

No. 669,490.

Patented Mar. 5, 1901.

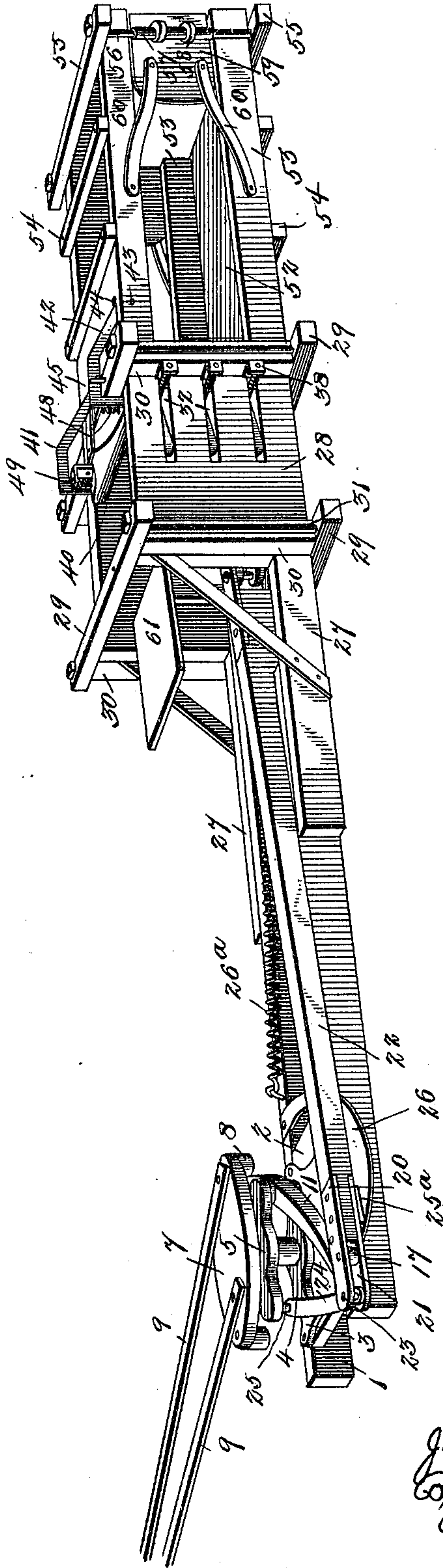
J. M. SANDERS.
BALING PRESS.

(Application filed Aug. 7, 1899.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.



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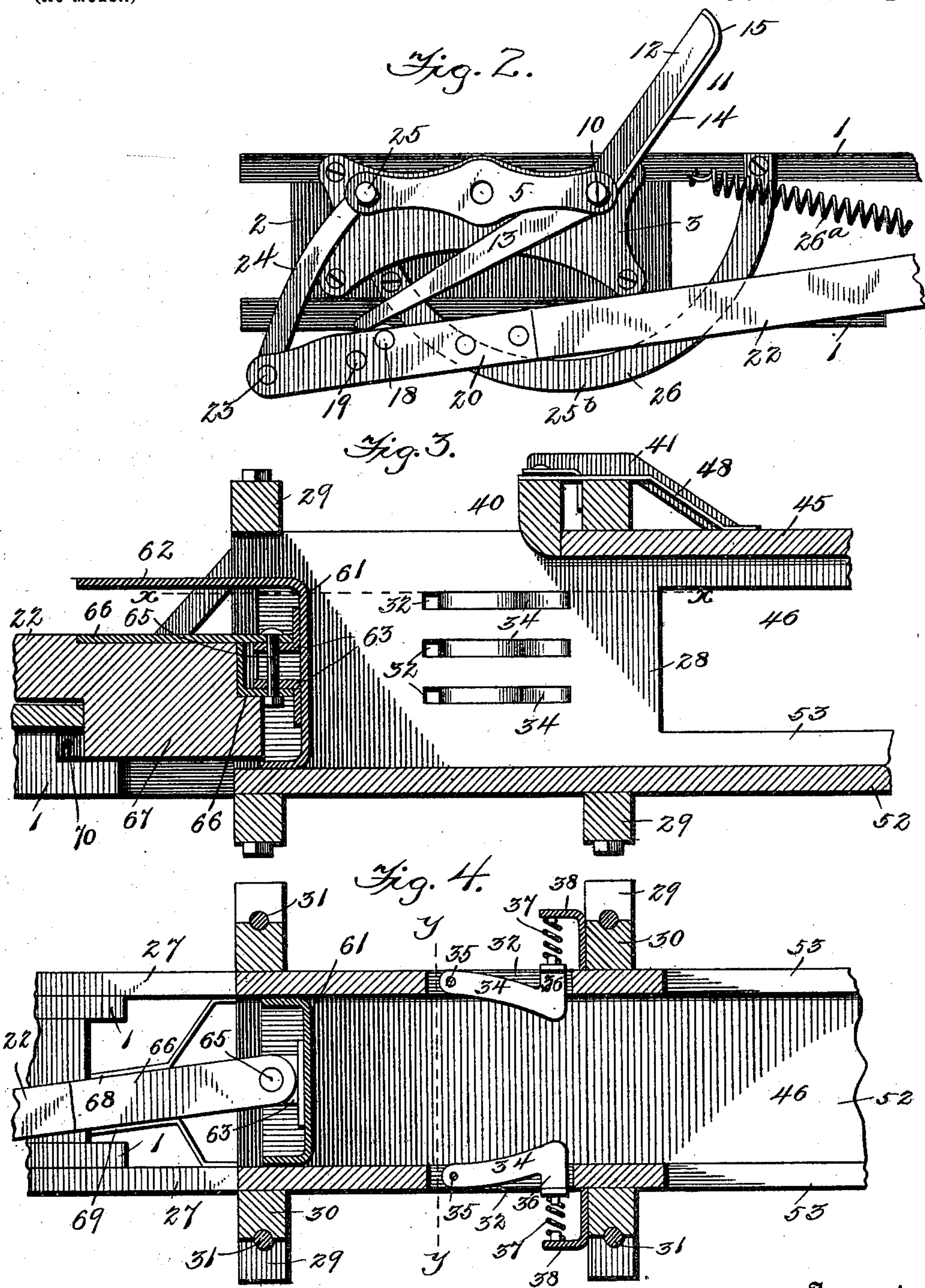
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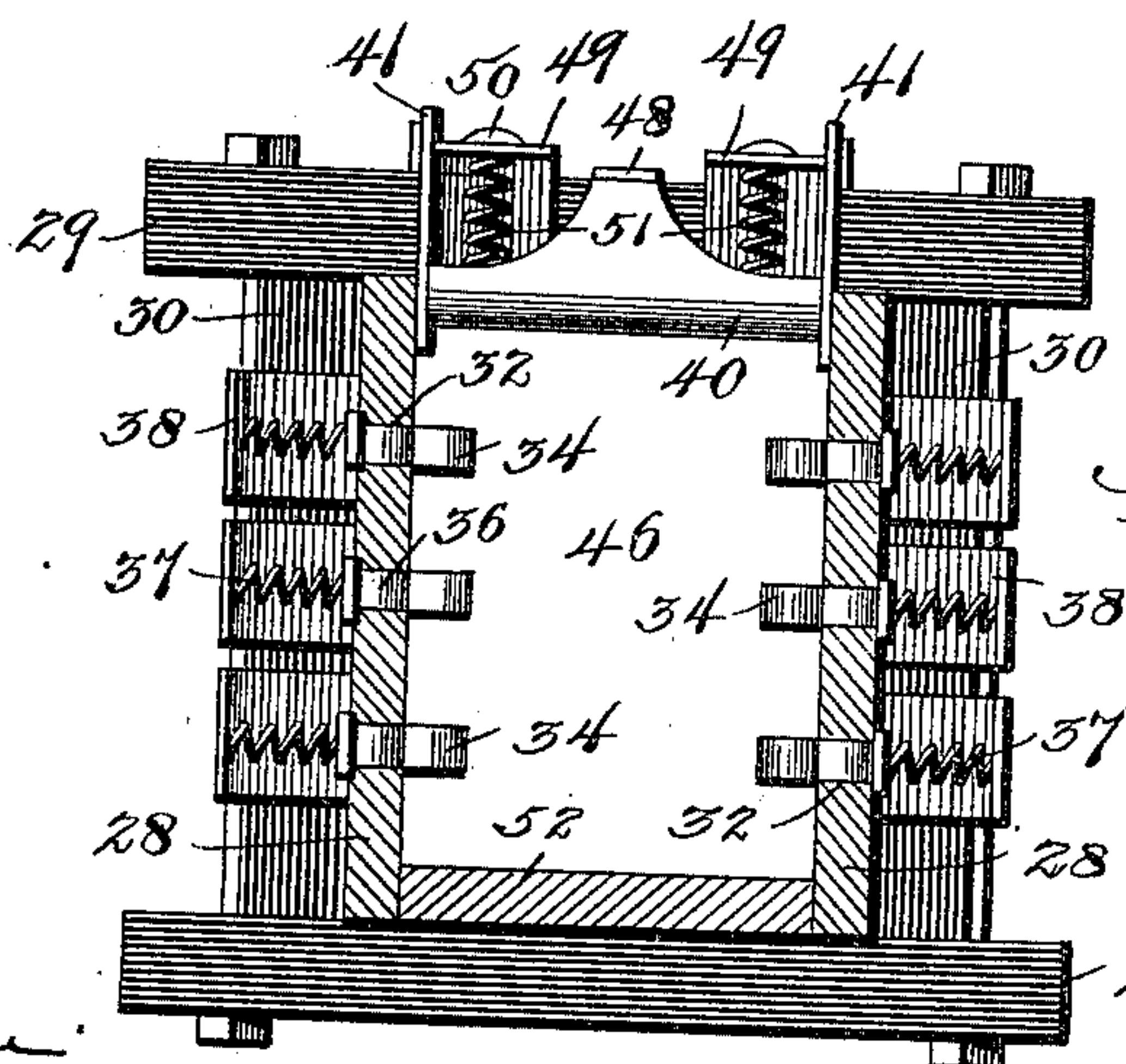
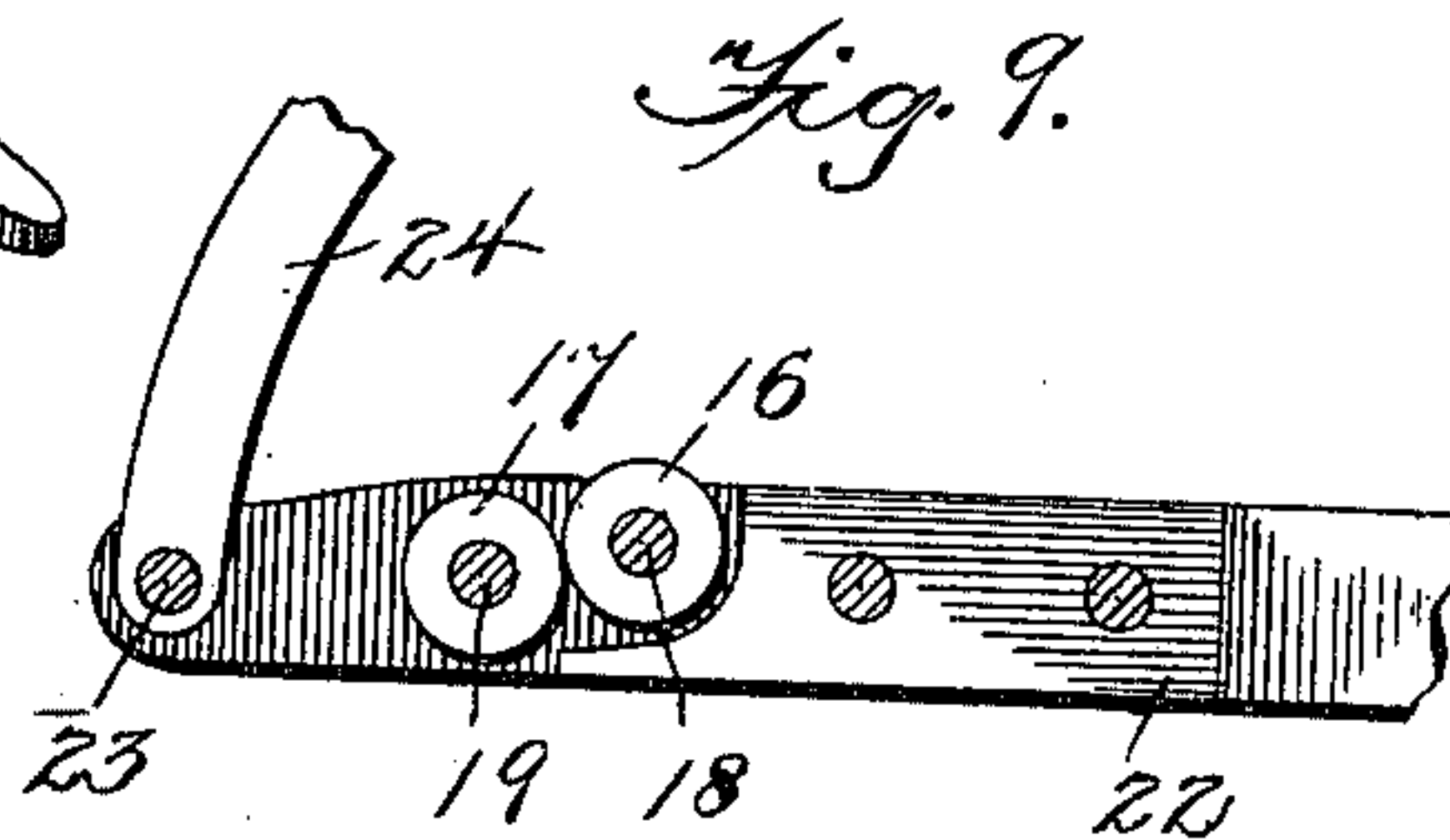
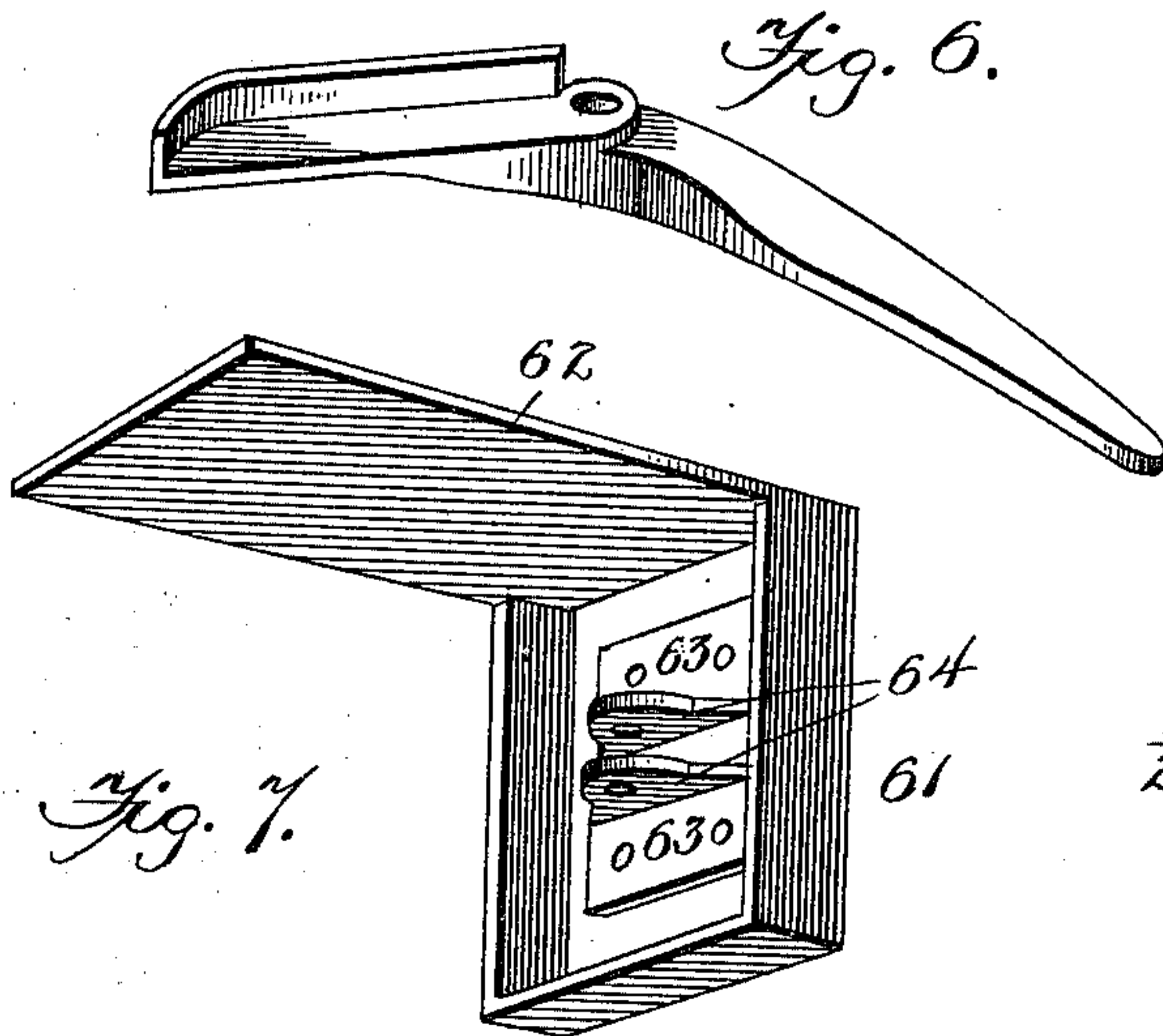
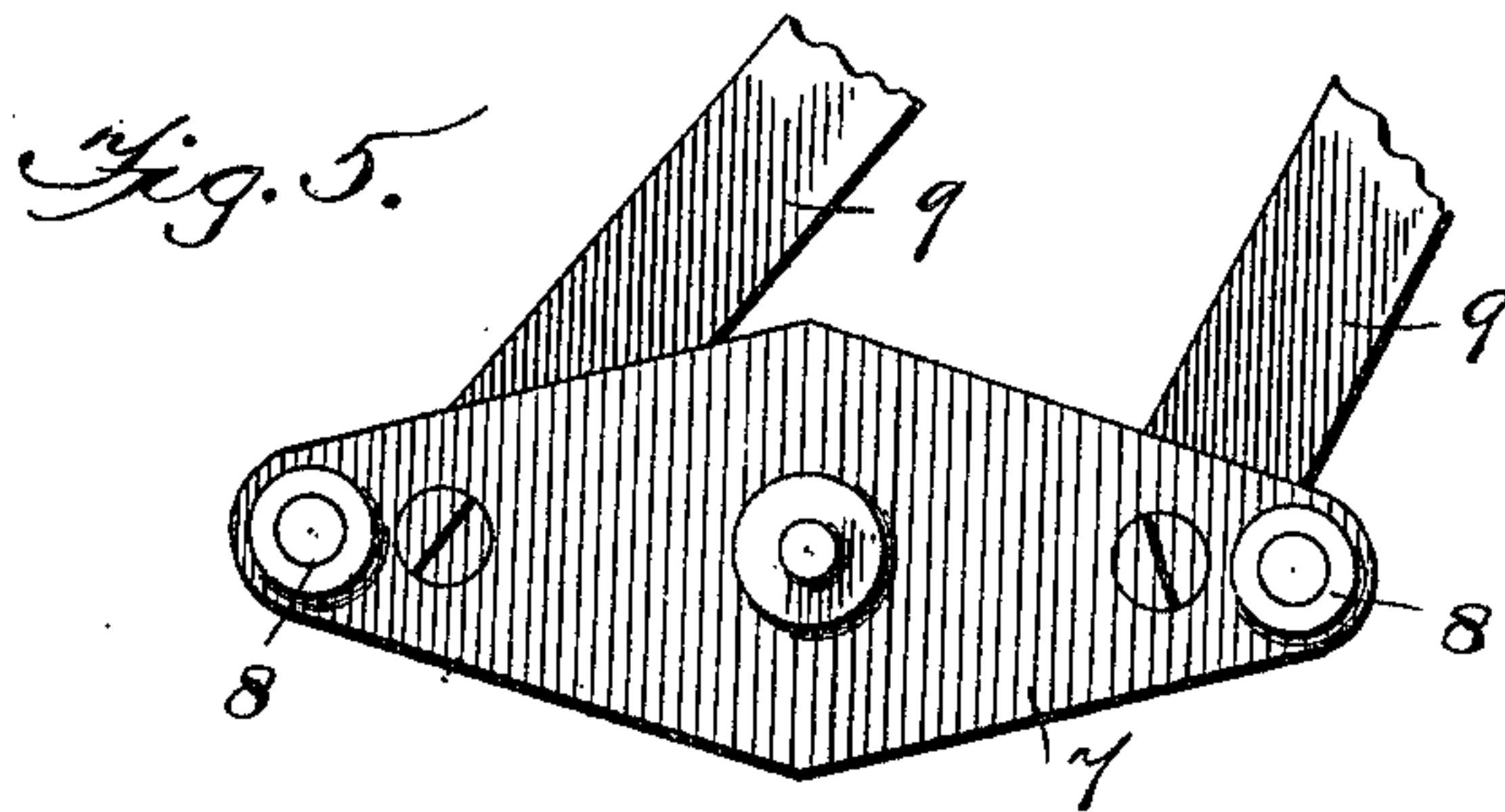
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3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

JOHN M. SANDERS, OF DALTON, GEORGIA.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 669,490, dated March 5, 1901.

Application filed August 7, 1899. Serial No. 726,449. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. SANDERS, a citizen of the United States, residing at Dalton, in the county of Whitfield and State of Georgia, have invented certain new and useful Improvements in Baling-Presses, of which the following is a specification, reference being had therein to the accompanying drawings.

10 My invention relates to baling-presses of the class known as "rebounding-plunger" presses; and its primary object is to simplify the construction of this class of presses and render them more efficient in operation.

15 The present invention is designed as an improvement on the press described and shown in Letters Patent of the United States No. 542,314, granted to me under date of July 9, 1895; and it consists in the improved features of construction hereinafter described, and defined in the appended claims.

In the accompanying drawings, which form a part of this specification, Figure 1 is a view in perspective of a press embodying my improvements. Fig. 2 is a plan view of the front end of the press with the rotating casting and operating-sweep removed. Fig. 3 is a vertical longitudinal section of the press-box. Fig. 4 is a horizontal section on the line *x x* of Fig. 3. Fig. 5 is a reverse plan of the operating-sweep and the rotatable casting secured thereto. Fig. 6 is a perspective view of the trip-lever. Fig. 7 is a perspective view of the plunger-head. Fig. 8 is a vertical section on the line *y y* of Fig. 4, and Fig. 9 is a detail view of the front end of the plunger-rod with one of its plates removed to show the relative locations of the antifriction-rollers.

40 The reference-numeral 1 designates two parallel horizontal beams supported at their front ends by cross-beams 2.

3 designates a casting secured to the upper sides of the beams 1, near their outer ends, and provided at one side with a boss 4, upon which rests a plate 5, supported at its ends on uprights 6. Journaled in the plate 5 is a rotatable casting or sweep 7, provided at either end with a depending antifriction-roller 8. Secured to the upper side of this casting are two bars 9, which constitute a sweep by which the casting is rotated. Jour-

naled on a pin 10, secured to the casting 3 and plate 5, is a trip-lever 11, comprising the oppositely-inclined arms 12 and 13. The arm 12 is provided with a vertical flange 14 and has its outer end 15 curved or rounded, as shown. The inner arm 13 of the trip-lever is adapted to bear against two rollers 16 and 17, which are mounted upon vertical axes 18 and 19, arranged in different vertical planes to present an inclined roller-surface, against which the arm 13 slides. I have found from practical experience that by providing this inclined roller-surface the friction is materially lessened and the arm slides with greater ease and freedom. The axes of the rollers 16 and 17 are mounted in bearings formed on parallel plates 20 and 21, secured to the end of the plunger 22. The outer ends of these plates are connected by a rod 23, upon which is pivotally secured one end of a link 24, the other end of which is pivotally secured upon a pin 25, secured between the casting 3 and plate 5.

26 designates a quadrant secured to the frame of the press and constituting a track or way to guide the plunger in its travel, a wearing-shoe 25^a being arranged on the under surface of the plunger to bear upon the track 25^b. A retracting-spring 26^a is secured at one end to the plunger and at its opposite end to the frame-beam 1.

Secured to the inner ends of the beams 1 are two horizontal beams 27, having superimposed thereon horizontal boards 28, which form the press-box. At each end of the press-box so formed, at top and bottom thereof, are cross-bars 29, to which are secured vertical bars 30, the top and bottom cross-bars being connected together by vertical stay-rods 31. At the rear end the press-box, at each side, is formed with a number of parallel slots 32, in which are seated a series of detents 34, pivoted on vertical rods 35, passing through the sides of the press-box. These detents consist of metal plates having their inner edges beveled and provided with outwardly-extending arms 36, which abut against coil-spring 37, the outer ends of which are located in brackets 38, secured to the adjacent vertical posts 30. The tendency of these springs is to press the detents inwardly.

40 designates a block or cross-head suspend-

ed above the detents by brackets 41, which are pivotally secured at their ends 42 to pins 43, secured in slots 44 in the top 45 of the bale-receiving space 46. The opposite ends of the
 5 brackets 41 are loosely secured to pins 47, projecting from the ends of the block 40. A spring 48 is secured at one end to the center of the block 40, while its opposite end is secured to the top 45. Projecting from the
 10 cross-bar 29 adjacent to the block 40 are two brackets 49, provided with pins 50, between which and the ends of the block 40 are interposed coil-springs 51. The block 40 is thus normally pressed downward.
 15 52 designates the bottom of the press-box, which is extended outwardly and has secured to it side beams 53 and cross-bars 54, which, in connection with cross-bars 55 and the top 45, constitute a feed-space which receives the
 20 bales as they come from the press-box. The cross-bars at the outer ends of this feed-space are connected together by vertical rods 56, upon each of which is arranged a sleeve 57, formed with cams 58. These cams are adapt-
 25 ed to bear against metal plates 59, which are suspended yieldingly by means of diverging spring-arms 60, secured to the outer sides of the plates and secured to the sides of the feed-box, as shown. These plates are forced
 30 inward by the cams 58 to contract the discharge-opening of the feed-box, and by rotating the sleeves 57 the cams 58 may be turned out of contact with the plates to permit the latter to yield laterally.
 35 The numeral 61 designates the plunger-head, comprising a plate or casting consisting of a vertical portion or head proper and a horizontal portion 62. To the vertical head 61 are secured a pair of oppositely-disposed
 40 brackets 63, having their parallel horizontal portions 64 bored to receive a swivel-pin 65, which also passes through bracket-arms 66, projecting from the adjacent end of the plunger. The said end of the plunger is provided
 45 on its under surface with a guide-block 67, which is guided by a yoke secured to the frame of the press and comprising arms 68 and 69, secured to the frame at their forward ends and connected together at their opposite
 50 ends by a cross-pin 70. These arms receive the lower edge of the said block, as seen best in Fig. 3, and the block is guided in its movements by the said arms and its movements

steadied. As the plunger has a certain amount of movement laterally in its operation, provision is made for the requisite amount of play of the plunger in the said yoke. 55

The operation of the press is as follows: The plunger is retracted and the press-box filled with the material to be baled, the detents being pressed inwardly by their springs, so as to engage and hold the material in the box. The block 40 is also forced down by its springs to bear upon the material. The casting 7 is now rotated by means of the sweep, 65 when one of the rollers on the end of the casting strikes the trip-lever, turning it upon its pivot and causing its arm 13 to contact with the rollers 16 and 17 to force the plunger forward, compressing the material in the box. 70 When the pressure of the plunger overcomes the tension of the springs of the detents, the latter will be forced outwardly, releasing the pressed bale and allowing it to be forced into the feed-space, the plunger-head also striking the beveled surface of the block 40, raising it out of engagement with the bale. As the roller of the casting 7 passes out of engagement with the flange 14 of the trip-lever the plunger is retracted by its spring 26^a. 80 The rollers 16 and 17 constitute an inclined surface against which the arm 13 of the trip-lever contacts with little friction.

I claim—

1. In a baling-press, the combination with 85 the frame, cross-bars and vertical rods connecting said cross-bars, of yielding side plates, diverging spring-arms carried by the frame and supporting said plates, and cams rotatably mounted upon said rods to directly engage 90 said side plates, as and for the purpose specified.

2. In a baling-press, the combination with a press-box comprising a frame, cross-bars and vertical rods connecting the cross-bars, 95 of yielding side plates, diverging spring-arms carried by the frame and supporting said plates, rotatable sleeves mounted upon the vertical bars and provided with cams in contact with the plates. 100

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

JOHN M. SANDERS.

Witnesses:

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W. S. SANDERS.