

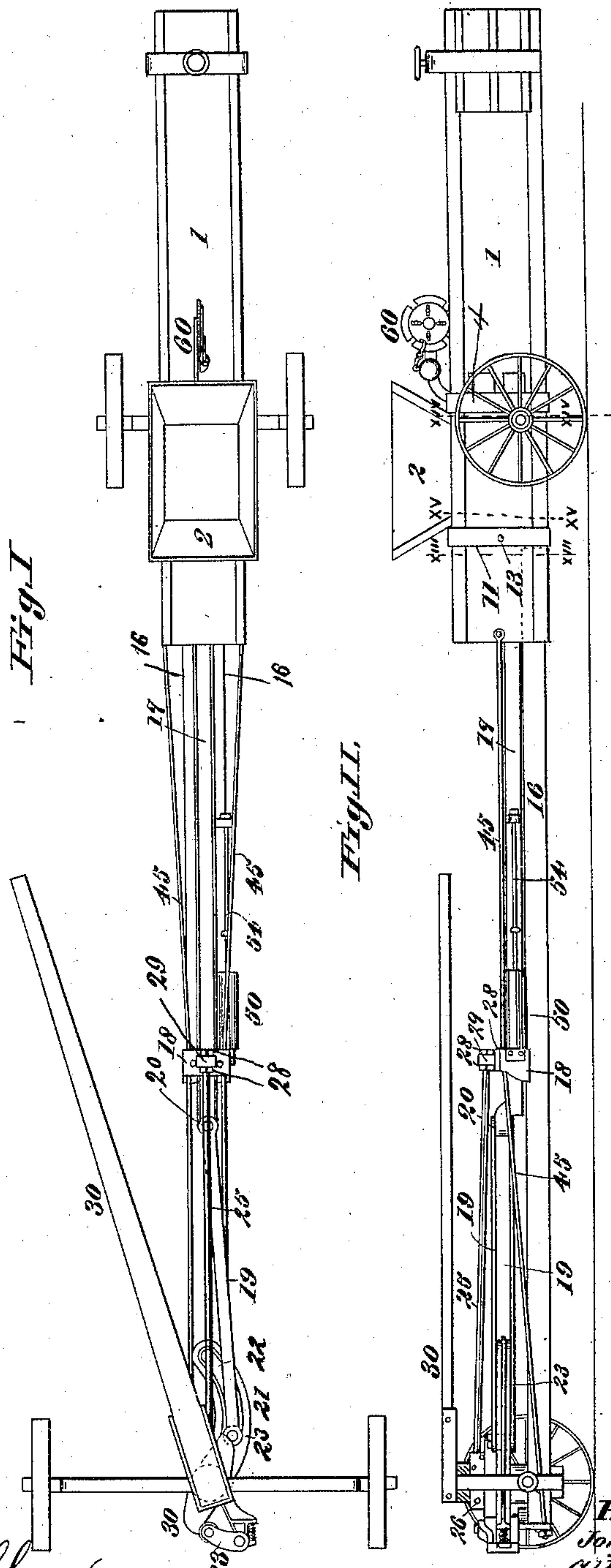
(No Model.)

3 Sheets—Sheet 1.

J. W. BROWN & A. A. GEHRT.  
BALING PRESS.

No. 468,638.

Patented Feb. 9, 1892.



Attest,

Walter E. Allen.  
Mc. E. Curand

Inventors:

John W. Brown  
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By Wright Bros

attys

(No Model.)

3 Sheets—Sheet 2.

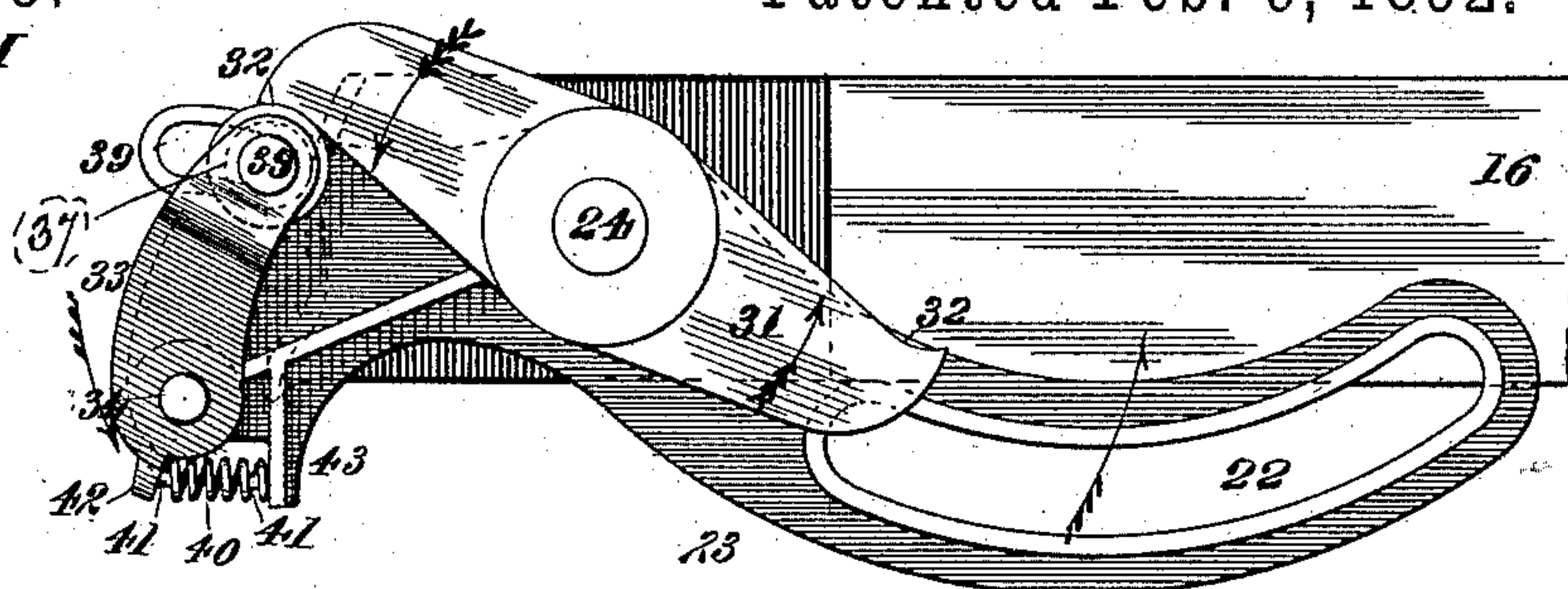
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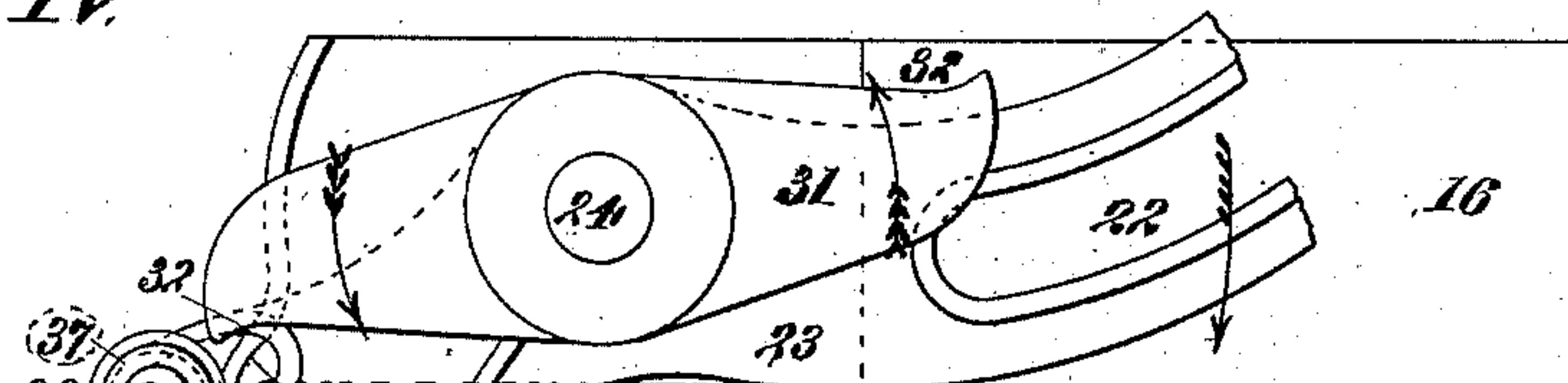
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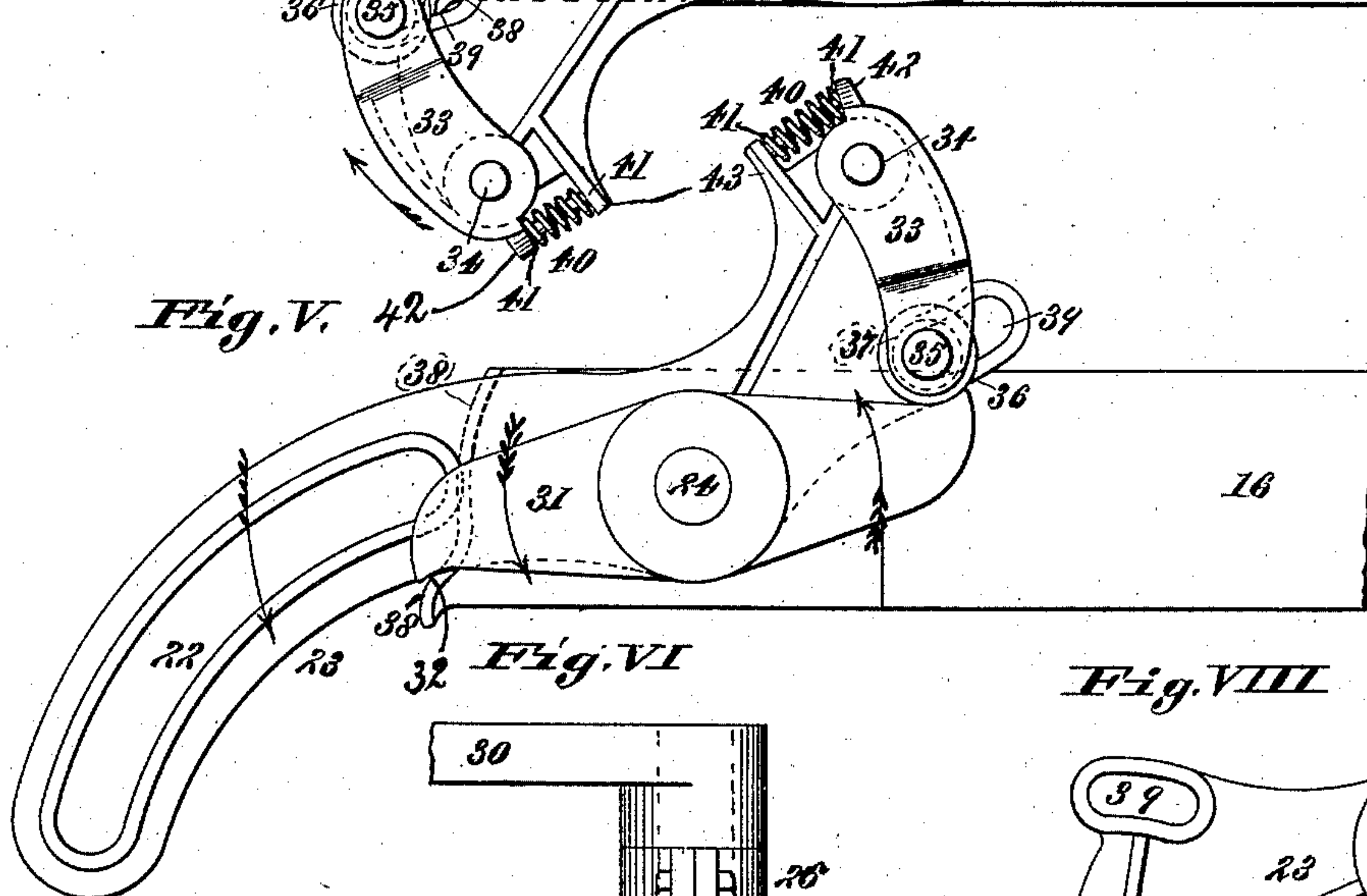
*Fig. III*



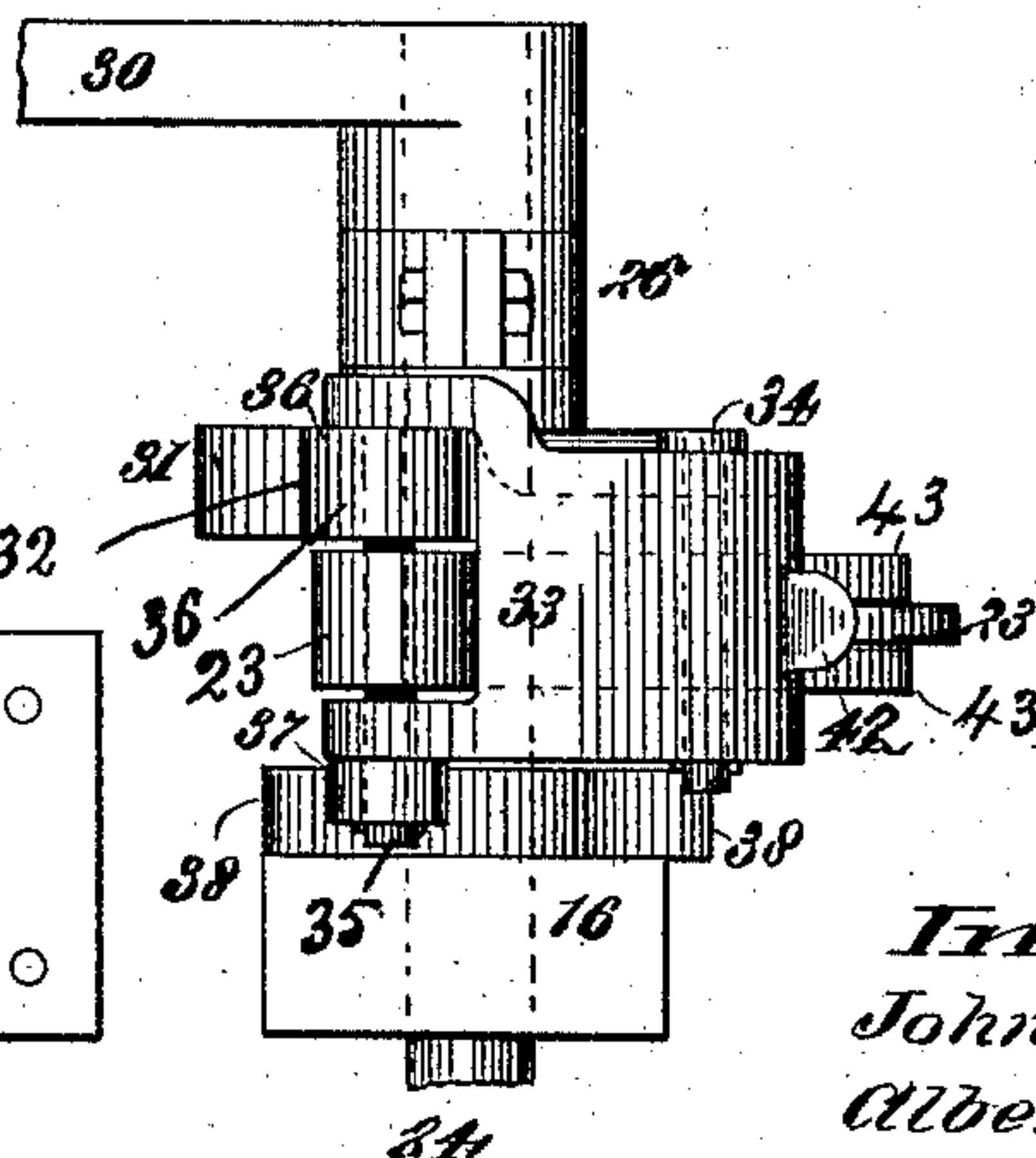
*Fig. IV*



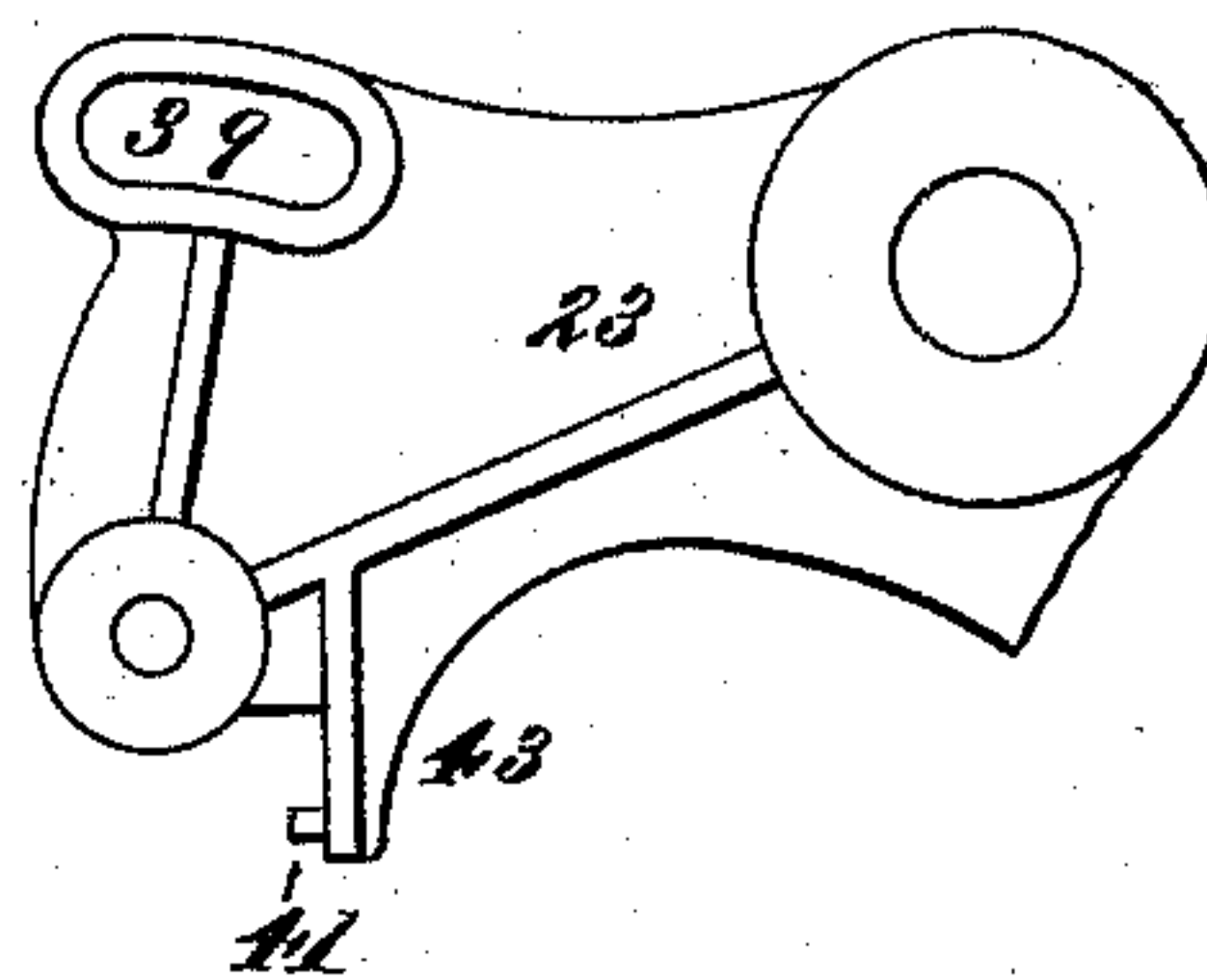
*Fig. V*



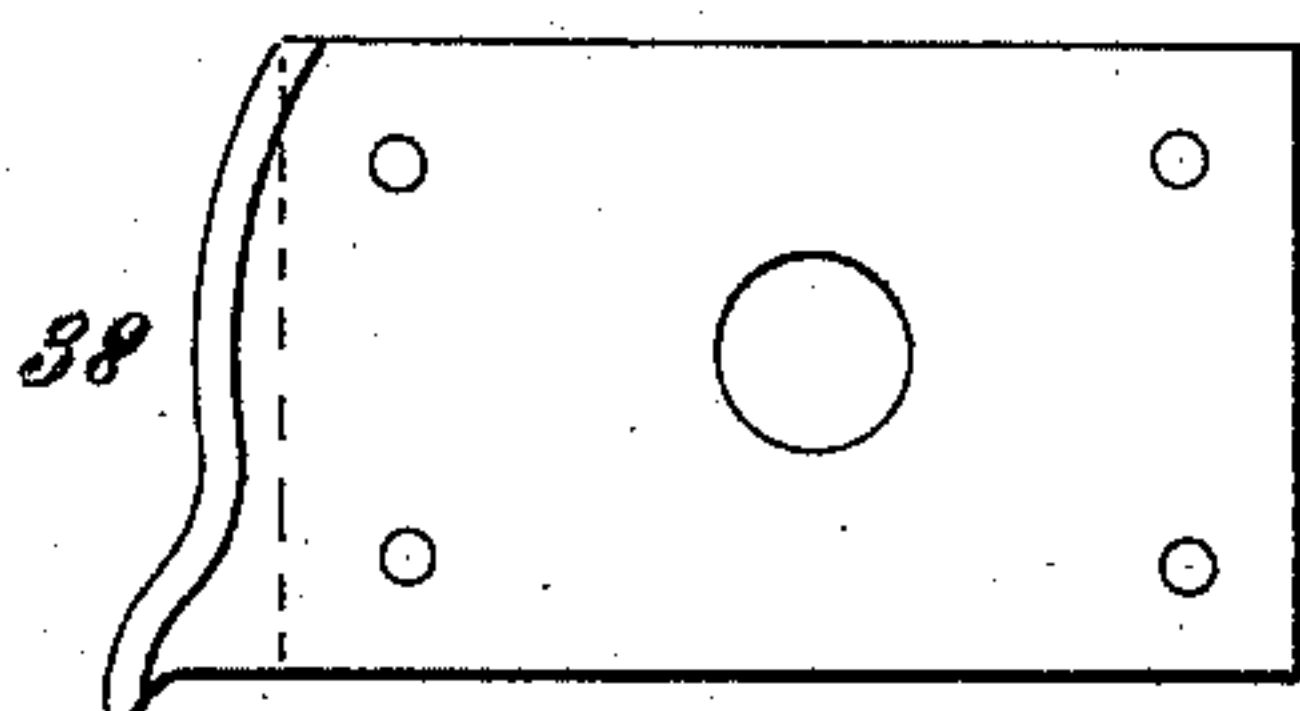
*Fig. VI*



*Fig. VIII*



*Fig. VII*



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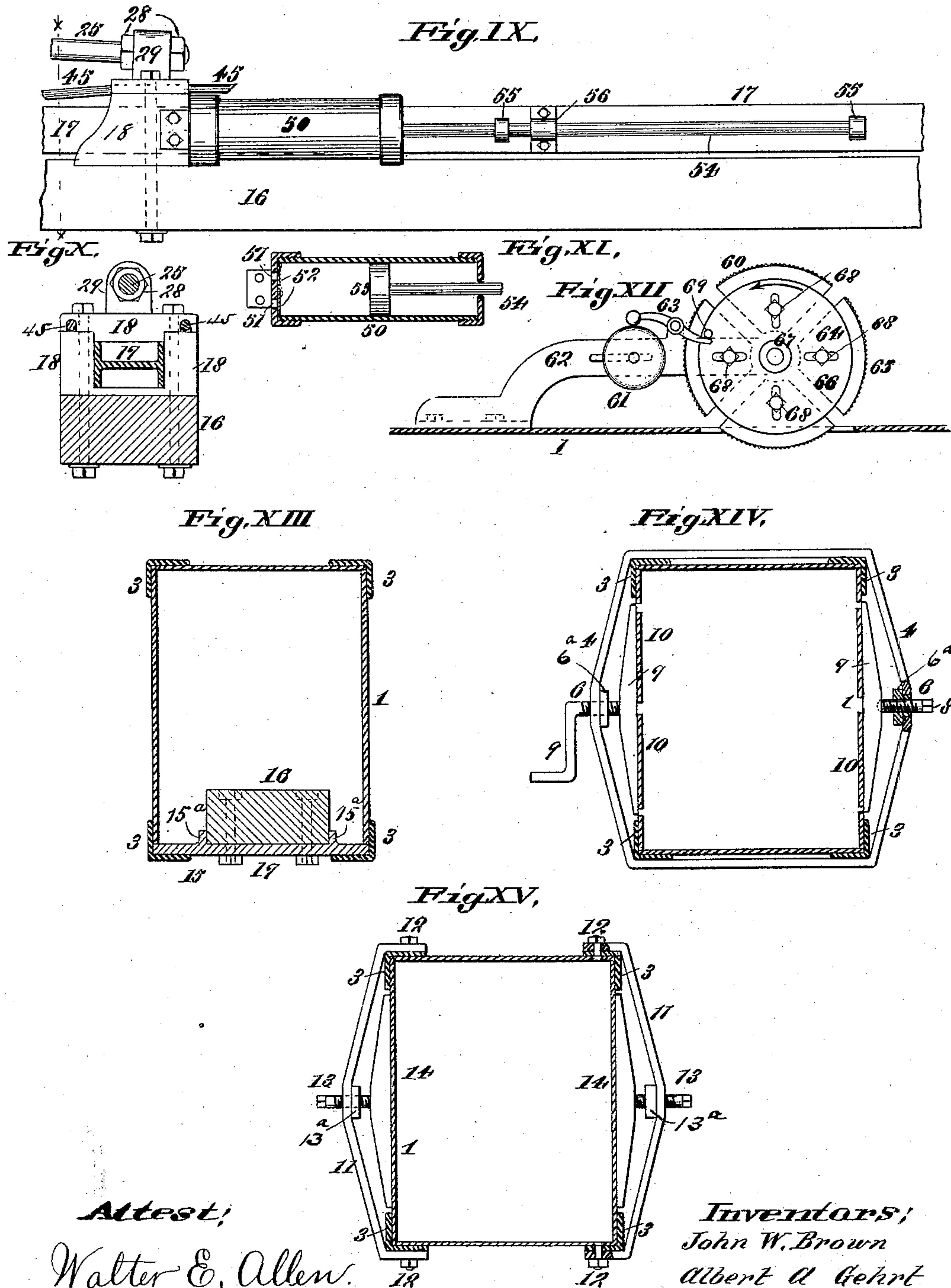
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# UNITED STATES PATENT OFFICE.

JOHN W. BROWN AND ALBERT A. GEHRT, OF QUINCY, ILLINOIS, ASSIGNORS  
TO THE COLLINS PLOW COMPANY, OF SAME PLACE.

## BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 468,638, dated February 9, 1892.

Application filed July 28, 1891. Serial No. 400,923. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN W. BROWN and ALBERT A. GEHRT, both of Quincy, in the county of Adams and State of Illinois, have  
5 invented a certain new and useful Improvement in Baling-Presses, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

10 Our invention relates to certain improvements in baling-presses; and it consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a top or plan view of our improved press. Fig. II is a side elevation of the same. Fig. III is an enlarged detail top view of the power end of the press, the sweep being omitted. Fig. IV is a similar view showing the power-arm in a different position.  
20 Fig. V is a similar view showing the power-arm in a still different position. Fig. VI is a detail end view. Fig. VII is a view of the cam for tripping the dog which forms a connection between the cross-head and power-arm. Fig. VIII is a top view of one end of the power-arm with the dog removed. Fig. IX is a detail side elevation of the part of the press intermediate between the baling-chamber and the power. Fig. X is a vertical section taken on line X X, Fig. IX. Fig. XI is a vertical longitudinal section through the cylinder. Fig. XII is a side elevation of the alarm or signal. Fig. XIII is an enlarged vertical section taken on line XII XII, Fig. II, looking toward the power end of the press.  
35 Fig. XIV is a similar view taken on line XIV XIV, Fig. II, looking toward the delivery end of the press. Fig. XV is a similar view taken on line XV XV, Fig. II, looking toward the  
40 power end of the press.

Referring to the drawings, 1 represents the baling-chamber, having a feed-hopper 2. The baling-chamber is preferably made of steel plates with angle corner-strips 3, as shown  
45 clearly in Figs. XIII and XIV.

4 represents a tension band or hoop embracing the chamber close to the hopper (see Figs. II and XIV) for the purpose of keeping the size of the chamber under control to  
50 regulate the density of the bales, and consequently their weight, relatively to their size.

6 represents tension-screws passing through the band and through nuts 6<sup>a</sup> and jamming against the sides of the press or against blocks 7, placed between their inner ends and the sides of the press. These screws may be  
55 provided with non-circular ends 8 to receive a wrench, or they may be provided with a crank 9, by which they can be turned to adjust the sides as required. One or both sides  
60 10 of the chamber is or are preferably slotted, as shown in Fig. XIV, to permit of its inward movement under the action of the tension-screws to regulate the size of the chamber and density of the bales.

11 represents two parts, hoops, or bands embracing the chamber in front of the hopper (see Figs. II and XV) for the purpose of adjusting the sides of the baling-chamber to receive the rebound of the plunger or traverser. This band may be made in one part, as shown  
70 in Fig. XIV; but we prefer to make it in two parts, as shown in Fig. XV, and rivet or bolt the parts to the top and bottom of the press, as shown at 12, Fig. XV.

13 represents tension-screws passing through the band and nuts 13<sup>a</sup> and jamming against the sides of the press or against blocks 14, placed between the inner ends of the screws and the sides of the press. It will  
80 thus be seen that by tightening on the tension-screws 13 the sides of the press may be adjusted inwardly, and thus more or less friction applied to the traverser to arrest its backward movement.

At the bottom of the rear end of the baling-chamber is a casting 15, having flanges 15<sup>a</sup>. (See Fig. XIII.) To this casting between the flanges is bolted the inner end of a sill 16, which connects the baling-chamber to the  
90 power end of the press. By the use of this casting a substantial means of attaching the sill to the baling-chamber is afforded.

17 is the pitman of the press, which is connected to the plunger or traverser (not shown) at its inner end and which is preferably  
95 made of a double channel-iron, as shown in Fig. X. The pitman fits in a casting or block 18, bolted to the sill 16, as shown in Figs. IX and X. The pitman fits snugly in the box, but is of course free to move endwise. The  
100 outer end of the pitman is composed of two



plates or bars 19, (see Figs. I and II,) joined to the main part of the pitman at 20, and having at their outer ends a roller 21, fitting in a groove 22, formed in one end of a power-arm 23, pivoted to the outer end of the sill 16 by a shaft 24, the upper end of which is supported by a truss-rod 25, the outer end of which is connected to the shaft by a suitable box 26, and the inner end of which is made fast to the casting-box 18 by means of nuts 28, which may be adjusted to lengthen or shorten the rod, the box 18 having a top lug 29, through which the rod 25 passes, as shown in Figs. II and X.

30 represents the sweep of the press, which is secured to the upper side of a cross-head mounted on the shaft 24.

31 represents the cross-head, which is turned by the sweep. The ends of the cross-head are preferably slightly curved, as shown at 32, Figs. III and IV.

33 represents a dog pivoted at 34 to one end of the arm 23 on the other side of the shaft 24 from the slot 22.

35 represents a pin passing through the free end of the dog 33, and having an upper roller 36, against which the curved ends of the cross-head 31 impinges, and a lower smaller roller 37, (see dotted lines, Fig. IV,) which bears against a cam 38, secured to the outer end of the sill 16. The pin 35 fits in a slot 39 in the arm 23, and the pin is held to the inner end of the slot (except when forced outward by the cam 38) by means of a spring 40, fitting between clips or projections 41, located, respectively, on a lug 42, formed upon the dog 33, and upon a lug 43, formed upon the arm 23.

The operation of this part of the press is as follows: As the cross-head is turned by the sweep one of its ends comes against the roller 36 on the dog 33 and moves the arm 23 in the direction of the arrow, Fig. III, thus forcing the pitman and plunger forward to compress the material in the baling-chamber. As the pitman reaches the limit of its forward movement the roller 37 on the dog 33 comes against the cam 38 and swings the dog 33 outwardly on its pivot, causing the roller 36 to be disengaged from the cross-head, when the parts will rebound, the arm 23 moving in the direction of the arrows, Fig. IV. The spring 40 will then force the free end of the dog inwardly until the pin 35 comes against the inner end of the slot 39, so that as the cross-head continues to turn its other end will come in contact with the roller 36 and force the arm 23 to move again in the direction of the arrows, Fig. III, thus forcing the plunger back again into the press, and thus the operation continues, each revolution of the cross-head producing two forward movements of the pitman. In Fig. VIII the dog is removed.

45 represents a truss-rod passing from the inner end of the baling-chamber through the box 18 and downwardly to the outer end of the sill 16. We prefer to use two of these rods, as shown in Fig. X, one on each side of

the sill. The function of these rods, in connection with the rod 25, is to strengthen and support the connection between the power and the baling chamber and prevent the upward springing of the sill 16.

50 represents a cylinder secured to the sill 16 or to the box 18, or to both. The outer end of this cylinder has perforations 51, (see Fig. XI,) closed by valves 52, opening inwardly. Within the cylinder is a piston 53, from which projects the rod 54. On the rod, and located some distance apart, are projections or shoulders 55.

56 represents a box secured to the pitman 17, and through which the portion of the piston-rod 54 between the shoulders 55 fits and works. The function of these parts is to receive and check the backward movement of the plunger. The operation is this: As the plunger is forced forward the box 56 comes against the shoulder 55 on the outer end of the piston-rod 54 and moves the piston forward in the cylinder 50. As the piston moves forward in the cylinder the air enters through the valves 52. As the plunger returns on its backward movement and just before it reaches the limit of its backward movement the dog 56 comes against the inner shoulder 55 on the piston-rod 54 and the piston is moved in the cylinder against the confined air, (the valves 52 being closed by the pressure,) which acts as a cushion to check the backward movement of the plunger, and thus the rapid backward movement of the plunger is checked without danger of breakage of any part of the press and through means of a very cheap and effective arrangement.

60 represents a suitable device to indicate to the operator when the division-boards should be inserted. It consists of a gong 61, mounted on an arm 62, secured to the body of the baling-chamber.

63 is a pivoted hammer adapted to strike the gong, and 64 is a wheel, the periphery of which projects into the baling-chamber, so as to be engaged by the material which is being pressed and moved along the baling-chamber.

The novelty of this part of our invention relates to the manner of constructing the wheel, which consists in joining a number of adjustable segments 65 to a disk 66, mounted on a pivot 67. The segments are joined to the disks by a slot-and-bolt connection 68, so that they can be set in or out, and thus increase or decrease the diameter of the wheel, so as to cause it to turn more or less rapidly, and thus regulate the time between the rings or sounding of the gong.

69 represents a pin on the disk 66, which comes against the inner end of the hammer 63, and by tripping it causes it to strike the gong and produce the alarm.

We claim as our invention—

1. In a baling-press, the combination of a pitman, a traverser, a power-arm having slot-and-pin connection with the pitman, a dog pivoted to the arm, having upper and lower



rollers, a cam engaging the lower roller, and a cross-head mounted on the same shaft with the power-arm engaging the upper roller, substantially as and for the purposes set forth.

5 2. In a baling-press, the combination of the pitman, a power-arm having slot-and-pin connection with the pitman, a dog pivoted to the arm, a spring located between a projection on the arm and a projection on the dog, a  
10 pin-and-slot connection between the free end

of the dog and arm, an upper and lower roller carried by the dog, a fixed cam for engaging said lower roller, and a cross-head for engaging said upper roller, substantially as and for the purpose set forth.

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ALBERT A. GEHRT.

In presence of—

GEO. W. ELICK,

WM. N. BROWN.