

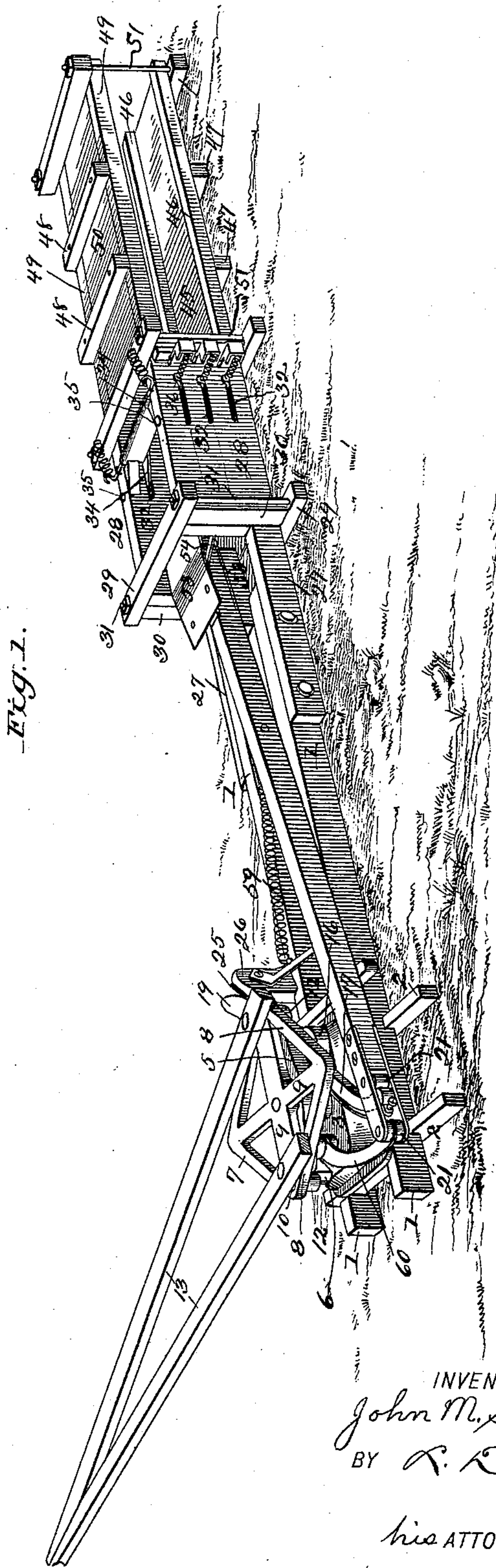
(No Model.)

3 Sheets—Sheet 1.

J. M. SANDERS.  
BALING PRESS.

No. 542,314.

Patented July 9, 1895.



WITNESSES:

*Garry D. Parker*  
*Herbert Bradley*

INVENTOR

*John M. Sanders*  
BY *R. Deane*

his ATTORNEY.

(No Model.)

3 Sheets—Sheet 2.

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Fig. 2.

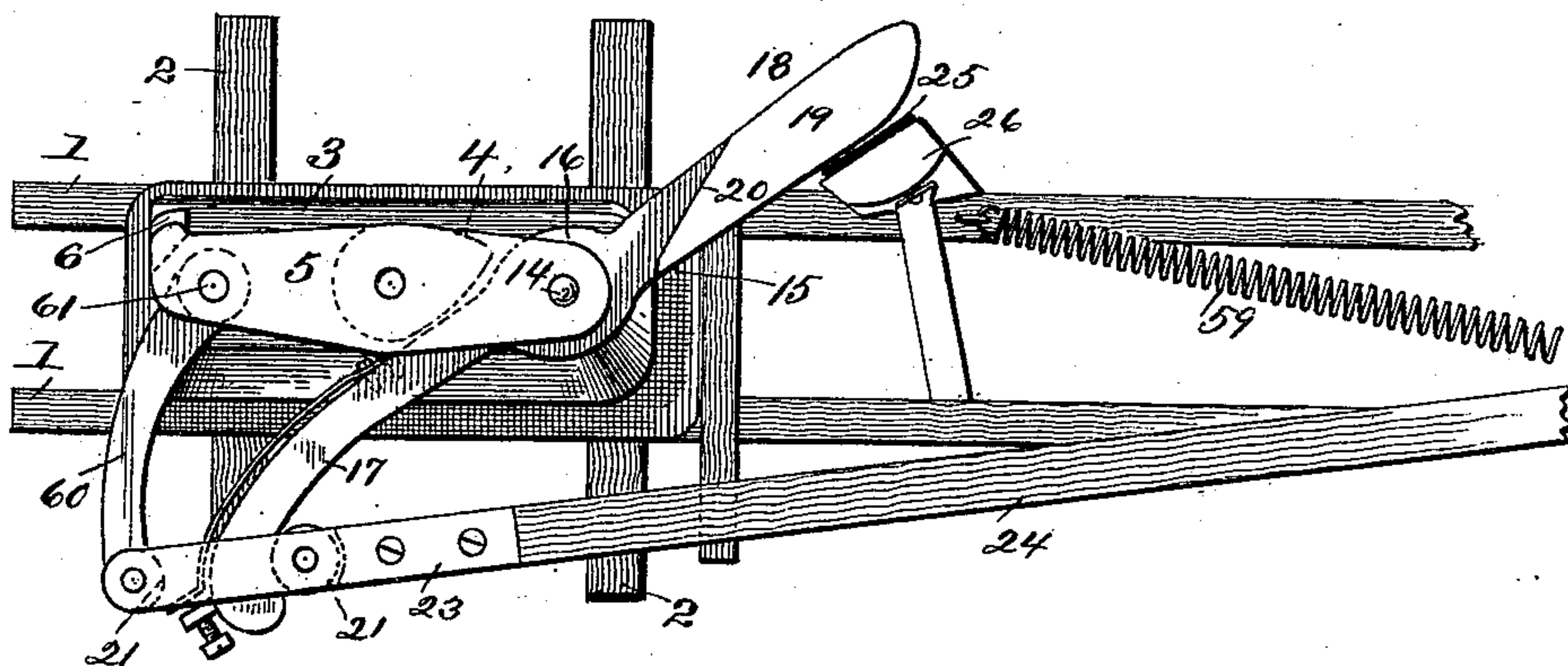


Fig. 3.

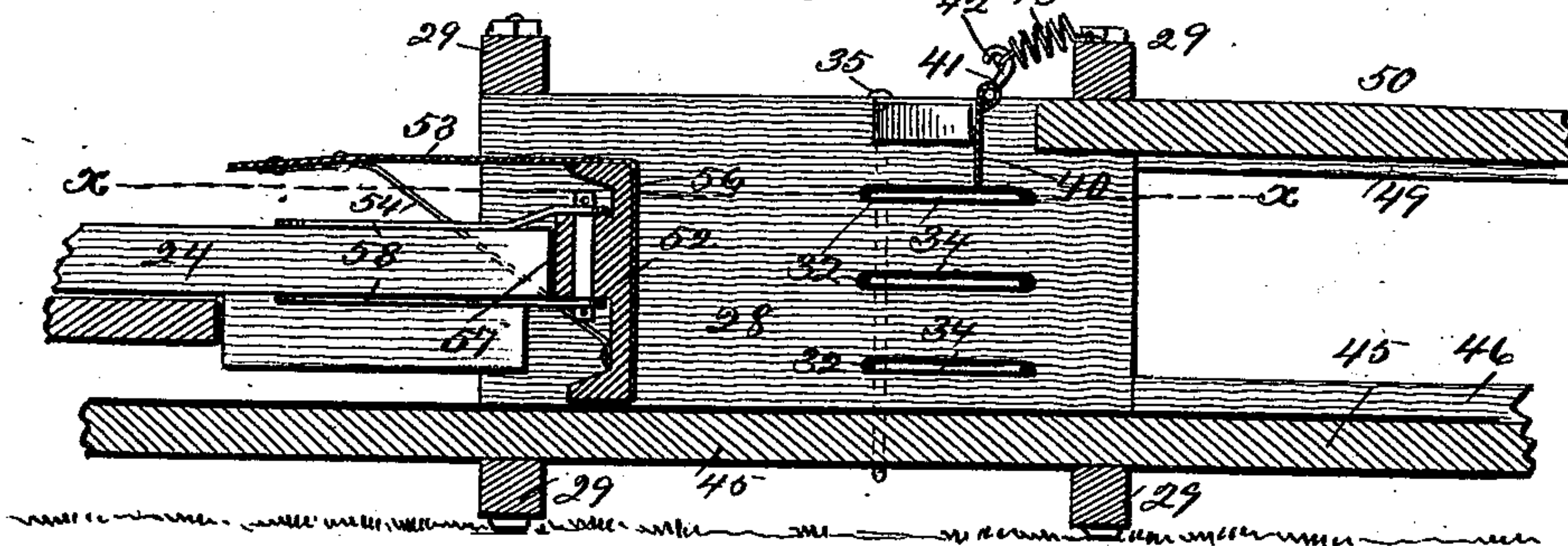
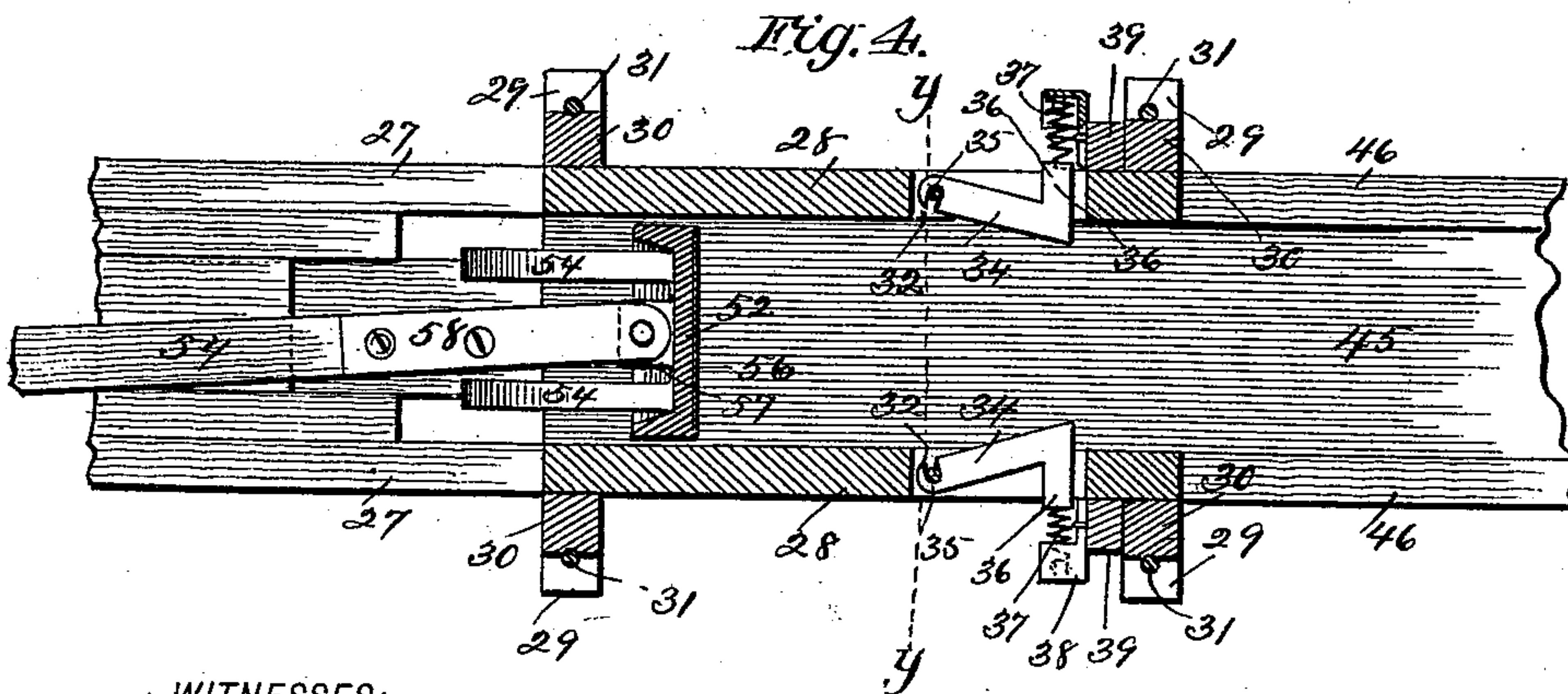


Fig. 4.



WITNESSES:

Harry D. Gohr.  
Herbert Bradley.

INVENTOR

John M. Sanders  
BY *L. Deane*

his ATTORNEY.



(No Model.)

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Fig. 5.

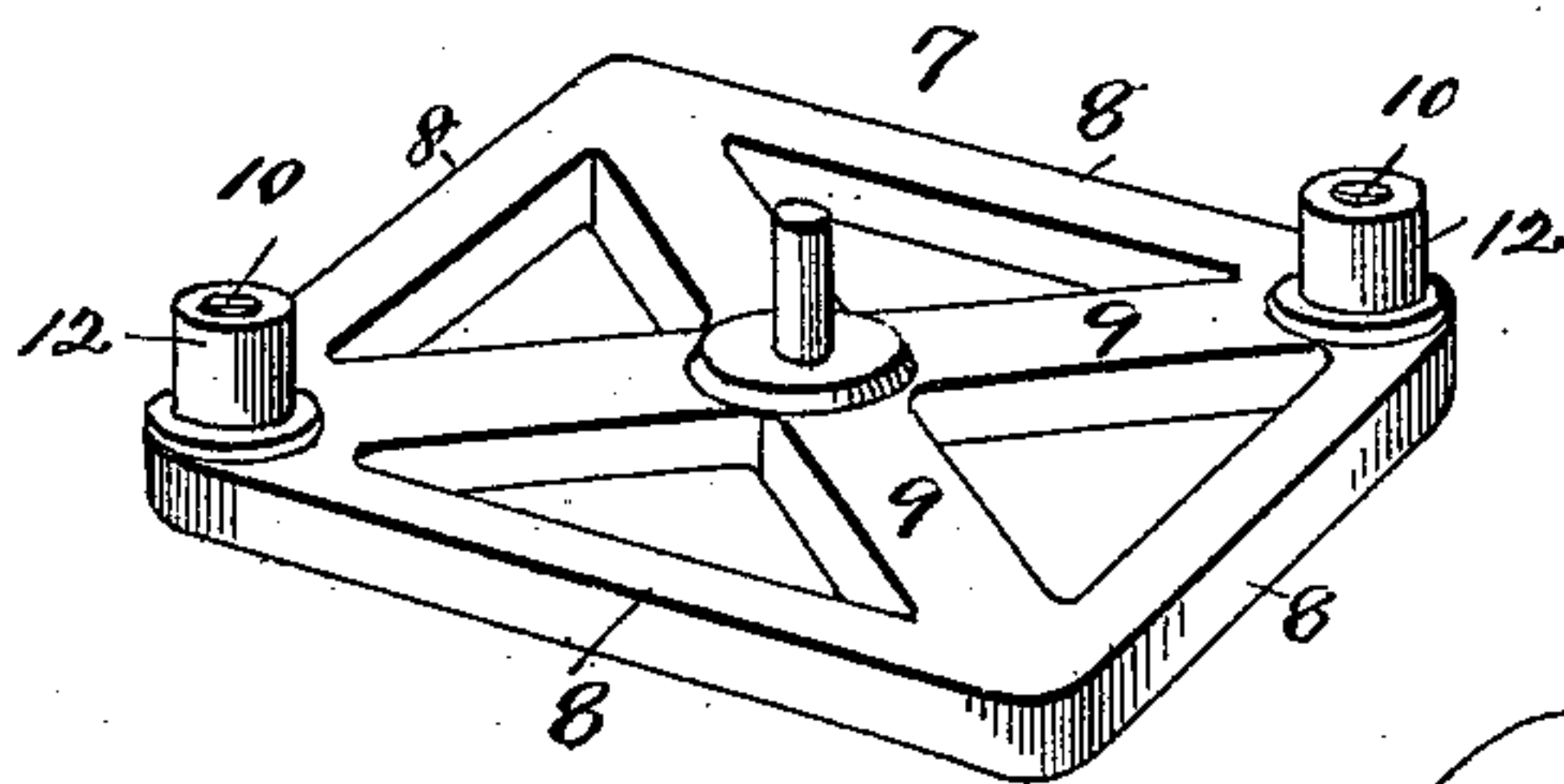


Fig. 6.

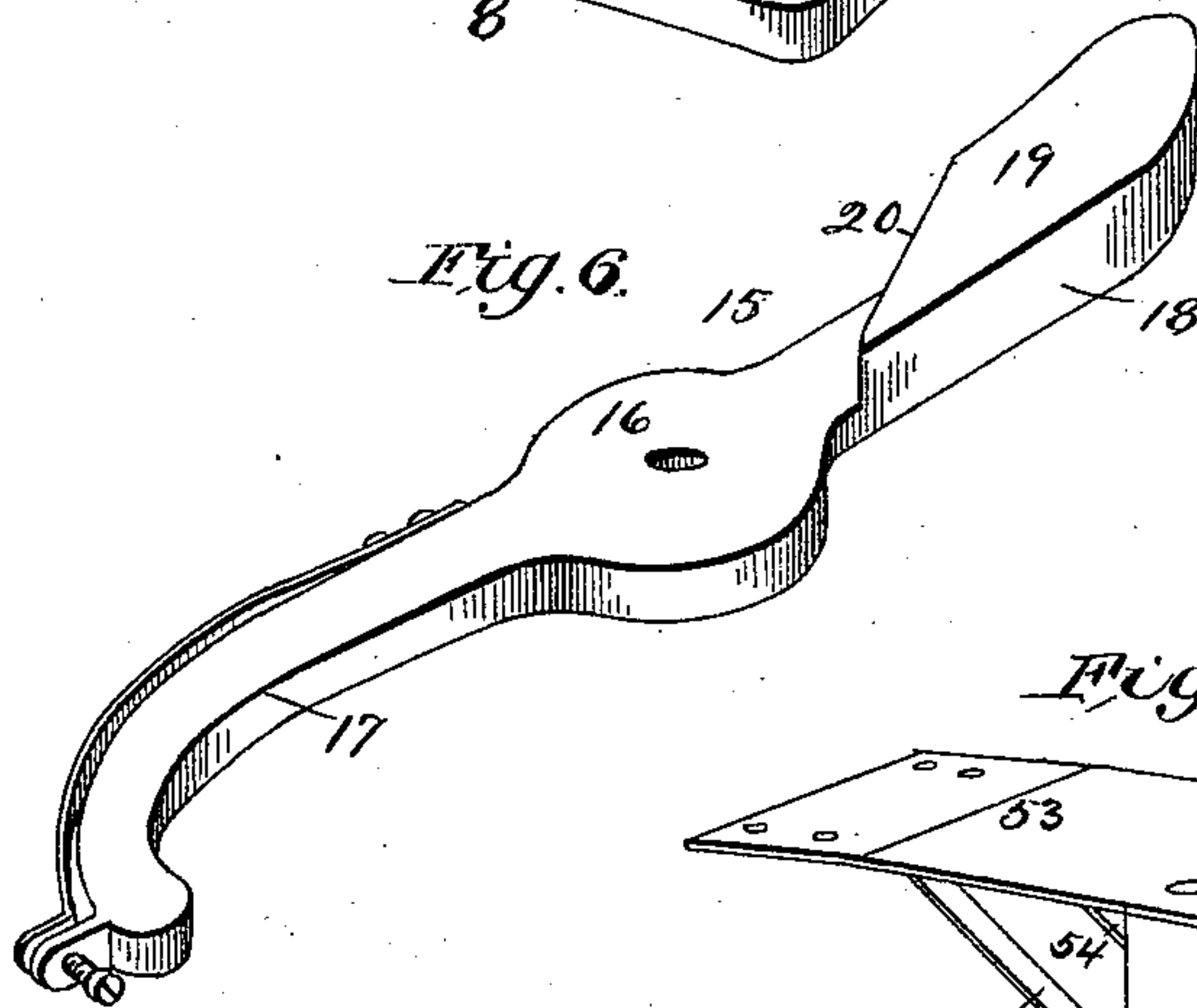


Fig. 8.

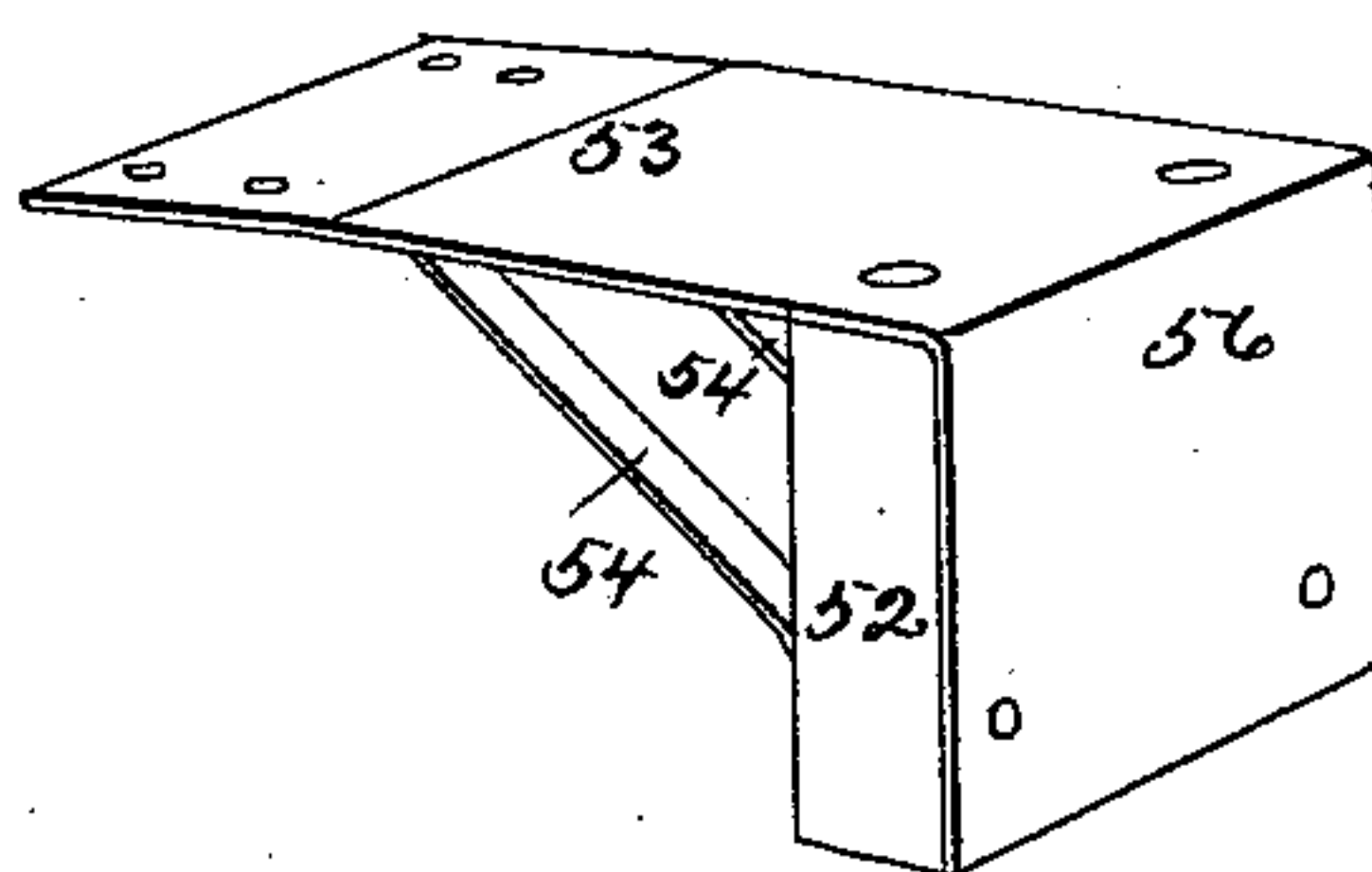
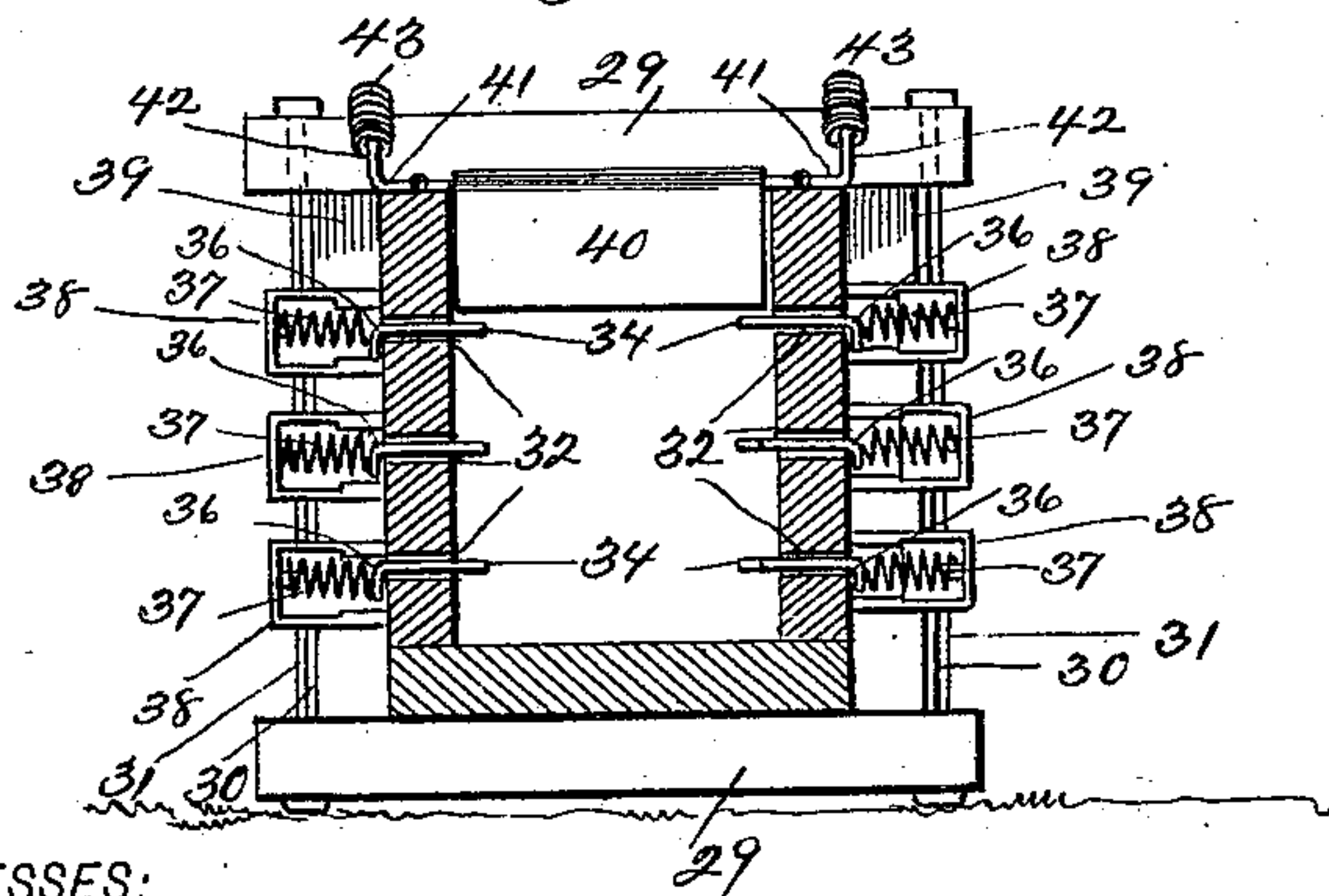


Fig. 7.



WITNESSES:

*Harry D. Rohrer*  
*Herbert Bradley.*

INVENTOR

*John M. Sanders.*  
BY *X. D. Davis,*

his ATTORNEY.

# UNITED STATES PATENT OFFICE.

JOHN M. SANDERS, OF DALTON, GEORGIA.

## BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 542,314, dated July 9, 1895.

Application filed July 24, 1894. Serial No. 518,422. (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; and I do hereby 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 that class of baling-presses known as "rebounding-plunger presses," in which the plunger is fed forward to compress the material in the press-box by a positive movement and withdrawn or returned to normal position by means of a spring; and the object of the invention is to provide an improved press of this description which shall possess superior advantages with respect to efficiency in operation.

The invention consists in the novel construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a baling-press constructed in accordance with my invention. Fig. 2 is a detail plan view of one end of the machine, the rotating casting and sweep being removed. Fig. 3 is a vertical longitudinal section of the press-box. Fig. 4 is a horizontal section on the line  $xx$  of Fig. 3. Fig. 5 is a detail perspective view of the rotatable casting to which the sweep is secured. Fig. 6 is a similar view of the trip-lever. Fig. 7 is a cross-section of the press-box on the line  $yy$ , Fig. 4. Fig. 8 is a detail perspective of the plunger-head.

In the said drawings, the reference-numeral 1 designates two parallel horizontal beams supported at one end by cross-beams 2. Upon these horizontal beams, near the outer ends thereof, is a metal casting 3, having upon its upper side a boss 4, upon which rests a plate 5, supported at one end by a short upright 6.

Journalled in the plate 5 is a rotatable casting 7, comprising the inclined arms 8 and radial arms 9. In each end of this casting is a pin 10, on which is journalled an anti-friction-roller 12, for a purpose hereinafter explained. Secured to the upper side of this

casting are two bars 13, which constitute a sweep, by which the casting is rotated.

Journalled on a pin 14, secured to the casting 3 and plate 5, at the inner ends thereof, is a trip-lever 15, comprising the hub 16, the curved arm 17, and the arm 18, rounded at its outer end and formed with an extension 19, the inner end of which is beveled, forming an inclined shoulder 20. The curved arm 17 of this lever engages between two rollers 21, journalled in plates 23, secured to the outer end of the plunger 24. The opposite end of the lever, when the plunger is reciprocated, as hereinafter described, strikes against an elastic buffer 25, secured to a short standard 26, which in turn is secured to one of the horizontal beams 1.

Secured to the inner ends of beams 1 are two horizontal beams 27, having superimposed thereon at the opposite ends horizontal boards or beams 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 means of vertical stay-rods 31. At the rear end of the press-box, at each side, is formed with a number of 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 coiled springs 37, the outer ends of which are located in boxes 38, secured to vertical posts 39. The tendency of these springs is to press detents inwardly.

Pivoted to the upper side of the press-box, near the rear end thereof, is a transverse plate 40, the journals 41 of which are bent at a right angle, forming cranks 42, which are connected with coiled springs 43, the other ends of which are connected with the rear top cross-bar of the press-box. The tendency of these springs is to pull the plate 40 down into a vertical position.

The numeral 45 designates the bottom of the press-box, which is extended outwardly and has secured to it side beams 46 and cross-bars 47, which, in connection with similar cross-bars 48, side bars 49, and a top 50, forms



a feed-space which receives the bales as they come from the press-box. The cross-bars at the outer ends of this are connected together by screw-rods 51.

5 The numeral 52 designates the plunger-head consisting of a rectangular block of metal or other material, provided at its upper end with a rearwardly-extending plate 53, supported by spring arms 54, secured to said  
10 head. The front end of this plate projects slightly beyond this head 52, forming a flange 56, adapted to strike against the swinging plate 41 on the forward stroke of the plunger. On its outer side the plunger is formed with a  
15 lug 57, to which is pivoted plates 58, secured to the inner end of the plunger-rod, forming a knuckle-joint. Secured to the plunger-rod, intermediate its ends, is a coiled spring 59, the other end of which is secured to one of the  
20 horizontal beams 1.

The numeral 60 designates a guide-arm pivoted to the ends of the plates secured to the outer end of the plunger-rod and to a pin 61, secured to the plate 5 and casting 3, and  
25 serves to guide the said rod in its movement.

The operation is as follows: The plunger is retracted and the press-box filled with the material to be compressed or baled, the detents 34 being pressed inwardly by their  
30 springs so as to engage with and hold the material in the press-box. The plate 40 is also forced into a vertical position by its springs pressing and holding down any loose material upon the body thereof. The casting 7 is  
35 now rotated by means of the sweep, when one of the rollers on the ends thereof will strike the arm 18 of the trip-lever, turning it upon its pivot, and through the medium of its curved arm forcing the plunger-rod and  
40 plunger forward, compressing the material in the press-box, which is held therein by means of the detents. When the pressure of the plunger overcomes the tension of the springs of the detents, the latter will be forced out-  
45 wardly, releasing the pressed bale and allowing it to be forced into the feed-space, the flange 56 of the plate 53 also striking the plate 40 and raising up out of engagement with the bale. As the said roller of the casting passes  
50 out of engagement with the inclined shoulder of the trip-lever the latter is released, and the plunger and its rod will be retracted by the coiled spring 59, causing them to rebound suddenly. The rounded end of the arm 18 of  
55 the trip-lever will strike the elastic buffer 25, taking up the recoil and preventing jarring, which would be liable to injure the machine. As the next roller of the casting comes into

engagement with the trip-lever the operation will be repeated.

From the above it will be seen that I provide a very efficient baling-press, which will exert a powerful pressure with the expenditure of but comparatively little force, and in which the plunger is quickly and automati-  
65 cally retracted after compressing a bale, thereby effecting a great saving in time and labor. The apparatus is capable for use in compressing all materials for which the ordinary baling-presses are employed, and it is very strong,  
70 durable, and economical in construction.

Having thus fully described my invention, what I claim is—

1. In a baling press, the combination with the base beams, the casting secured thereto  
75 near one end, having a central boss, the plate supported on said boss and the rotatable casting having downwardly depending studs on which are journaled anti-friction rollers at  
80 each end, of the trip lever having an extension with which said rollers are adapted to engage and formed with a curved arm, the plunger rod having a coiled spring, the plates  
85 secured to the outer end of said rod, the anti-friction roller located between said plates and journaled thereto, forming a guide way within which said curved arm plays, and the  
90 guide rod pivotally connected with the plunger rod and with the casting of the base beams, substantially as described.

2. In a baling press, the combination with the base beams, the casting secured thereto  
95 near one end, having a central boss and the rotatable casting having downwardly depending studs on which are journaled anti-friction rollers, of the trip-lever, pivoted centrally to the stationary casting, having one end curved  
100 and the other end formed with an extension with which said rollers are adapted to engage, the plunger rod having a coiled spring, the plates secured to said rod, the anti-friction  
105 rollers located between said plates and journaled thereto, forming a guide way within which the curved end of the trip lever plays, the guide rod pivotally connected with the  
110 plunger rod and casting of the base beams, the upright secured to said base beams and the elastic buffer secured to said upright against which the free end of the trip lever is adapted to impinge, substantially as described.

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

JOHN M. SANDERS.

Witnesses:

W. S. SANDERS,  
C. N. TREMPER.