

No. 712,515.

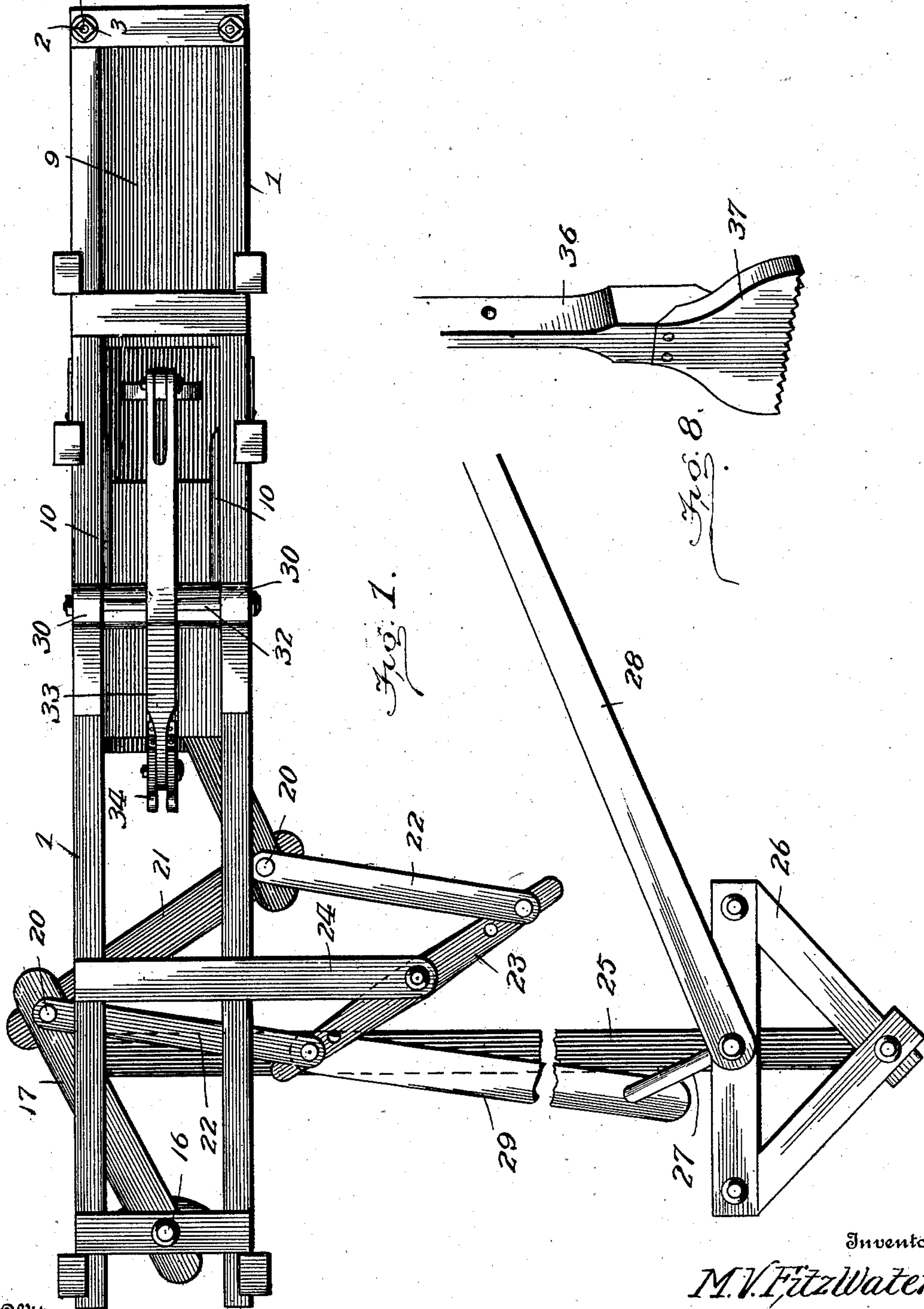
M. V. FITZ WATER.
BALING PRESS.

(Application filed Dec. 30, 1901.)

Patented Nov. 4, 1902.

3 Sheets—Sheet 1.

(No Model.)



Witnesses

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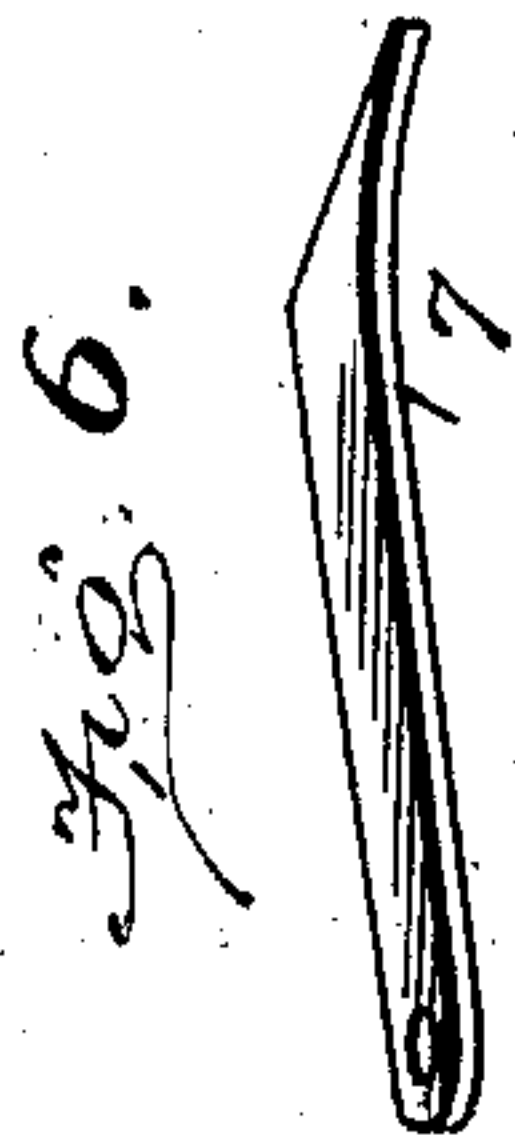
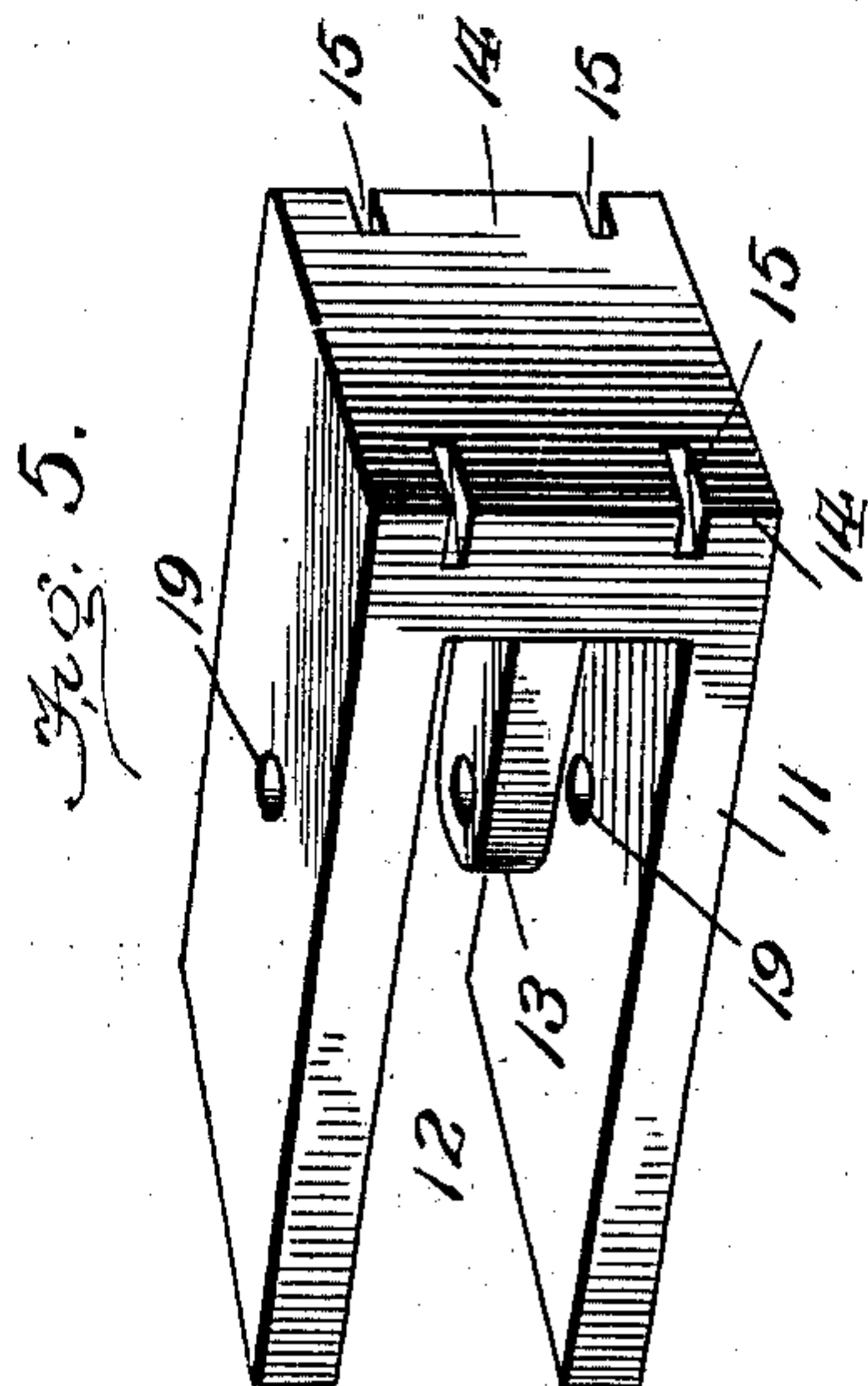
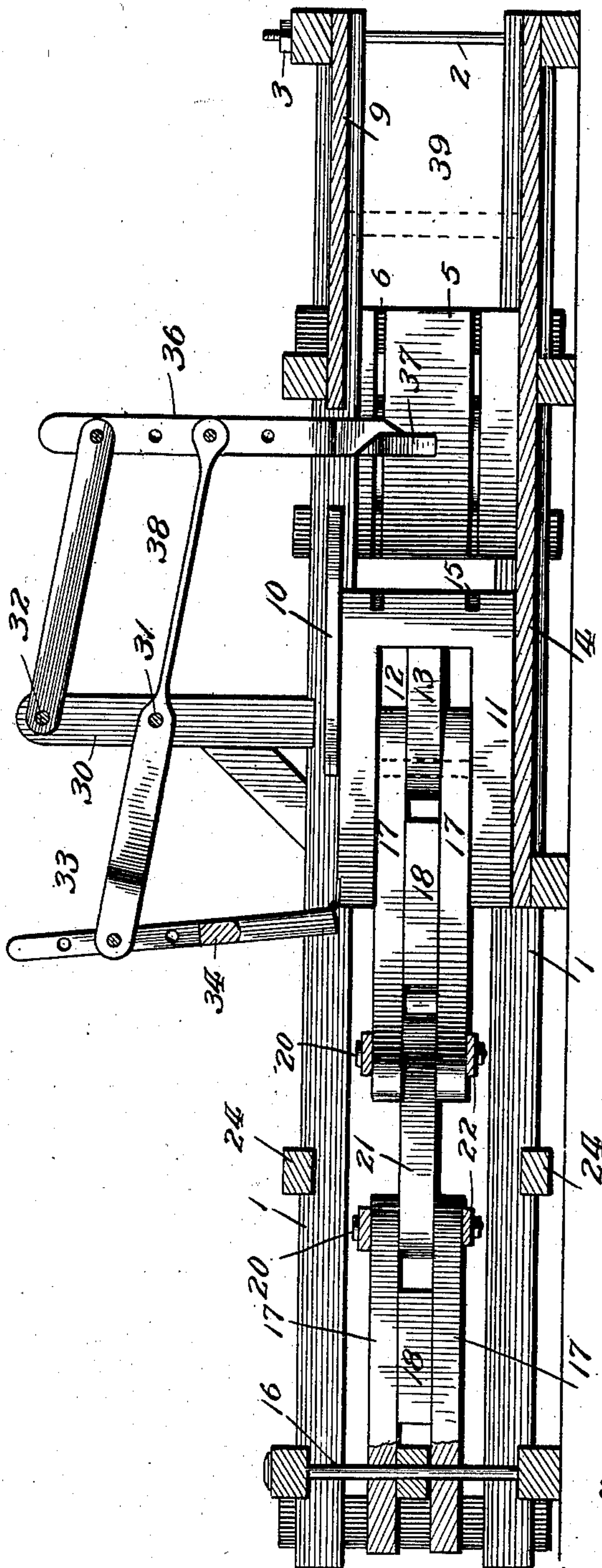


Fig. 2.



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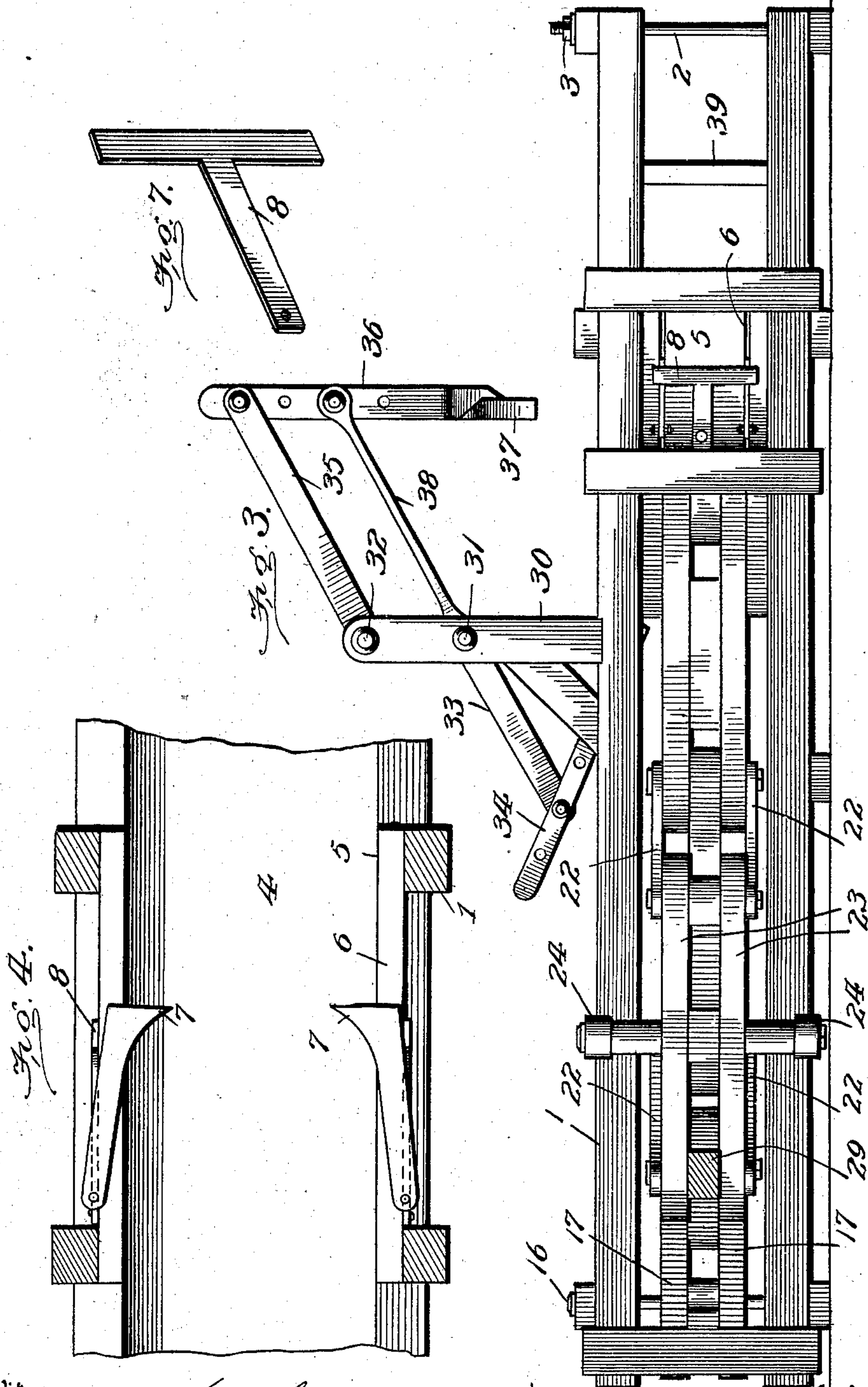
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3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

MARSHALL V. FITZ WATER, OF MOUNT PLEASANT, TEXAS.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 712,515, dated November 4, 1902.

Application filed December 30, 1901. Serial No. 87,820. (No model.)

To all whom it may concern:

Be it known that I, MARSHALL V. FITZ WATER, a citizen of the United States, residing at Mount Pleasant, in the county of Titus and State of Texas, 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.

My invention relates to new and useful improvements in baling-presses; and its object is to provide a rotary sweep, preferably operated by horses, which is connected in a novel manner to the compressing-plunger, whereby said plunger is operated twice to each revolution of the sweep.

A further object is to employ a packer of peculiar construction operated from the plunger and adapted to automatically feed hay to the press during each retraction of the plunger.

With these and other objects in view the invention consists in the novel construction and combination of parts hereinafter more fully described and claimed, and illustrated in the accompanying drawings, showing the preferred form of my invention, and in which—

Figure 1 is a plan view of the baling-press. Fig. 2 is a central vertical longitudinal section therethrough showing the plunger retracted. Fig. 3 is a side elevation with the sweep removed and showing the positions of the parts when the plunger is projected into the compression-chamber. Fig. 4 is a horizontal section through the compression-chamber. Fig. 5 is a detail view of the plunger. Fig. 6 is a similar view of a catch of the compression-chamber. Fig. 7 is a perspective view of the spring for operating said catch, and Fig. 8 is a detail view of the foot of the packer.

Referring to the figures by numerals of reference, 1 is a rectangular frame open for the greater part of its length at the top, sides, and bottom. Vertical rods 2 are arranged at one end of the frame and are provided with adjusting-nuts 3, whereby said end of the frame may be contracted as desired. A bottom 4 extends inward from this end of the frame, and arranged thereon are two short side walls 5, which with the bottom form the compression-chamber of the press.

Each side wall 15 is provided with a suitable number of longitudinally-extending slots 6, within each of which is pivoted a catch 7, preferably of the form shown in Figs. 4 and 6. These catches are held normally projected into the compression-chamber by T-shaped springs 8, secured on the outside of each wall, as shown.

A top 9 extends inward horizontally from the contractible end of the frame 1 and terminates above the side walls 5. Guide-strips 10 are arranged on the frame 1 at the inner end of the top and extend in horizontal alignment with said top.

Slidably mounted on the bottom 4 and beneath the guide-strips 10 is a preferably rectangular plunger 11, having a transverse recess 12 therein, within which is arranged a horizontal tongue 13. Each forward side edge 14 of the plunger is provided with recesses 15 in alinement with the slots 6 of the side walls. These grooves are adapted to receive the inwardly-projecting catches 7 and prevent them from being pressed too suddenly out of the path of the plunger.

Pivotally mounted upon a vertical pin 16, arranged at the center of the end of the frame farthest removed from the rods 2, are two parallel links 17, spaced apart and secured together by a suitable block 18. If desired, this block may be dispensed with and the entire double link formed in a single piece of material. A similar double link extends into the recess 12 in the plunger and receives and is pivotally secured to the tongue in said plunger. The pivot-pin, by means of which said link and tongue are secured together, extends not only through the tongue and link, but into apertures 19, formed in the top and bottom of the plunger.

Pivot-pins 20 are arranged in the adjacent ends of the double links and extend through the opposite ends of a connecting-link 21. They also extend through the inner ends of parallel laterally-extending double links 22, the outer ends of which are pivoted to the ends of a lever 23, fulcrumed at the end of a horizontal arm 24, extending laterally from the frame 1.

Connected to the frame 1, preferably by means of a strong beam 25, is a frame 26 of suitable form, within which is journaled a

vertical crank-shaft 27. To the upper end of this shaft is secured a revoluble beam 28, adapted to be operated in any suitable manner, as by means of a horse. To the crank 5 of the shaft is secured a pitman 29, which is pivoted to one end of the lever 23.

From the foregoing description of the operating mechanism it will be seen that the lever 23 swings back and forth upon its pivot 10 once during each revolution of the crank 27, and as the link 21 is connected thereto and moves therewith it is obvious that the ends of said link will swing past the longitudinal center of the frame twice during each revolution of the crank. Each time the ends of the link approach the longitudinal center of the frame the plunger 11 is forced forward, because links 17 and 21 are brought into alignment. When, however, said ends pass the 20 center, the motion of the plunger is reversed. It is thus obvious that two forward movements of the plunger are obtained during each revolution of the crank 27.

Mounted upon the frame 1 at opposite sides 25 thereof are standards 30, connected by two horizontal fixed bolts 31 and 32, arranged one above the other. Pivotaly mounted on the bolt 31 is a lever 33, one end of which is adjustably secured within the forked end of a 30 strip 34, hinged to the rear end of plunger 11. A link 35 is pivotaly mounted on the shaft 32, and its opposite end, as well as the remaining end of the lever 33, is adjustably secured to a vertically-movable packer-plunger. This plunger is adapted to move down 35 into the compression-chamber, as shown in Fig. 2, its movement being controlled by the movement of the compressing-plunger 11. A foot 37 is detachably secured to the lower 40 end of the packer 36, and the lower or working edge thereof is toothed or serrated, as shown. The forward portion of the lever 33 is formed of spring metal and is flattened, as shown at 38. This construction permits the 45 packer to give upward when a sufficient quantity of material has been forced into the compression-chamber.

When it is desired to form a bale of hay or other material, a rectangular board or block, 50 as 39, (see Fig. 3,) is inserted into the frame 1 and clamped therein by means of the rods 2. Hay is placed upon the top 9 and moved under the packer 36. The apparatus is set in motion as hereinbefore described. As the 55 beam 28 revolves, the toggle will be extended

laterally, thereby drawing the plunger 11 back from the compression-chamber. This backward movement will elevate the strip 34 and cause the packer to move downward, carrying the hay therewith into the path of the 60 plunger. This movement of the packer and plunger will be reversed when the toggle is extended longitudinally, and two back-and-forth strokes of each will be made during each revolution of beam 28. As the plunger 65 11 moves forward it will carry the hay therewith, compressing it against the board 39. Each time the hay is compressed the catches 7 are moved outward, and as the plunger is withdrawn these catches spring into engagement with the hay and prevent it from ex- 70 panding until the plunger again moves into contact therewith.

In the foregoing description I have shown the preferred form of my invention; but I do 75 not wish to limit myself thereto, as I am aware that modifications may be made therein without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes as fairly 80 fall within the scope of my invention.

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

1. The combination with a frame having a 85 compression-chamber therein; of a plunger in said frame and having a recess therein, a tongue in said recess, a toggle connection between said tongue and the frame, a lever, links connecting the ends of said lever and 90 the ends of the intermediate link of the toggle, a revoluble crank-shaft, and a pitman connecting said shaft and lever whereby two back-and-forth motions of the plunger may be secured during one revolution of the shaft. 95

2. The combination with a frame having a compression-chamber therein, a recessed plunger in the frame, and a vertically-movable packer connected to and operated by the plunger; of a tongue in the plunger, a toggle con- 100 nection between said tongue and the frame, a lever, links connecting the ends of said lever and the ends of the intermediate link of the toggle, and means for oscillating the lever.

In testimony whereof I affix my signature 105 in presence of two witnesses.

MARSHALL V. FITZ WATER.

Witnesses:

ROBT. L. MOULTON,
S. L. SNODGRETH.