

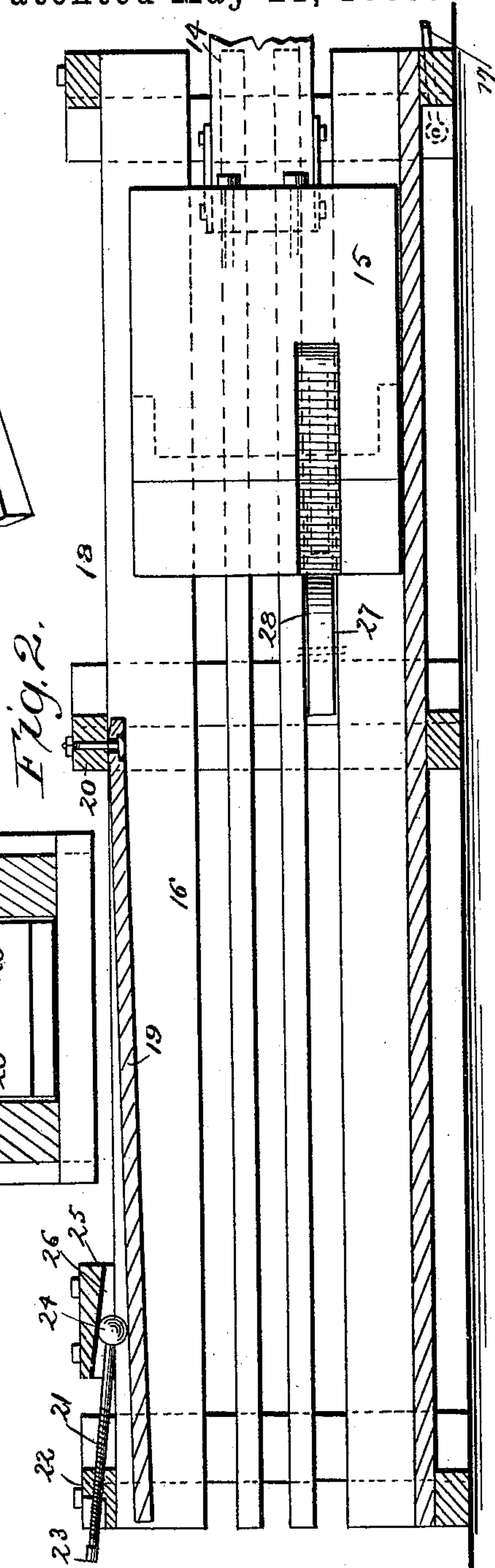
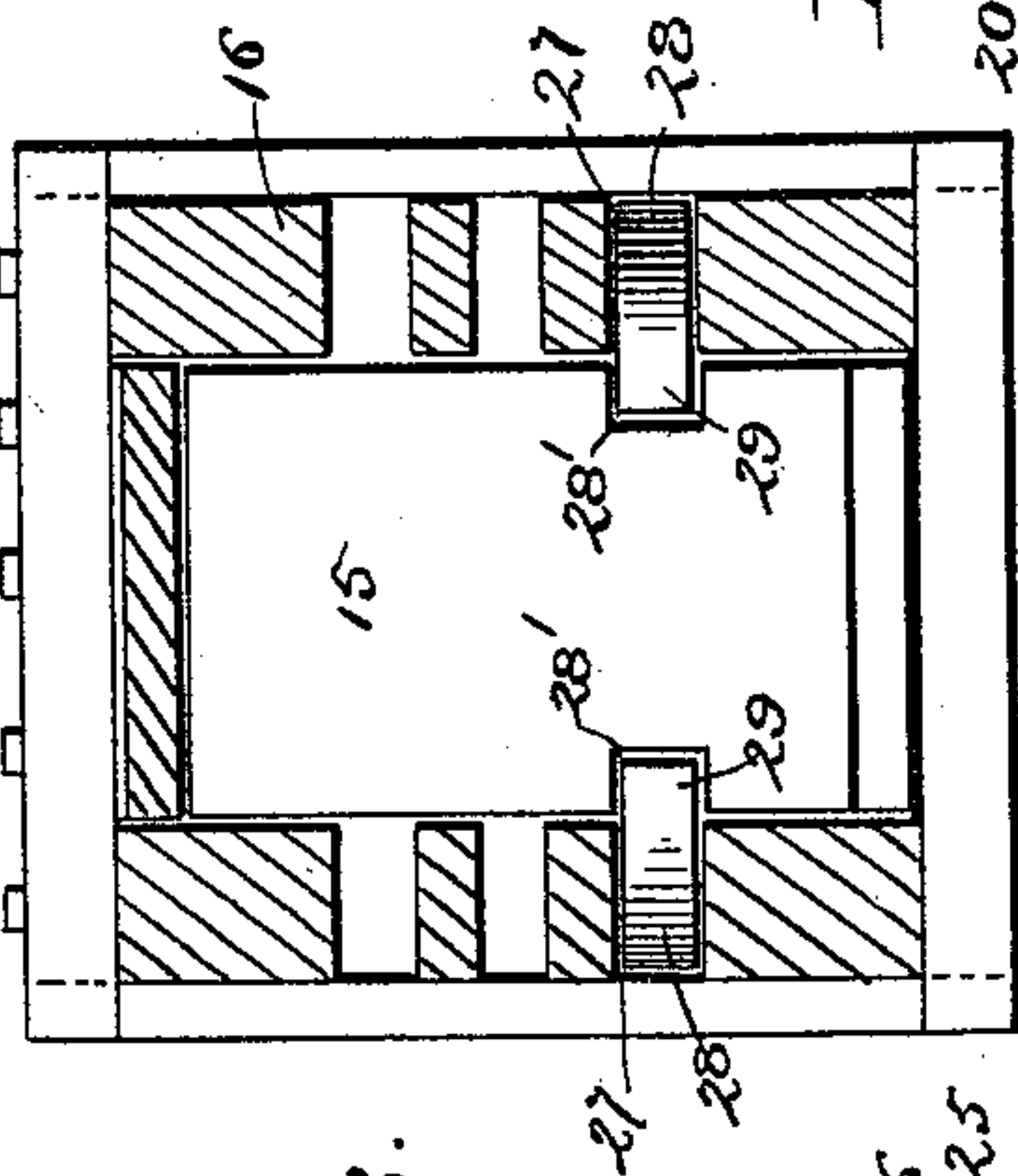
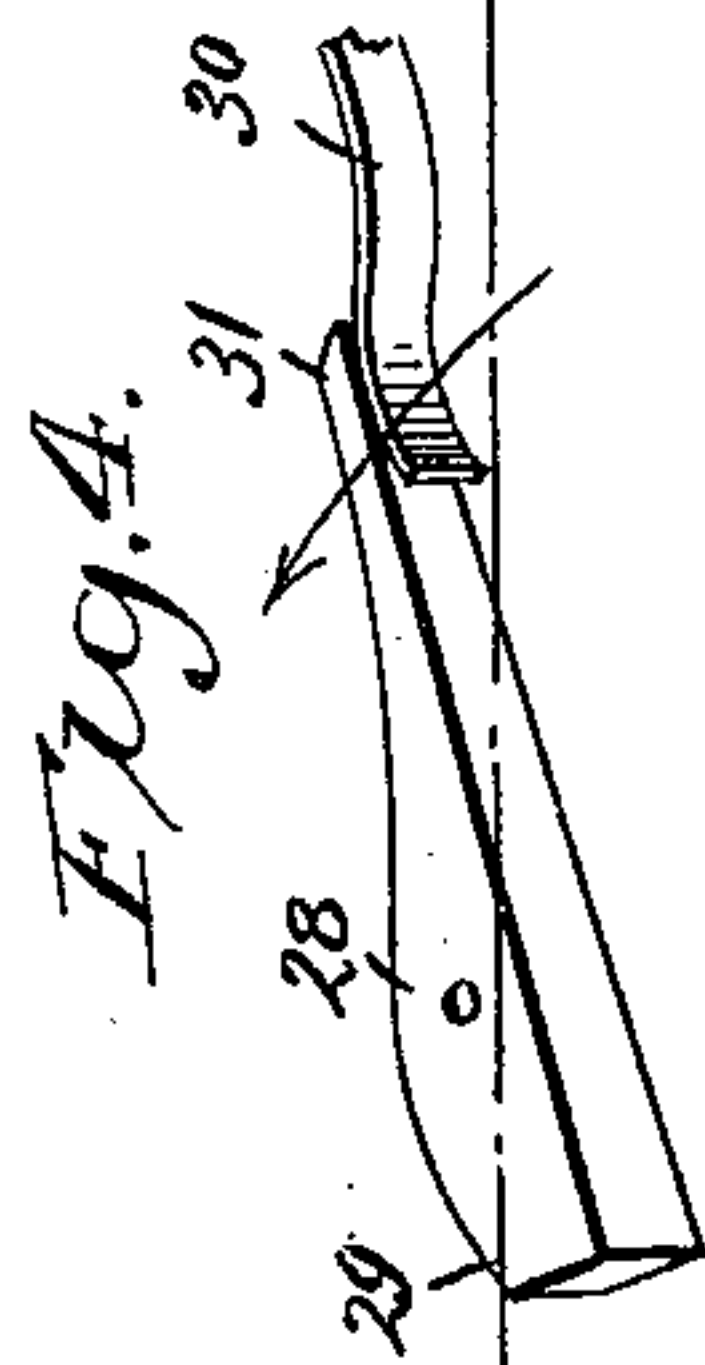
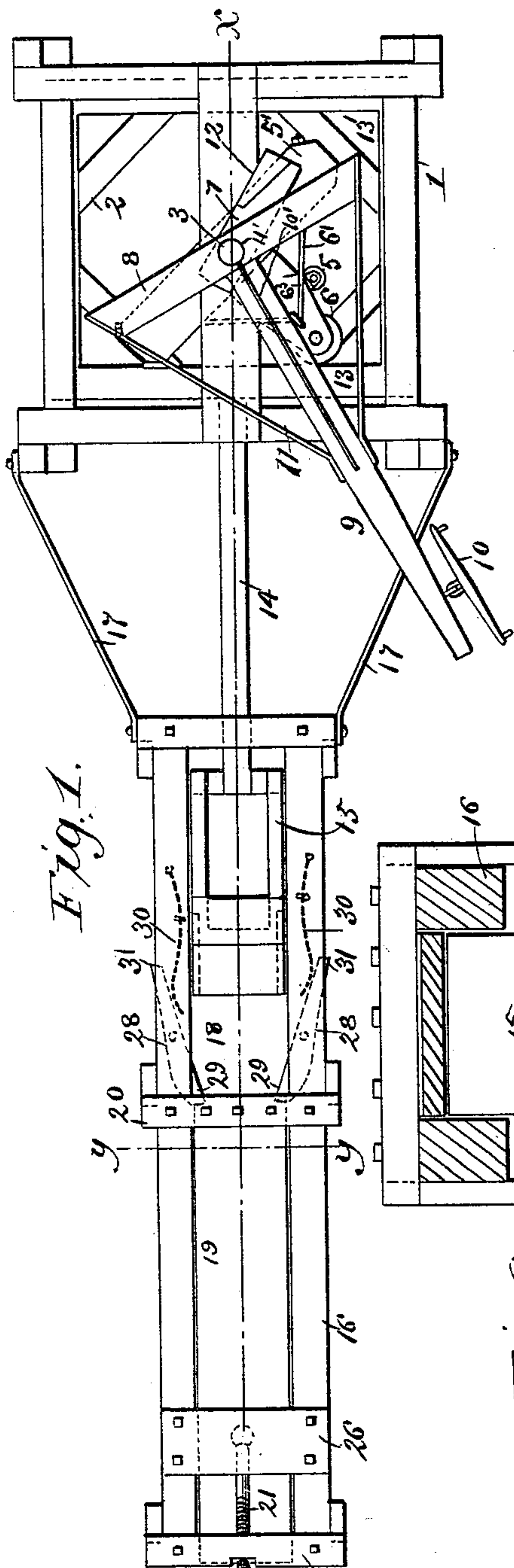
(No Model.)

2 Sheets—Sheet 1.

L. H. HALLAM.  
BALING PRESS.

No. 403,662.

Patented May 21, 1889.



WITNESSES:

J. D. Garfield  
C. Sedgwick

INVENTOR:

L. H. Hallam  
BY Munn & Co

ATTORNEYS.

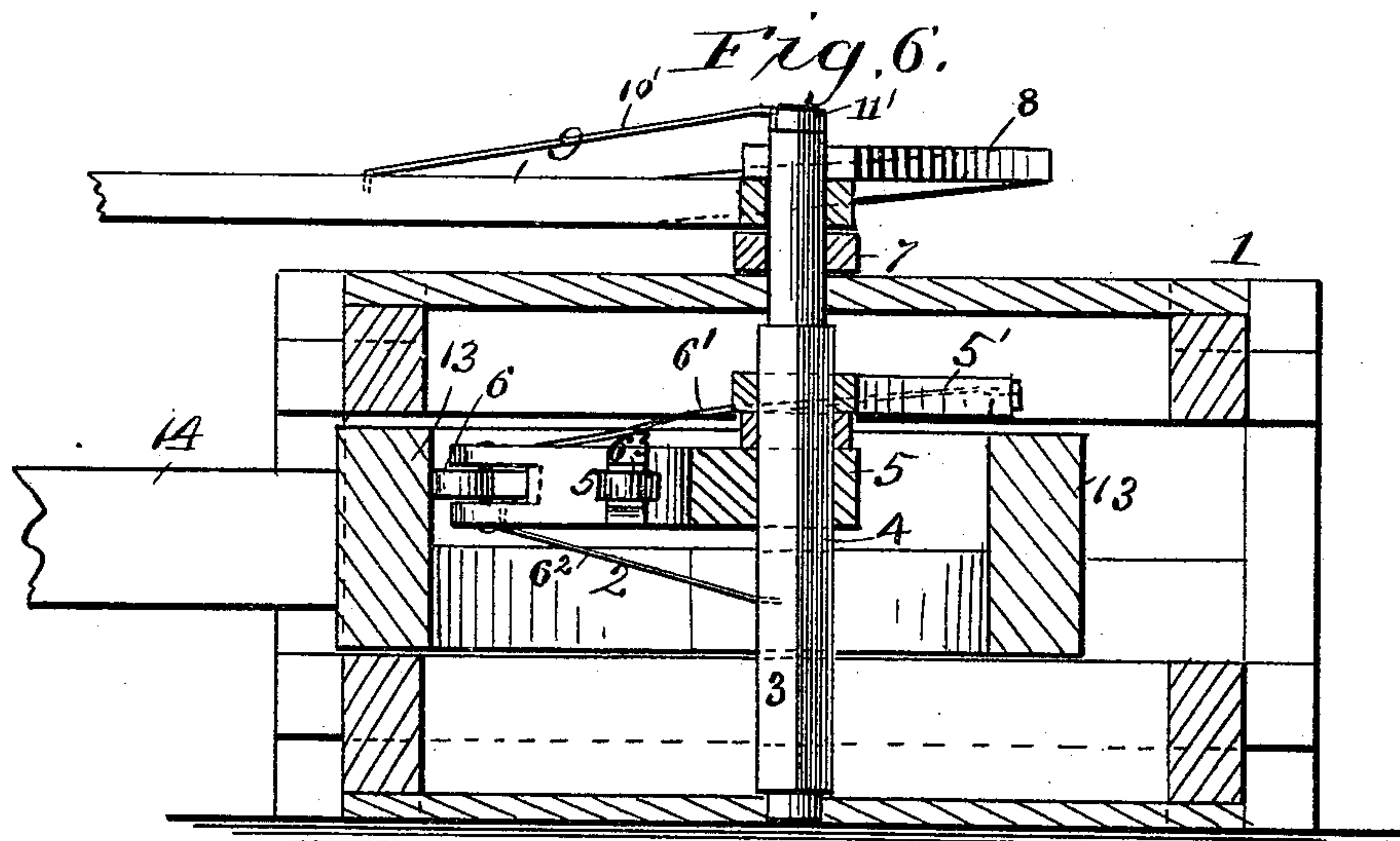
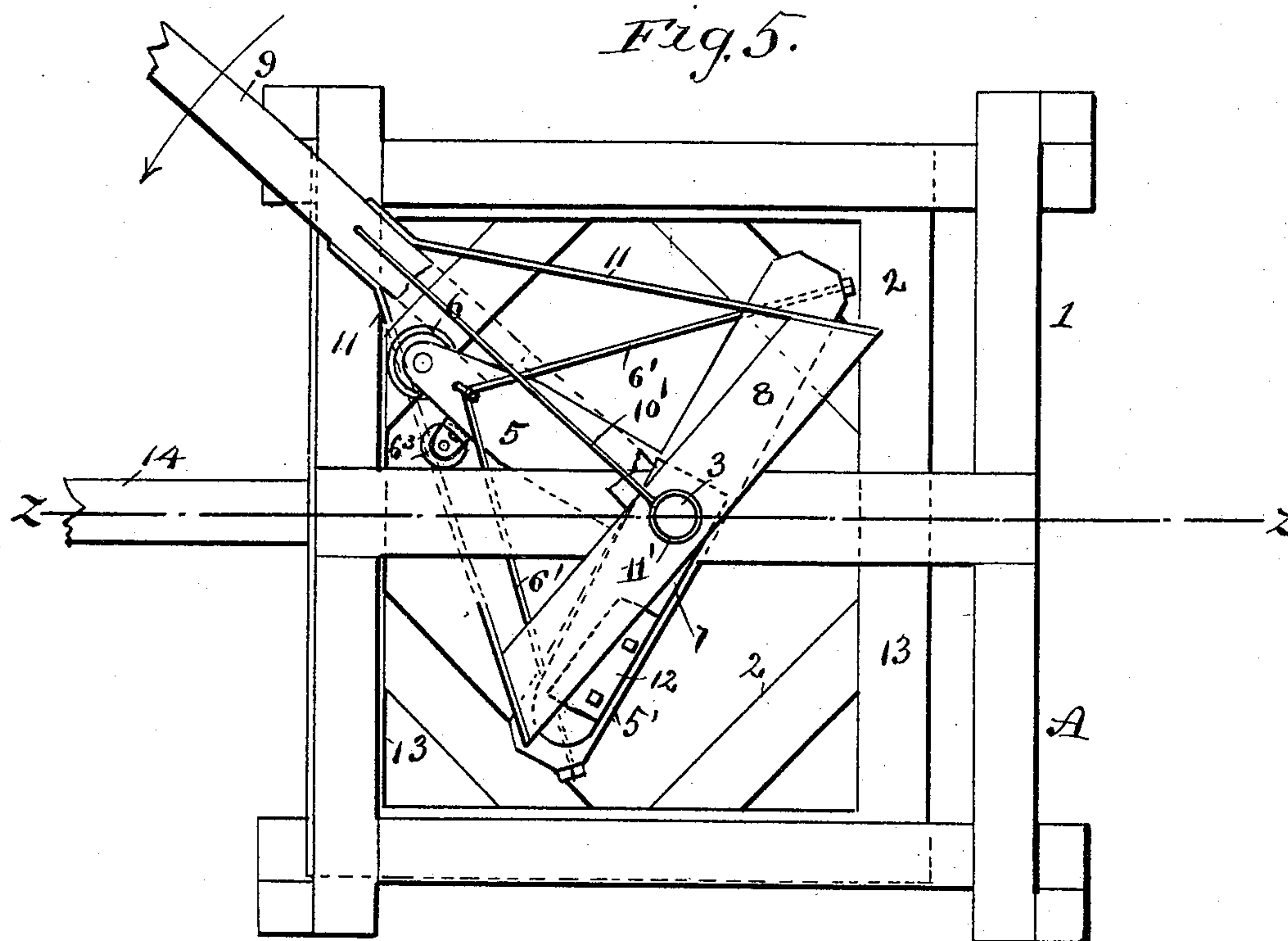
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# UNITED STATES PATENT OFFICE.

LEIGH H. HALLAM, OF BELTON, TEXAS.

## BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 403,662, dated May 21, 1889.

Application filed October 11, 1888. Serial No. 287,788. (No model.)

*To all whom it may concern:*

Be it known that I, LEIGH H. HALLAM, of Belton, in the county of Bell and State of Texas, have invented a new and Improved Baling-Press, of which the following is a full, clear, and exact description.

This invention relates to baling-presses, and has for its object to provide a press of this character by means of which a direct stroke will be given to the plunger, the latter permitted to rebound by the recoil of the hay, and the hay properly held in position.

The invention consists in a baling-press constructed and arranged as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the invention. Fig. 2 is an enlarged view, in vertical longitudinal section, of a portion of the press on the line *x x*, Fig. 1. Fig. 3 is a vertical transverse section on the line *y y*, Fig. 1. Fig. 4 is a detail of one of the dogs detached. Fig. 5 is an enlarged plan view of the mechanism for applying power; and Fig. 6 is a vertical section on the line *z z*, Fig. 5.

In carrying out this invention a rectangular open frame, 1, is provided, in which is mounted a sliding frame, 2, and a vertical rotary shaft, 3, having secured to its square portion 4 an arm 5, provided with an anti-friction roller, 6, at its end and an anti-friction roller, 6<sup>3</sup>, on its side. The arm 5 is braced by means of a cross-piece, 5', mounted on the square portion 4 and braced by diagonal rods 6', connecting it with arm 5. A brace-rod, 6<sup>2</sup>, extends from the arm 5 to the shaft 3. Near the upper end of shaft 3 is rigidly secured an arm, 7, and above the arm the sweep 9 is loosely mounted on the said shaft. To the rear end of the sweep 9 the cross-bar 8 is secured, and from the ends of the cross-bar diagonal braces 11 extend to the sweep.

Upon the swinging end of arm 7 is a lug or block, 12, bolted thereto or cast integral therewith, against which the sweep 9 is brought to bear when swung in one direction, and causes the arm 7 to be moved, thereby rotating shaft 3. The sweep 9 is connected by a wire, 10', with a ring, 11', loosely mounted on the top

of shaft 3, so as to hold up the sweep 9 and permit it to swing freely over the arm 7. In the rotation of the shaft 3 the anti-friction rollers 6 and 6<sup>3</sup> on the arm 5 are brought to bear against and ride over the upwardly-projecting cross-bars 13 of frame 2, thereby moving the latter in the frame 1, the said arm 5 in its revolution projecting through the open sides of the frame 1 and passing above the sides of the frame 2. The frame 2 is connected by a bar, 14, with a plunger, 15, mounted in an oblong casing, 16, in which the bale is pressed. The casing 16 is connected by rods or bars 17 with frame 1 and is formed with the top opening, 18, through which the material to be pressed is inserted, and with the yielding top strip, 19, secured at one end to the cross-bar 20 of casing 16.

By means of the top strip, 19, the pressed material is held under tension, the tension being regulated by a screw-rod, 21, mounted in cross-piece 22 at the end of casing 16, and formed with a square head, 23, at its outer end and a ball, 24, at its inner end, located between the strip 19 and the inclined surface 25 of a cross-strip, 26. By having the screw-rod 21 arranged in an inclined position approaching the horizontal less strain is brought to bear on its threads in the operation of the press.

In slots 27 in the sides of casing 16, extending below the top opening, 18, are centrally-pivoted dogs 28, having their forward ends, 29, normally held within the casing 16 by springs 30 bearing against their ends 31. The sides of plunger 15 are provided with grooves 28', which permit the dogs to be thrown into position by their springs to catch the hay upon the withdrawal of the plunger. The dogs 28 are pressed back by the hay as it passes them in being pushed forward beneath the strip 19. As the plunger recedes, the dogs catch the hay or other pressed material and prevent it from being thrown out of the press.

In the operation of the device, if hay or other material is to be pressed it is fed into the casing 16 in front of plunger 15. Upon the horse attached to singletree 10 being driven, the draft on the sweep 9 causes the same to be brought against the block or lug 12 on arm 7, and through the rotation of shaft



3 the arm 5 to bear on the inner cross-bar, 13, of frame 2, the anti-friction roller 6<sup>3</sup> riding over the same, followed by roller 6, giving a shorter leverage at the start. The frame 2 is thereby slid in the frame 1, moving the bar 14 and its plunger 15 against the hay and pressing it, the ends 29 of dogs 28 holding the hay from being thrown back as the plunger recedes after the arm 5 passes the center of bar 13, at which time the rebound of the hay throws back the plunger and frame 2, causing shaft 3 and arm 5 to revolve without any back-throw on the sweep, which is left free. In the continued rotation of the shaft 3 the arm 5 is swung toward the back of frame 1, and if by the recoil of the compressed hay the plunger 15, its bar 14, and the frame 2 have not been carried entirely back they are moved by arm 5. As the sweep 9 is loosely mounted on shaft 3 and the arm 7, with block or lug 12, is free to move with shaft 3 independently of sweep 9 in the recoil of the plunger, an automatic release of the draft is effected to open the press as soon as the stroke is completed, and the horse is permitted to proceed with the sweep without being affected by the recoil. By means of the automatic recoil the receptacle is instantly opened and the horse is permitted to travel in a circuit of three-quarters of a circle in feeding the press before the arm 5, with anti-friction roller 6<sup>3</sup>, engages the inner cross-bar, 13, and starts the plunger into the press. The bar 14 is located a short distance above the ground, so that the horse can easily step over it.

While I have described a specific construction of parts, I do not desire to limit myself thereto, as the parts may be varied without departing from the essential features of the invention.

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

45 1. A baling-press consisting of a plunger and plunger-rod, a reciprocating sliding frame connected therewith, a rotary shaft having an arm for actuating the sliding frame, a draft-sweep loosely mounted to turn on the rotary shaft, and an arm on the rotary shaft  
50 having a lug or projection against which the

sweep bears, substantially as shown and described.

2. In a baling-press, the combination, with the plunger, of a sliding frame connected to the plunger, a rotary shaft, an arm secured to the shaft and provided with an anti-friction wheel at its end and one side for engaging the said sliding frame, a second arm secured to the upper end of the shaft and provided with a projection or lug, and a sweep loosely mounted on the shaft and adapted to engage the said lug to rotate the shaft, substantially as herein shown and described.

3. In a baling-press, a sliding reciprocating frame, 2, having a reciprocating sliding bar, 14, and cross-bars 13, and mounted in a frame, 1, in combination with a rotary shaft, 3, having a lateral arm, 5, adapted to alternately bear against the cross-bars 13, a lateral arm, 7, with a block, 12, at one end, and a sweep, 9, loosely pivoted on shaft 3 and engaging the lug of arm 7, substantially as shown and described.

4. In a baling-press, a receptacle, 16, having elastic compression-strip 19, cross-strip 26, with inclined under surface, 25, and a screw-rod, 21, with a wedging-head, 24, located between strip 26 and strip 19, substantially as described.

5. A baling-press consisting of frame 1, reciprocating sliding frame 2, mounted in frame 1 and having cross-bars 13, and reciprocating shaft 14, with plunger 15, having side grooves, 28', and located in a receptacle, 16, the vertical shaft 3 in frame 1, with lateral arm 5, having anti-friction rollers 6 and 6<sup>3</sup> and located between cross-bars 13, the arm 7 on shaft 3, with block 12, the sweep 9, loosely pivoted to shaft 3 and engaging the arm 7, and the casing 16, connected to frame 1 and having top opening, 18, spring-actuated dogs 28, located in slots 27 in the sides of receptacle 16, beneath opening 18, and top elastic compression-strip, 19, with adjusting screw-rod 21, having a ball, 24, at one end located between cross-strip 26 and elastic strip 19, substantially as described.

LEIGH H. HALLAM.

Witnesses:

J. Z. MILLER, Sr.,

T. J. HERRON.