

No. 662,341.

Patented Nov. 20, 1900.

A. BENNETT.
HAY PRESS.

(Application filed Aug. 4, 1899.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.

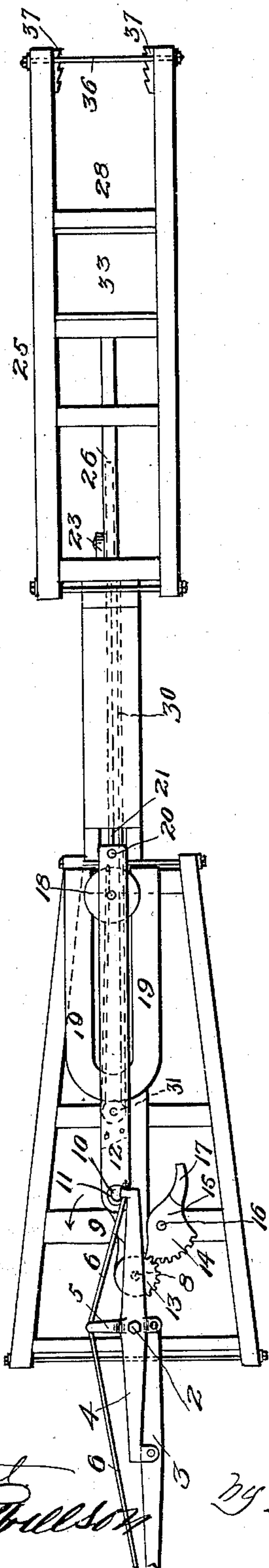
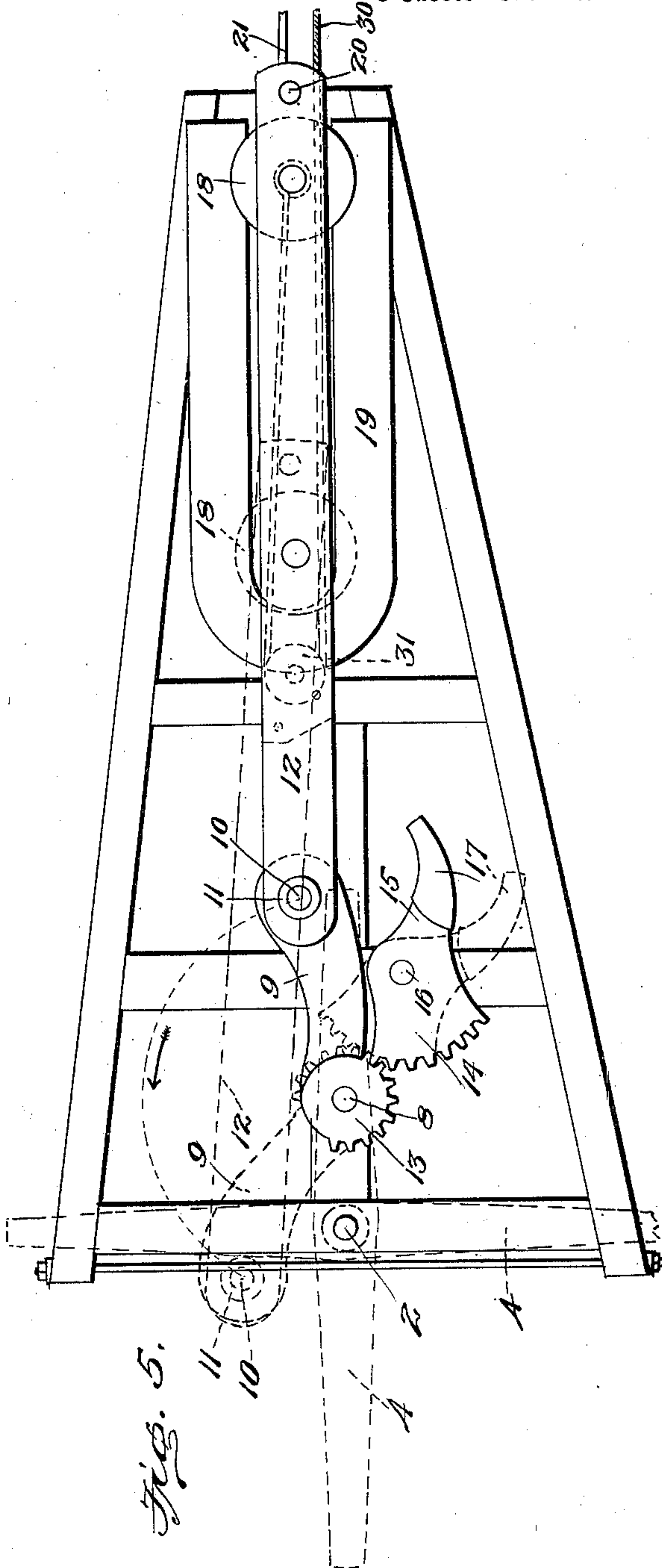


Fig. 5.



Witnesses
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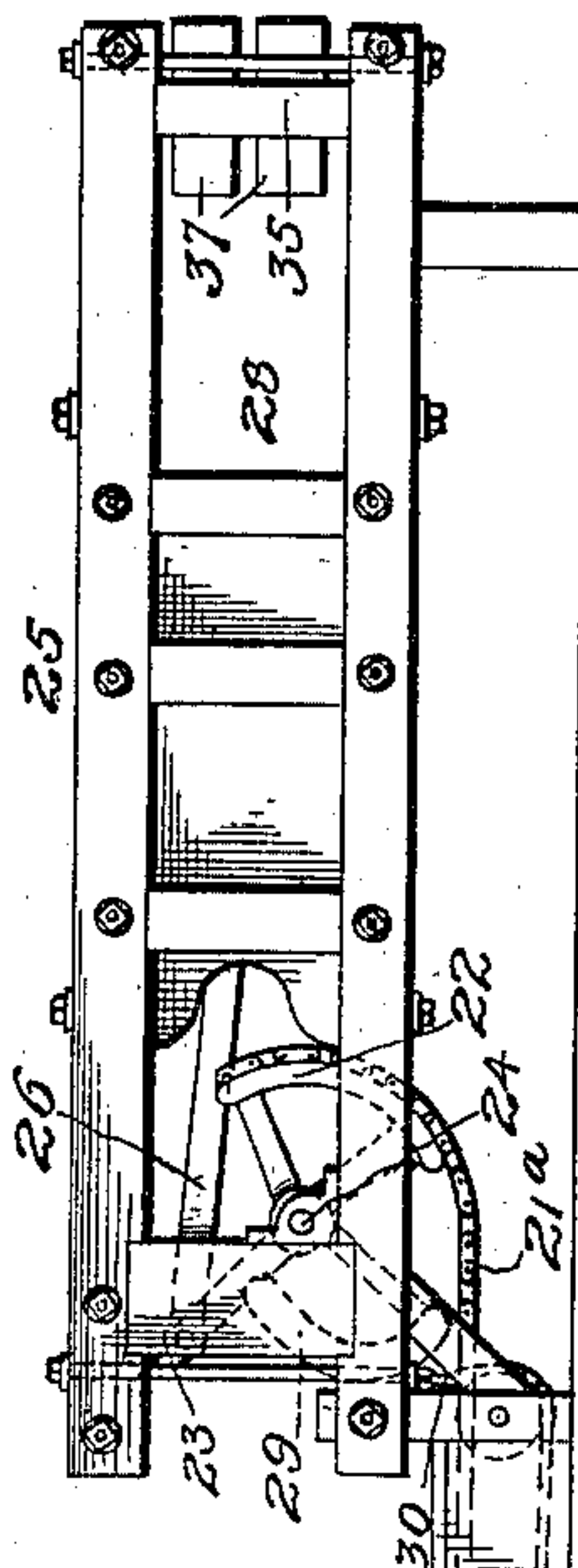


Fig. 2.

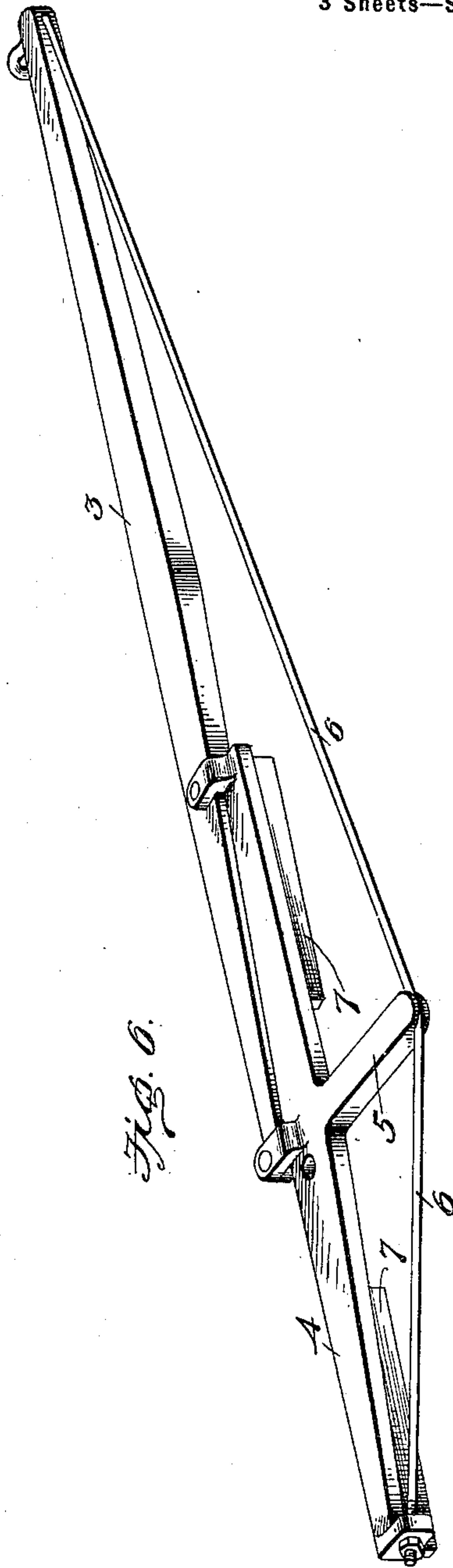


Fig. 1.

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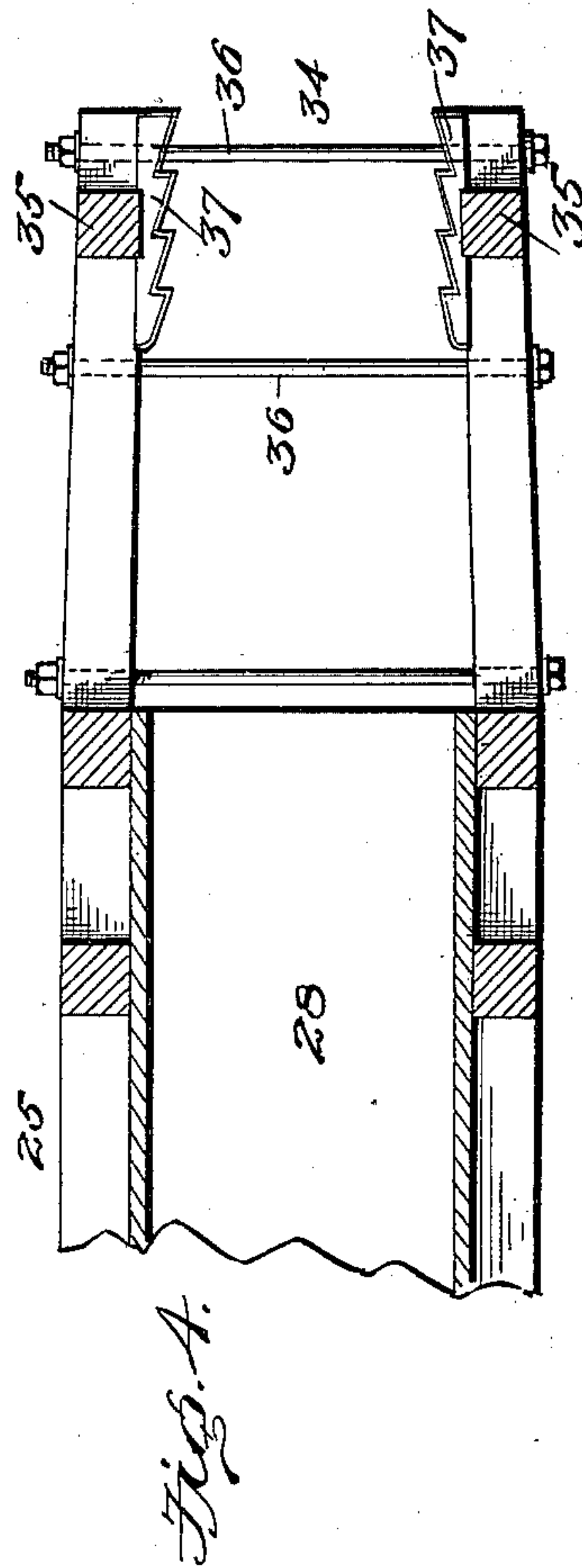
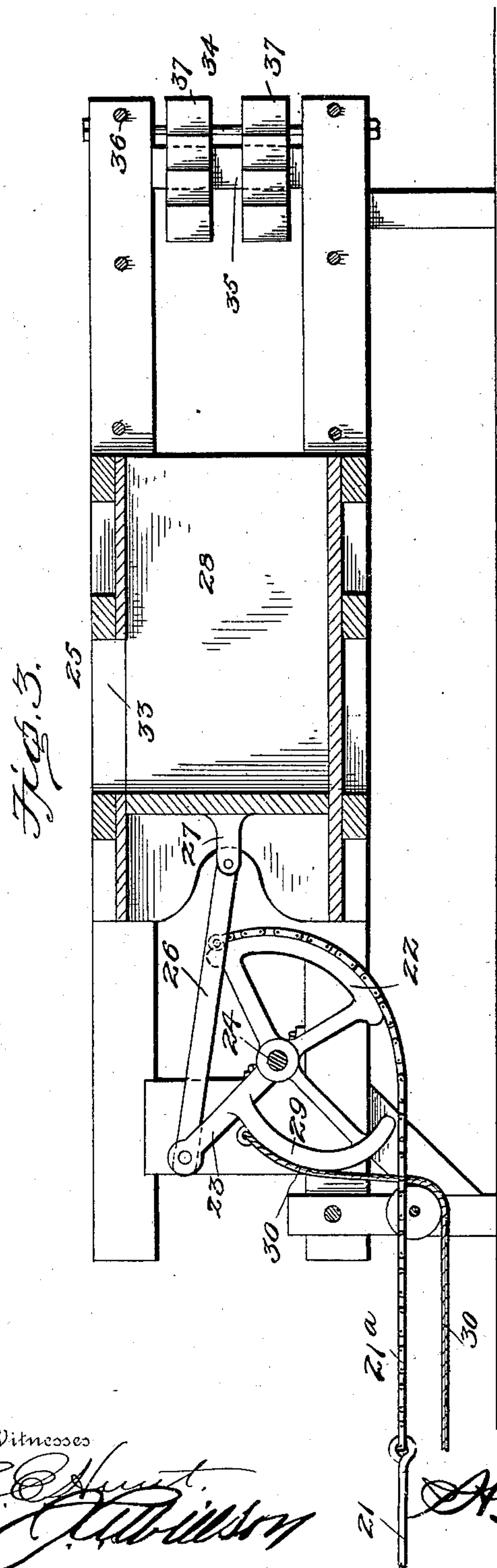
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3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

ALBERT BENNETT, OF PUYALLUP, WASHINGTON.

HAY-PRESS.

SPECIFICATION forming part of Letters Patent No. 662,341, dated November 20, 1900.

Application filed August 4, 1899. Serial No. 726,098. (No model.)

To all whom it may concern:

Be it known that I, ALBERT BENNETT, a citizen of the United States, residing at Puyallup, in the county of Pierce and State of Washington, have invented certain new and useful Improvements in Hay-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.

My invention relates to hay-presses, and more particularly to that class which is known as "continuous" balers.

The object of the invention is to simplify and improve the construction, increase the efficiency, and provide a compact, durable, and powerful machine for general baling purposes.

To this end the invention consists in the construction, combination, and arrangement of the several elements of the device, as will be hereinafter more fully described, and particularly pointed out in the claims.

In the accompanying drawings the same reference characters indicate the same parts of the invention.

Figure 1 is a top plan view of my improved continuous baling-machine. Fig. 2 is a side elevation of the same. Fig. 3 is a longitudinal section through the bale-chamber. Fig. 4 is a horizontal section of the same. Fig. 5 is a detail view of the sweep mechanism, and Fig. 6 is a detail view of the sweep and its lever. Fig. 7 is a detail view of the manner of connecting the cable 30 with the eyebolt 32.

1 denotes the framework, in one end of which is fixed the post 2, on which is mounted the sweep 3, to which the animals are hitched in the usual manner.

4 denotes a lever carried by the sweep and formed with a lateral arm 5, from which diagonal rod-braces 6 6 extend to the sweep and lever to insure the necessary strength and rigidity of these members. The bottom or under face of the lever 4 is provided with longitudinal integral webs or ribs 7 7, which extend from the outer ends of the lever to within a short distance of the fulcrum-point, so as to leave a short space between the inner ends of the ribs and the socket or hub which forms the mounting of the lever on the post 2.

8 denotes a vertical stud-shaft fixed in the framework, on which is fulcrumed a horizontal lever 9, the outer end of which is piv-

oted on a wrist-pin 10, fixed in the contiguous ends of the parallel bars 12 12. The upper end of this wrist-pin 10 projects beyond the upper bar 12 to receive a friction-roller 11, which extends into the path traversed by the ribs 7 on the lever 4. The hub of the lever 9 is provided with a segmental or mutilated gear 13, which meshes with a similar gear 14, forming the hub portion of a lever 15, fulcrumed on a stud-post 16, also fixed in the framework, and the free end of the said lever 15 terminates in a curved dog 17, which also projects into the path of the ribs 7 on the lever 4, the operation being such that when the parts are in the position shown in Fig. 1 and the sweep 3 and lever 4 are moved in the direction shown by the arrow the rib 7 on the contiguous arm of said lever 4 will engage the roller 11 on the wrist-pin 10 and carry the lever 9 and bars 12 backward with it, the roller 11 riding along the face of the rib until it arrives at the inner end of the rib, and the further movement of the lever 4 clears the roller 10, which then passes through the open space between the inner end of the rib and the hub. At the same time that the lever 9 is making this movement its gear 13 also carries the lever 15, so that its dog 17 now projects into the path of the opposite rib 7 on the lever 4, the continued movement of which restores the lever 9 to its former position, and thereby returns the parallel bars 12 to the forward limit of their stroke. From this description it will be understood that one complete revolution of the sweep-lever produces two complete movements of the bars 12.

As will be hereinafter more fully explained, it is the rear movement of the bars 12 which drives the follower or plunger forward in the bale-chamber, and therefore the lever 4 first engages the roller 10 on the bars 12 at the greatest distance from its center, and by reason of the positions of the fulcrum-points of the levers 4 and 9 the free end of the lever 9 draws the contiguous ends of the bars 12 inward toward the center of the lever 4, so that the latter exerts its greatest force as the plunger approaches the compression end of its stroke.

The forward ends of the bars 12, which form the connecting-link between the lever 9 and the connecting-rod 21, carry a grooved horizontal guide-roller 18, traveling in a U-shaped track 19, fixed to the framework, and

20 denotes a stud-bolt, to which is pivoted one end of the connecting-rod 21, the opposite end of which is connected to a sprocket-chain 21^a, which extends to a segmental arm 22 on the lever 23, fulcrumed on the shaft 24, mounted in the rear end of the bale-press 25. The free end of this lever is pivoted to the connecting-rod 26, and the opposite end is pivoted to the plunger 27, which has the usual reciprocating movement in the bale-chamber 28. The arm 22 of the lever 23 is eccentric, as is a similar reversely-formed arm 29 on the opposite side of the lever, and from this latter arm a wire cord or cable 30 extends rearwardly and around a grooved pulley 31 on the frame, and thence forwardly, where it is connected to an eyebolt 32, fixed to the lower end of the bars 12. From this description it will be understood that the rearward movement of the parallel bars 12 draws with them the rod 21 and sprocket-chain 21^a, which forces the lever 23, rod 26, and plunger 27 forward. At the same time that the bars 12 are moving rearwardly the arm 29 on the lever 23 is taking up the slack in the cable 30, so that the reverse movement of the bars 12 draws the cable 30 backward, and thus returns the plunger to its first position in the press.

33 denotes the mouth or hopper of the press where the hay is placed in the bale-chamber, and 34 denotes the discharge end or point where the finished bale is ejected from the press, and at this end I provide the sides of the press with uprights 35 35, which are connected by transverse bolts 36 36, passing also through the side timbers of the press. 37 37 denote tension-cleats fixed in said uprights, and their inner faces are corrugated, as shown, and lined or sheathed with sheet-steel to resist the wear caused by coming in contact with the material that is being baled.

Any desired density of the bale may be attained by the pressure of the tension-cleats on the sides of the bale while being formed, and this pressure may be regulated at will by the proper adjustment of the bolts 36 36.

In operation the hay is fed into the bale-chamber through the mouth or hopper at or during the intervals when the plunger is withdrawn, the sweep and lever 4 being continuously operated in the direction of the arrow shown in Fig. 5. The rib 7 on one end of the lever 4 strikes the friction-roller 11 on the wrist-pin 10, connecting the contiguous ends of the lever 9 and the bars 12 to retract the connecting-rod 21, chain 21^a rotating the segmental arm 22 of the lever 23, which moves forward, forcing with it the connecting-rod 26 and plunger 27. At the same time that this movement is taking place the cord or cable 30, which extends from the arm 29 of the lever 23, is being drawn forward, and its rear end, after passing around the pulley 31 and being made fast to the eyebolt 32 on the bars 12 12, is of course drawn backward to compensate for the forward movement of its

other end, and simultaneously with this movement the geared hub on the lever 9 meshes with the corresponding portion of the lever 15, so as to throw its curved dog 17 into the path of the rib 7 on the opposite arm of the sweep-lever 4, the two levers 9 and 15 being in the position shown by the dotted lines in Fig. 5, and when the lever 4 strikes the dog 17 on the lever 15 it pushes it out of its path, and in doing so causes it to return the lever 9 to the position from which it started, as shown by the full lines in the same figure. Of course when the lever 9 is being restored to the position shown it carries the bars 12 forward, and they in turn push the rod 21 forward, and thereby slacken the cable 21^a. At the same time the forward movement of the said bars carry with them the rear end of the cable 30, which, as hereinbefore described, draws its forward end rearward and through the medium of the lever 23 and rod 26 retracts the plunger.

The accompanying drawings show my invention in the best form now known to me; but many changes in the details might be made within the skill of a good mechanic without departing from the spirit of my invention, as set forth in the claims at the end of this specification.

Having thus fully described my invention, what I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

1. In a baling-press, the combination with the baling-chamber and its reciprocatory plunger, of a suitably-fulcrumed lever, a link connection between said plunger and lever, segments connected to said lever and projecting outwardly at opposite points to the lever's fulcrum, operating mechanism, and flexible connections secured to the operating mechanism and the segments whereby the plunger is operated in both directions through draft alternately applied to the flexible connections to rock said segments alternately in opposite directions, substantially as set forth.

2. In a baling-press, the combination with a baling-chamber and its reciprocatory plunger, of a suitably-fulcrumed lever, a link connection between said plunger and lever, eccentrically-arranged segments connected to said lever and projecting outwardly at opposite points to the lever's fulcrum, operating mechanism, and flexible connections secured to the operating mechanism and the segments whereby the plunger is operated in both directions through draft alternately applied to the flexible connections to rock said segments alternately in opposite directions, substantially as set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ALBERT BENNETT.

Witnesses:

ERIC. P. TRUEDSON,
N. TRUEDSON.