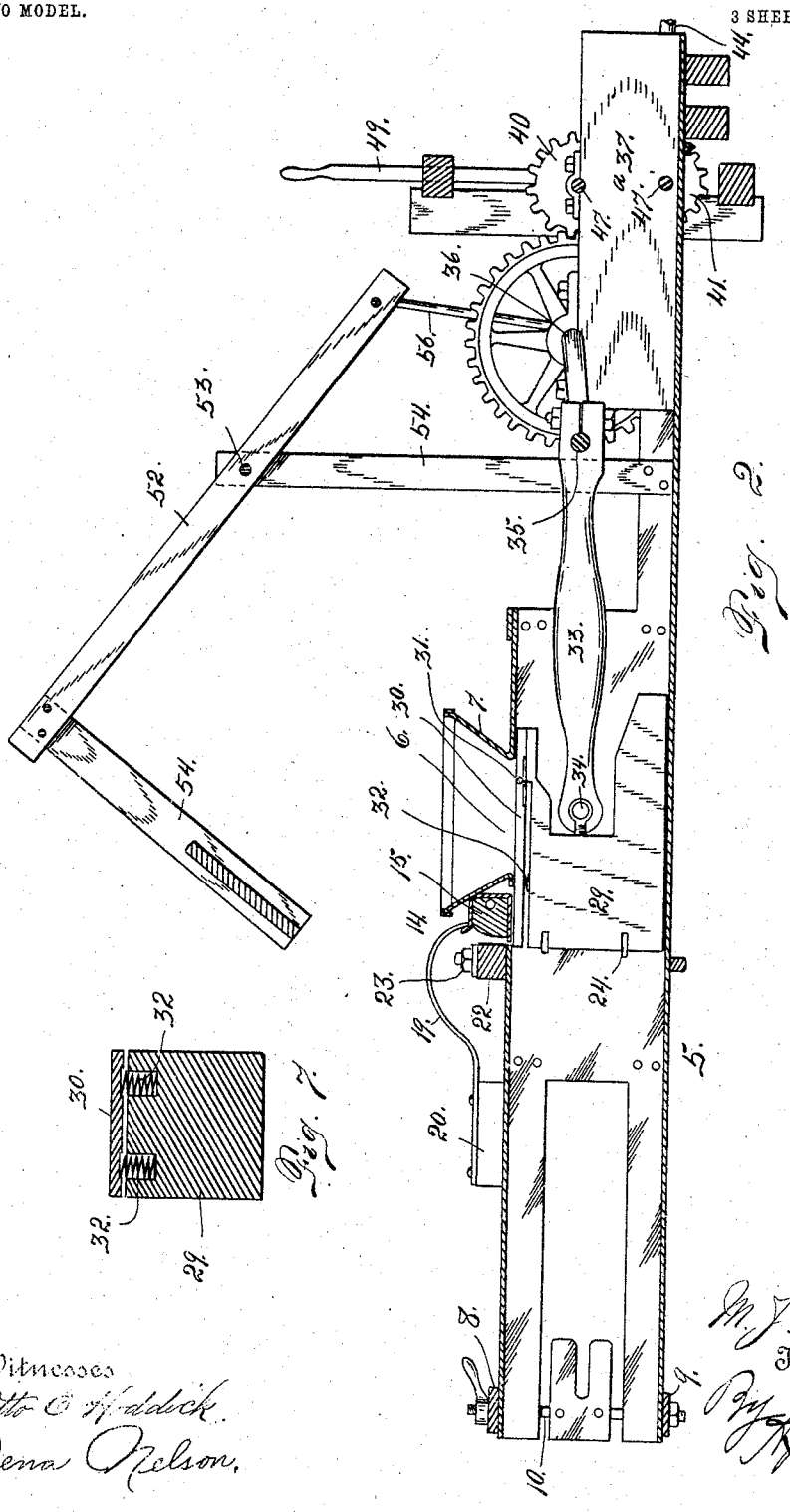


Fig. 2.

Fig. 7.

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NO MODEL. 3 SHEETS—SHEET 3.

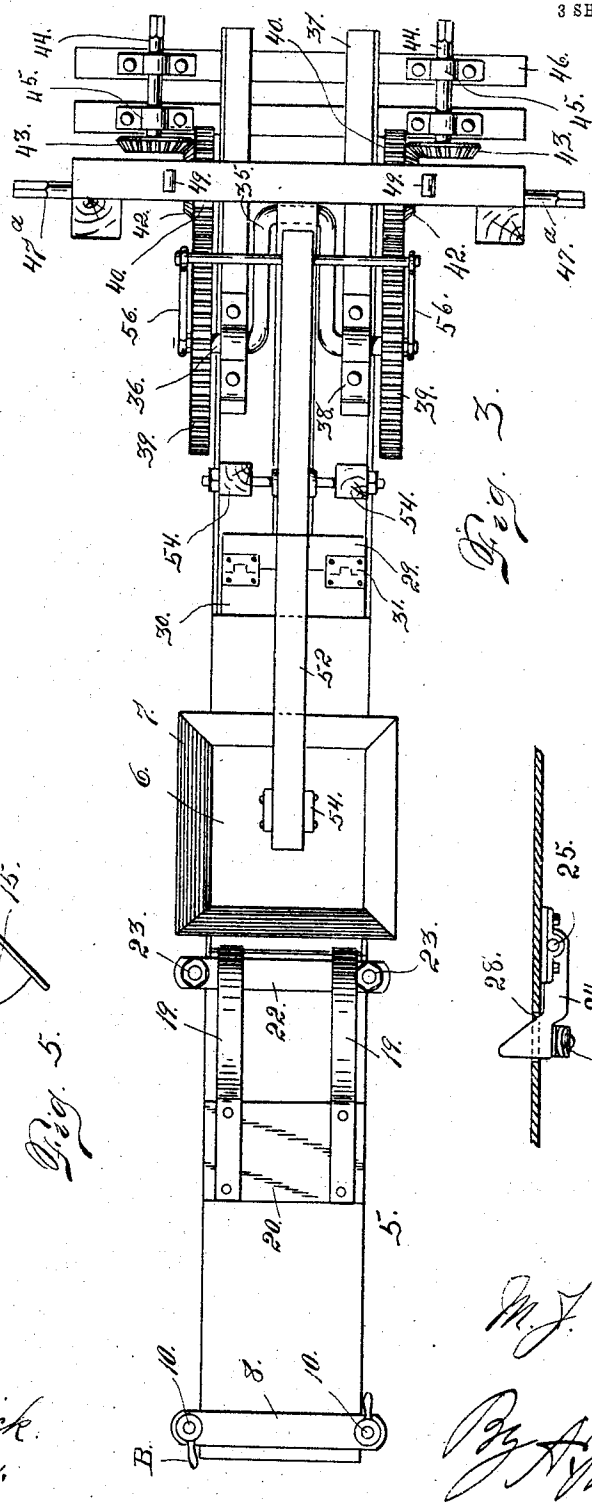


Fig. 3.

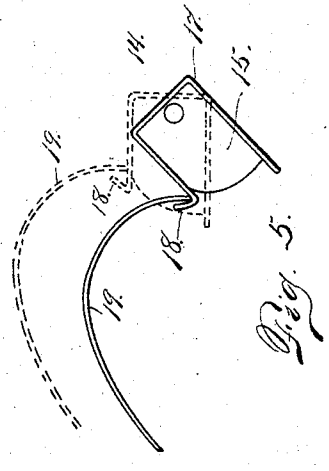


Fig. 5.

Fig. 6.

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No. 772,929. Patented October 25, 1904.

UNITED STATES PATENT OFFICE.

MARION JACKSON FOSTER, OF HILLSIDE, COLORADO, ASSIGNOR OF ONE-HALF TO JAMES HENRY BELKNAP, OF HILLSIDE, COLORADO.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 772,929, dated October 25, 1904.

Application filed May 11, 1903. Serial No. 156,540. (No model.)

To all whom it may concern:

Be it known that I, MARION JACKSON FOSTER, a citizen of the United States of America, residing at Hillside, in the county of Fremont and State of Colorado, have invented certain new and useful Improvements in Baling-Presses; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in baling presses or machines adapted for use in forming hay, cotton, straw, wool, excelsior, and other similar or normally loose material into compact bundles or bales of convenient size for handling.

My object is to provide an apparatus of this class which shall be comparatively simple in construction, economical in cost, reliable, durable, and efficient in use; and to these ends the invention consists of the features, arrangements, and combinations hereinafter described and claimed, all of which will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a side elevation of my improved machine, the parts being shown in the position when the plunger is withdrawn and the feeder thrust into the baling-chamber, whereby a charge of material, as hay, is forced into the said chamber in front of the plunger. Fig. 2 is a vertical longitudinal section taken through the machine, the plunger being shown at its rearward limit of movement and the feeder raised. Fig. 3 is a top or plan view of the machine. Fig. 4 is a cross-section taken on the line 4 4, Fig. 1, viewed in the direction of the arrow. Fig. 5 is a detail view of the folder shown on a larger scale and in two positions, one in full lines and the other in dotted lines. Fig. 6 is a horizontal section taken through one side of the baling-chamber, showing one of the dogs in top or plan view. Fig. 7 is a vertical section taken through the plunger.

In this specification the extremity of the machine toward the left, referring to Figs. 1, 2, and 3, will be designated the "rear" extremity and the opposite end the "forward" extremity, and the language of the specification when the term "forward," "rearward," or similar expressions are used must be construed with this idea in view.

The same reference characters indicate the same parts in all the views.

Let the numeral 5 designate the baling-chamber, having an opening 6 in its top surrounded by a hopper 7, into which the material is fed for baling. The rear extremity of the baling-chamber is provided with upper and lower plates 8 and 9, which extend across the top and bottom of the chamber and are held in place by bolts 10, to whose upper extremities are applied nuts 12, having handles B to facilitate the manipulation of the nuts by hand. Located immediately in the rear of the hopper is a folder 14, composed of a block 15, pivotally connected with end plates 16. This block is inclosed on three sides—that is to say, on the front, top, and lower side—by a metal plate 17. The lower rear extremity of this plate projects a short distance beyond the block 15, whereby the folding efficiency of the block is enhanced. The upper rear extremity of the plate is turned upwardly, as shown at 18, forming a hook-shaped part which is engaged by the free extremities of leaf-springs 19, whose opposite extremities are secured to a cross-piece 20, secured to the top of the baling-chamber by means of suitable fastening devices. The top of the baling-chamber is open immediately below the folder to allow the latter to enter the chamber in the performance of its function.

Immediately in the rear of the folder-opening in the top of the chamber is located a U-shaped brace 21, which extends across the bottom and up on both sides of the chamber. The extremities of the brace-arms pass

through openings in the extremities of a top cross-piece 22. These extremities of the brace-arms are threaded to receive nuts 23.

Below the folder and on opposite sides of the press are located the dogs 24. Each pair of these dogs is pivotally mounted on an external vertical rod or spindle 25. The extremities of these dogs remote from the pivotal center are engaged by a laminated leaf-spring 26, whose center is attached to the vertical wall of the baling-chamber by a fastening device 27. The two dogs on each side of the press are engaged on the outside by the respective extremities of the spring 26, whereby the dogs are yieldingly retained in place. The vertical side walls of the baling-chamber are slotted, as shown at 28, to allow the rear extremities of the dogs to enter. (See Fig. 6.)

The plunger or follower is composed of a body part 29 and a top plate 30, whose forward extremity is hinged to the plunger-body, as shown at 31, and normally pressed upwardly by coil-springs 32, whereby the plunger is made to completely fill the baling-chamber at all times, thus compensating for ordinary wear.

To the forward extremity of the plunger is pivotally connected one extremity of a pitman 33, as shown at 34, the opposite extremity of the pitman being connected with a crank 35 of a shaft 36, whose extremities are suitably journaled in boxes 38, mounted on supporting-pieces 37. To the opposite extremities of the crank-shaft are made fast two large gear-wheels 39, which mesh with smaller wheels 40, the latter in turn meshing with still smaller wheels or pinions 41. Formed integral with the wheels 41 are beveled gears 42, which mesh with gears 43, made fast to shafts 44, journaled in boxes 45, mounted on cross-pieces 46. The wheels 40 are mounted on a shaft 47 and the gears 41 on a shaft 47ª.

In operating the press power may be applied to either shaft 44 or to either end of the shaft 47 in any suitable manner. It is evident that by turning these shafts 44 in the same direction the other operating parts will be actuated in opposite or reverse directions; but this is immaterial, since the operation of the plunger is the same regardless of the direction of the crank-shaft's travel. This arrangement of the gears makes it possible to connect the power with either side of the press and operate the latter without changing the direction of applying the power.

Each gear 40 is slidably mounted on its shaft 47 and is provided with a sleeve having a collar 48, whereby a circumferential groove is formed adapted to receive the forked lower extremity of a lever 49, fulcrumed at 50 on a cross-piece 51. By shifting the upper extremities of these levers in opposite directions, or in the directions indicated by the arrows, the gears 40 will be thrown out of mesh with the gears 39 and 41 or to the position shown by dotted lines in Fig. 4, and the operation of the plunger is interrupted when for any reason this is necessary during the operation of the machine.

The automatic feeder comprises a lever 52, fulcrumed at 53 and having a depending arm 54 rigidly connected with its rear extremity, the opposite extremity of the lever being provided with a horizontal rod or spindle 55, whose opposite extremities are connected with rods 56. The lower extremities of these last-named rods are connected with the gears 39 far enough from the centers of the latter to give the required stroke to the feeder.

During the operation of the machine, assuming that power is applied in the manner heretofore explained, the plunger is reciprocated and the feeder operated in harmony therewith—that is to say, as the plunger is retracted, as indicated by dotted lines in Fig. 1, the feeder-arm 54 is thrust downwardly through the hopper into the baling-chamber. The material to be baled is placed in the hopper preparatory to the descent of the arm 54. Hence the downward movement of the arm carries with it a charge of material, whereby the latter is placed in the baling-chamber in the rear of the plunger. Then as the operation is continued the plunger is thrust rearwardly simultaneously with the upward movement of the feeder-arm. During the rearward movement of the plunger the charge of hay or other material is carried rearwardly, the folder being thereby raised from the position shown in full lines in Fig. 5 to the position shown by dotted lines in Fig. 1 and by full lines in Fig. 2. Then as the plunger is retracted the rear portion of the folder is thrown downwardly by the springs 19, thus perfecting the folding operation, whereby the loose material is tucked inwardly and caught by the next charge.

Having thus described my invention, what I claim is—

1. The combination with a baling-chamber, of a folder comprising a block pivotally mounted above the chamber and having a metal plate engaging the block on the front, bottom and top, the bottom part extending beyond the block, and the rear extremity of the top part being bent upwardly to form a hook, and a spring engaging the hook to actuate the folder.

2. The combination with a baling-press, of a folder comprising a block pivotally mounted above the chamber and having a metal plate engaging the block on the front, bottom and top, the rear extremity of the top part being bent upwardly to form a hook, and a spring engaging the hook to actuate the folder.

3. The combination with a baling-press, of a folder comprising a block pivotally mounted, a metal plate applied to the top of the block

and bent upwardly to form a hook, and leaf-springs fast at one extremity to the chamber, their opposite extremities engaging the top plate of the folder and acting on the same whereby the folder is caused to enter the baling-chamber in the performance of its function.

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

MARION JACKSON FOSTER.

Witnesses:
G. B. BEARDSLEY,
J. S. BARNHILL.