

No. 667,706.

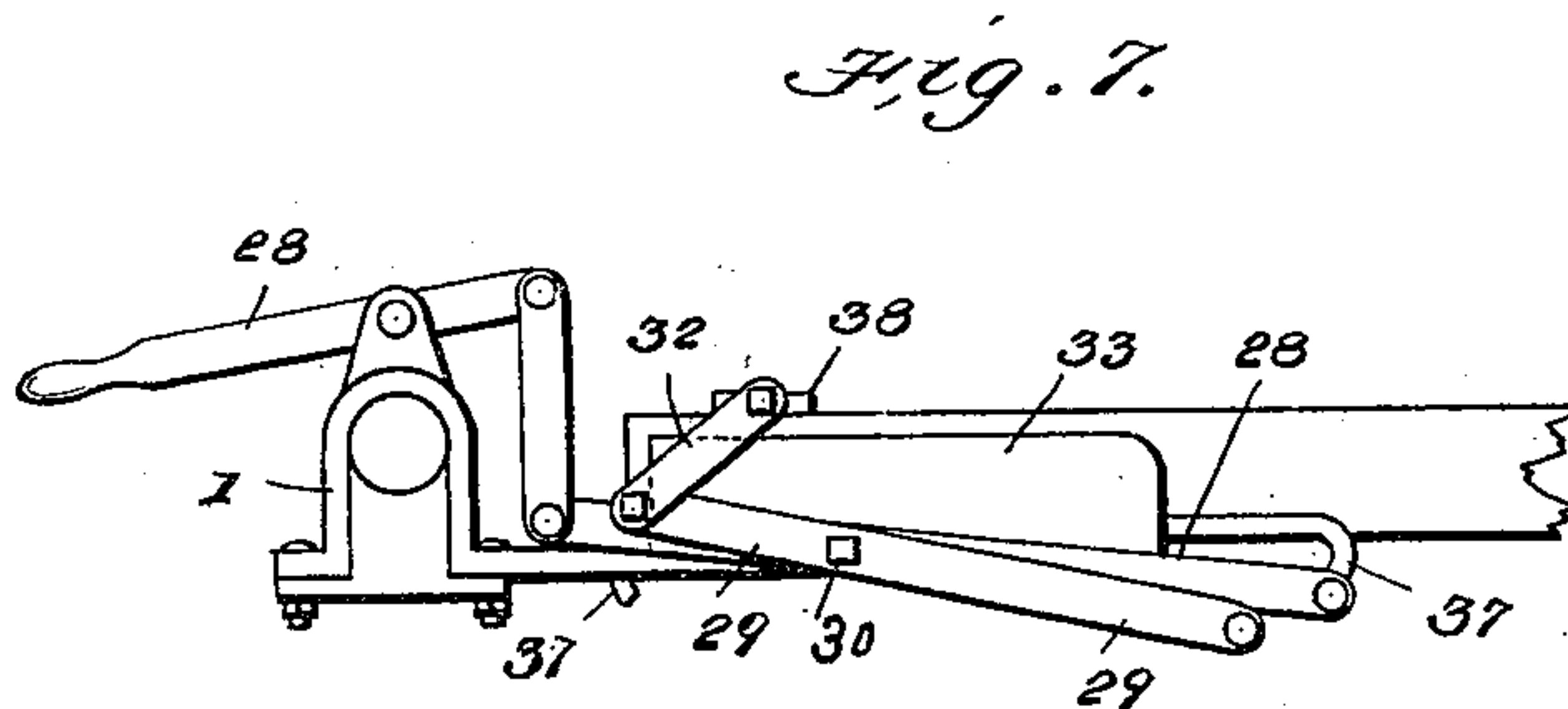
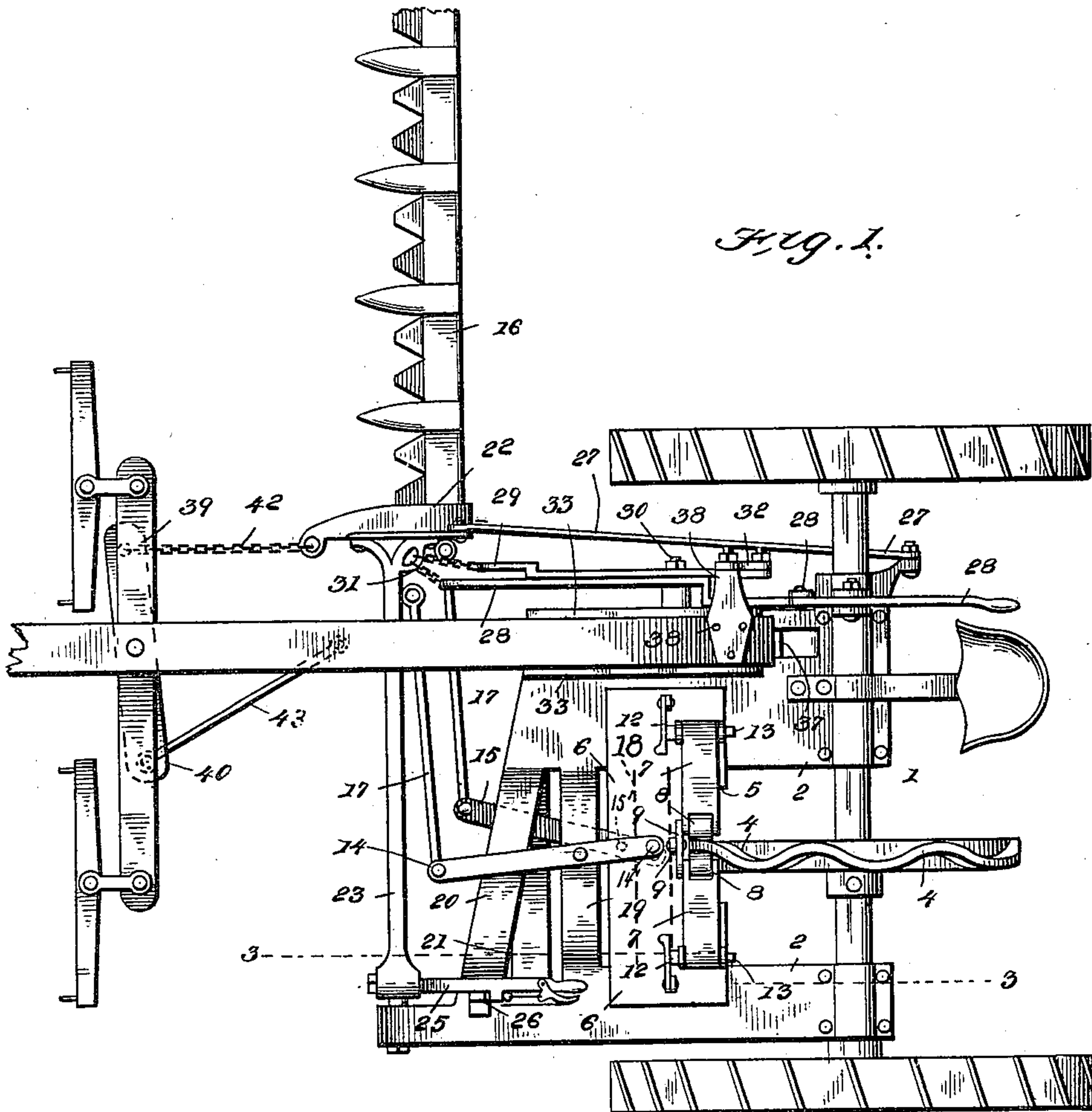
Patented Feb. 12, 1901.

M. JEWELL.
MOWING MACHINE.

(Application filed Mar. 17, 1900.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses
W. B. Rely,

Charles Brock

Inventor

M. Jewell,

by J. J. Jewell

Attorneys

No. 667,706.

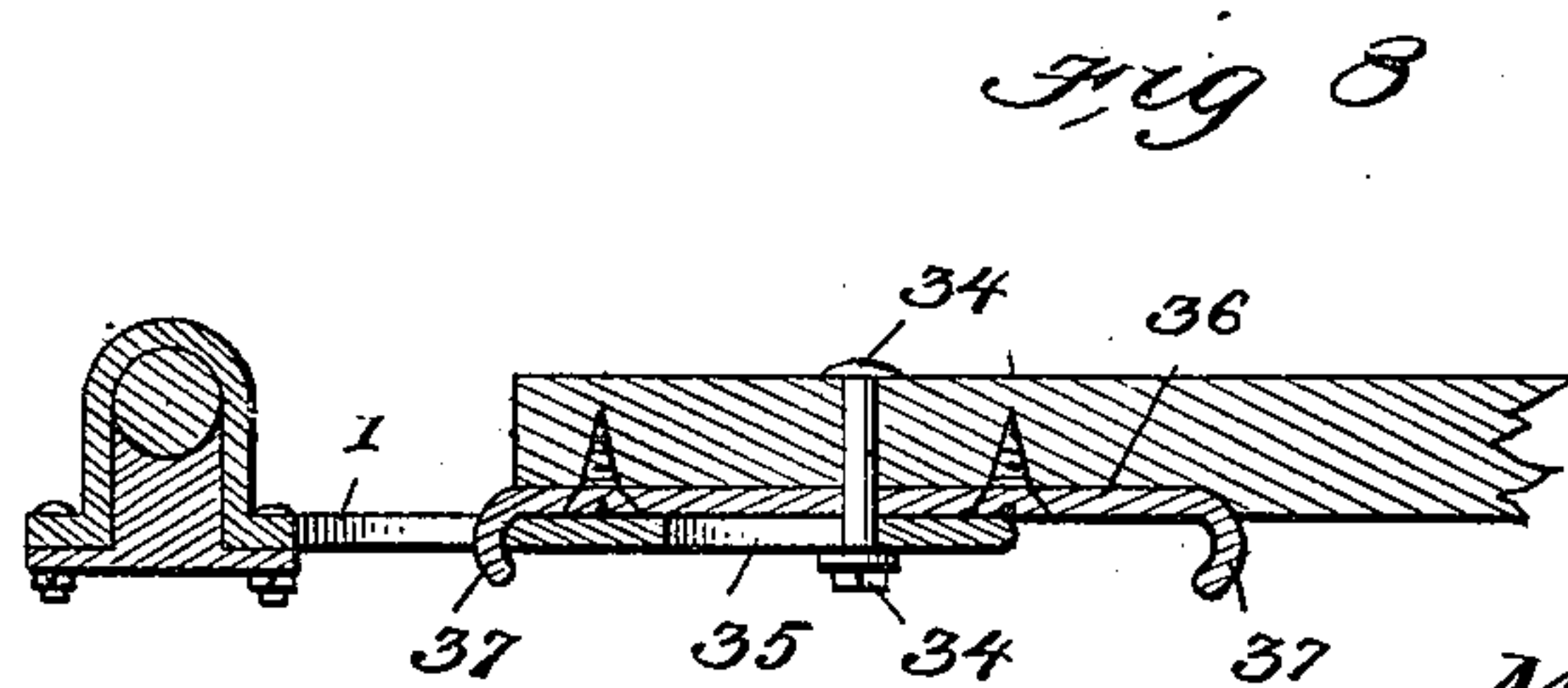
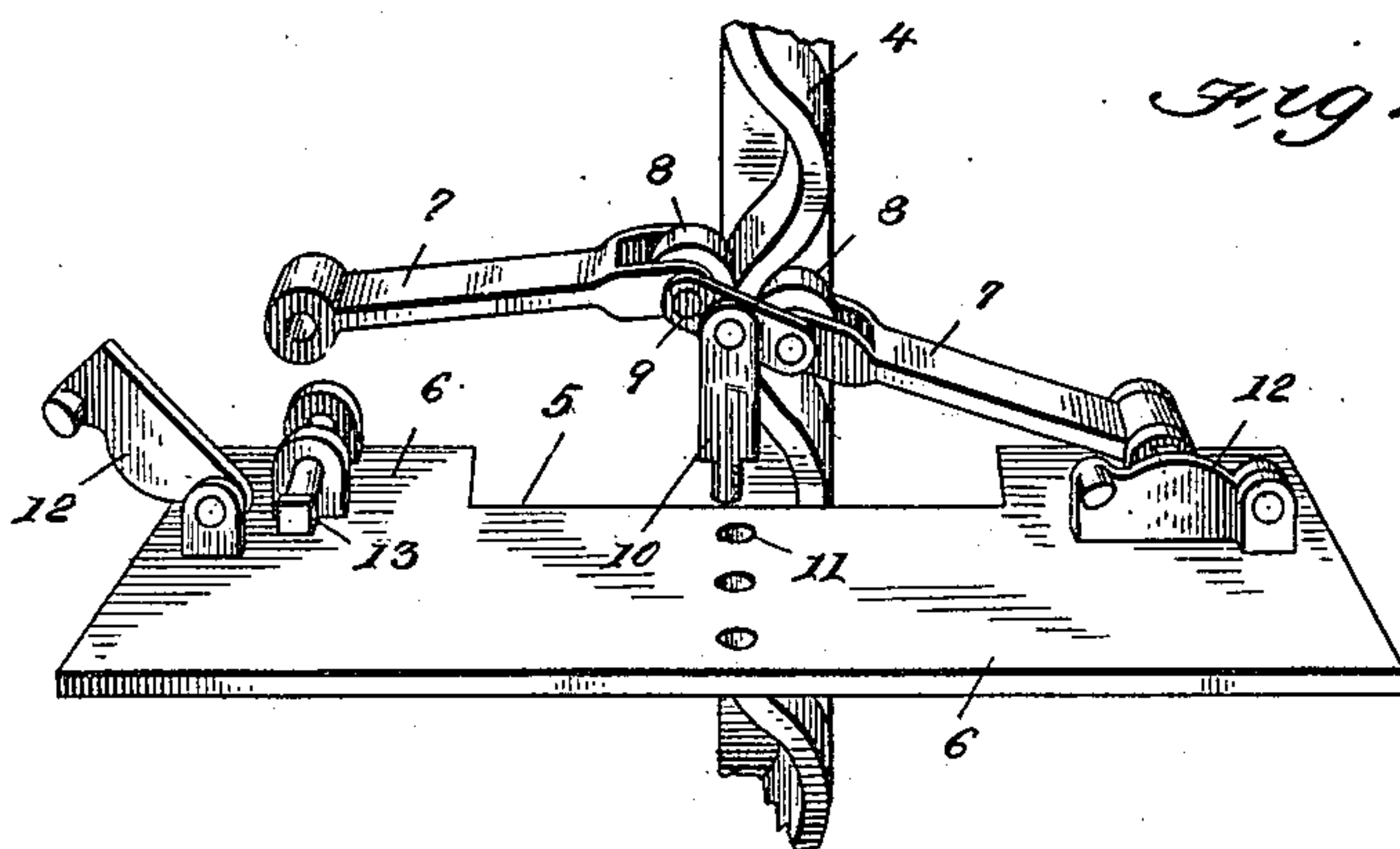
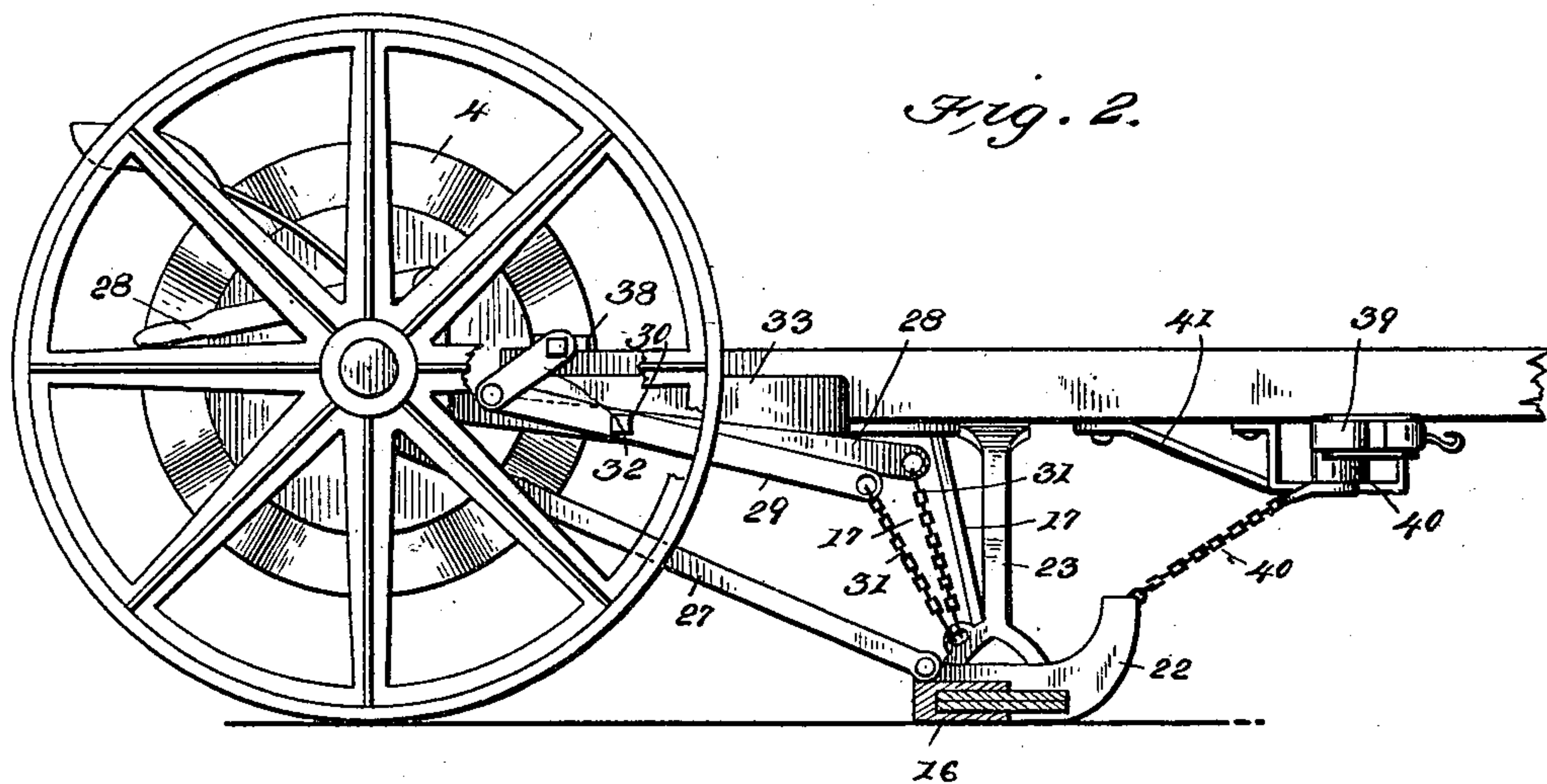
Patented Feb. 12, 1901.

M. JEWELL.
MOWING MACHINE.

(Application filed Mar. 17, 1900.)

(No Model.)

3 Sheets—Sheet 2.



Witnesses

W. S. Riley,

Chas. C. Brock

Inventor

M. Jewell,

by O. M. M. M.

Attorneys

No. 667,706.

Patented Feb. 12, 1901.

M. JEWELL.
MOWING MACHINE.

(Application filed Mar. 17, 1900.)

(No Model.)

3 Sheets—Sheet 3.

Fig. 3.

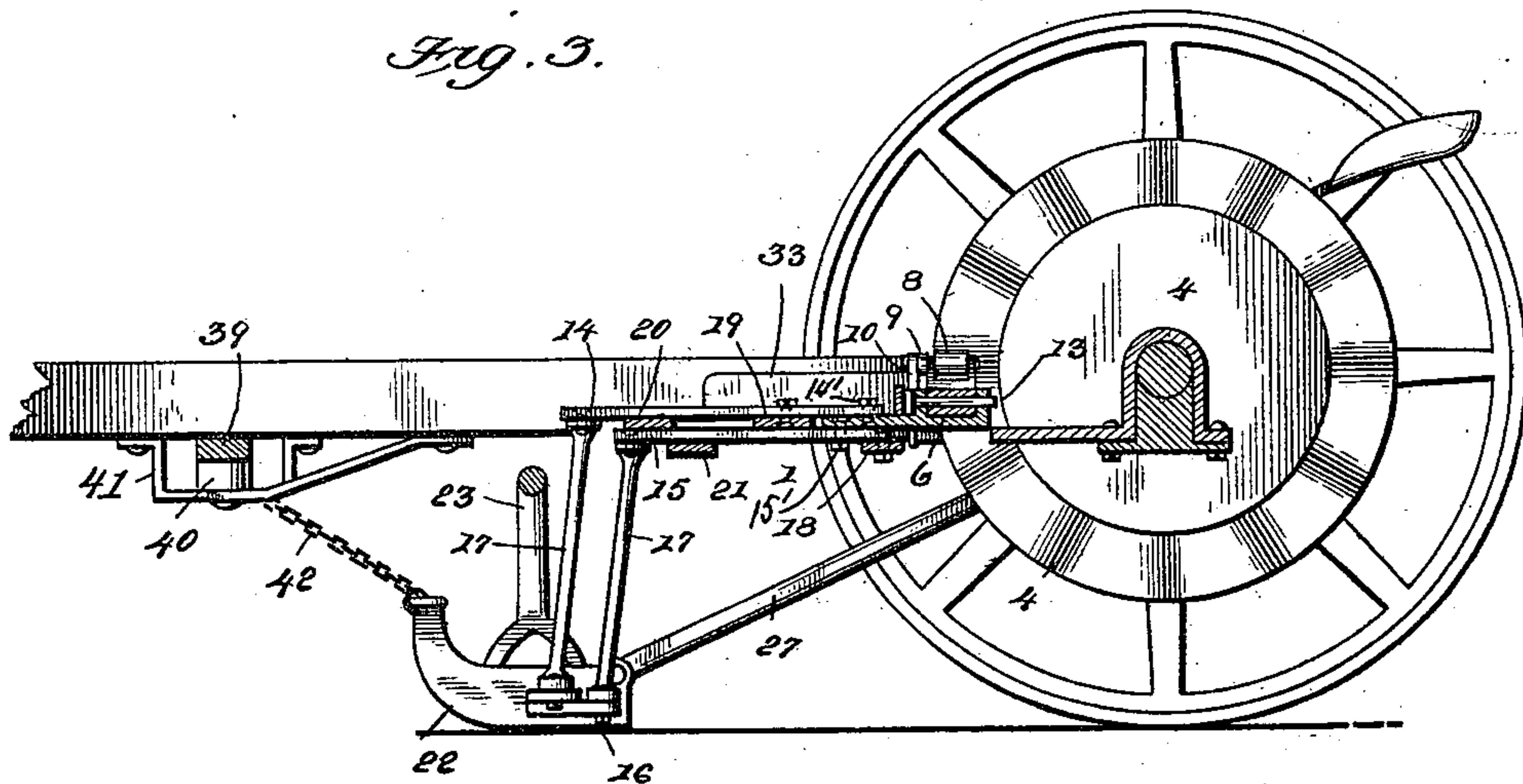


Fig. 4.

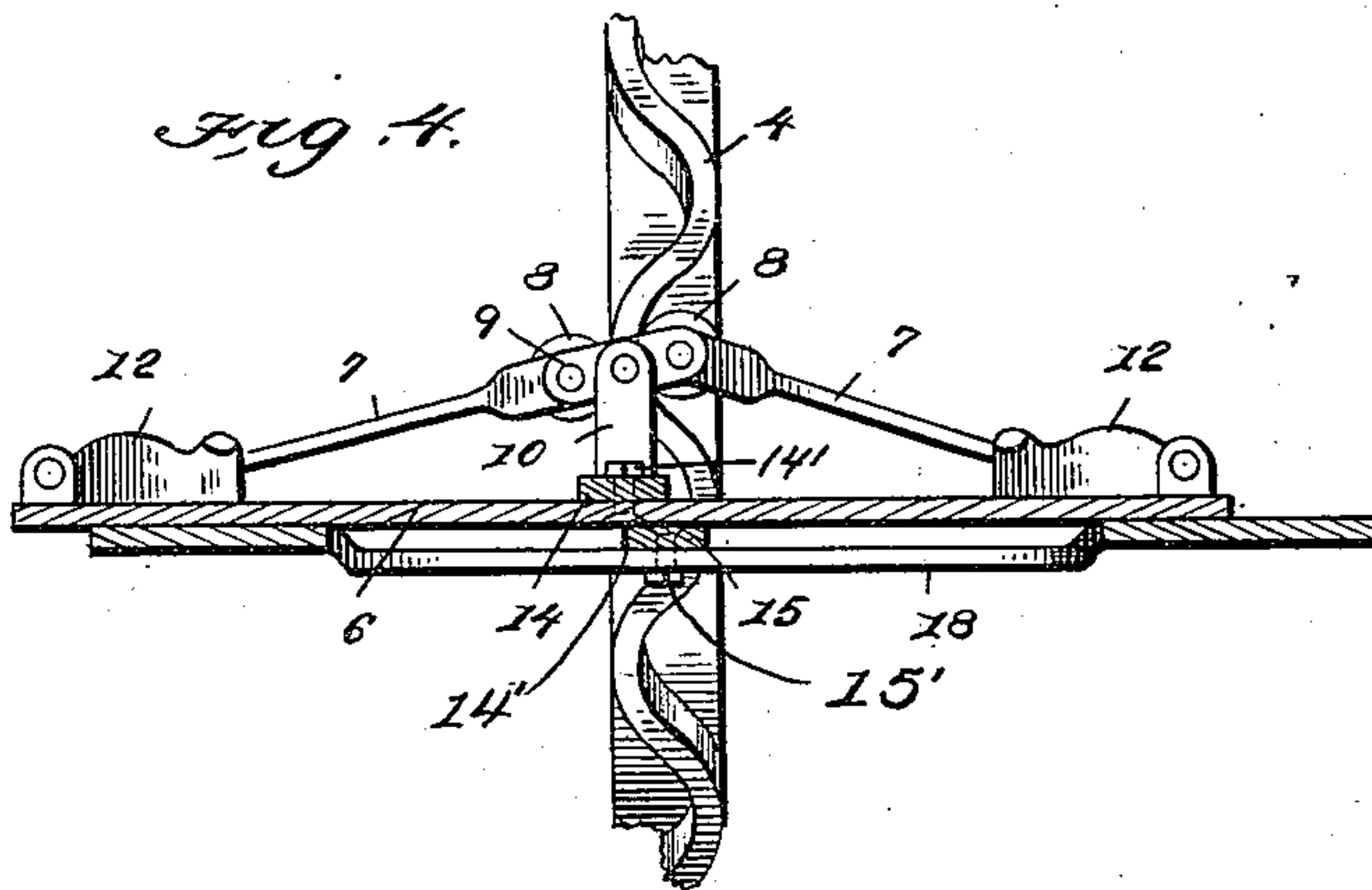
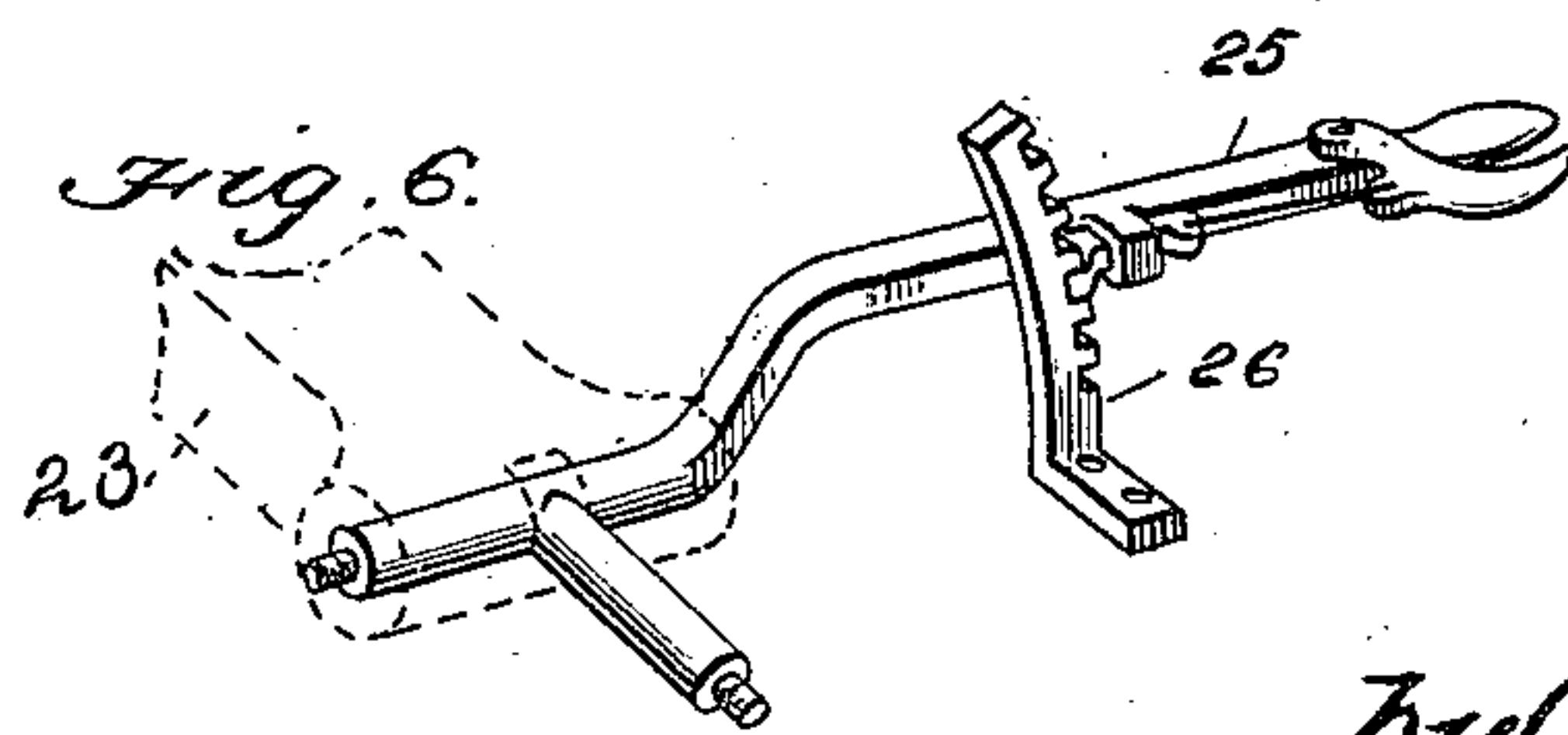


Fig. 6.



Witnesses
J. W. Riley.

Charles B. Brock

Inventor
M. Jewell,
by *Oliver H. K.*
Attorneys

UNITED STATES PATENT OFFICE.

MARTIN JEWELL, OF MORRISON'S CORNER, MAINE.

MOWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 667,706, dated February 12, 1901.

Application filed March 17, 1900. Serial No. 9,104. (No model.)

To all whom it may concern:

Be it known that I, MARTIN JEWELL, a citizen of the United States, residing at Morrison's Corner, in the county of Kennebec and State of Maine, have invented a new and useful Mowing-Machine, of which the following is a specification.

My invention relates to harvesters, and more particularly to mowing-machines; and it has for one of its objects to provide a machine with a reciprocatory table or platform which is operated by a zigzag or waved wheel and is connected with two levers in such a manner that the levers are simultaneously moved in opposite directions, thereby driving the sickles which are connected with said levers.

Another object of my invention is to so connect the cutter-bar with the frame that it may be adjusted at any desired angle relatively to the ground over which it is passing and to permit it to follow the different inclinations of the surface without varying its adjustment.

A still further object of my invention is to so connect the tongue with the raising and lowering mechanism of the cutter-bar that the rearward movement of the tongue in backing or turning the machine will automatically lift the cutter-bar from the ground, and thereby render the operation of the machine much easier, and also avoid the necessity of the operator lifting the bar.

With these objects in view my invention consists in the improved construction and novel arrangement of the parts of a machine, as will be hereinafter more fully set forth.

In the accompanying drawings, in which the same reference-numerals indicate corresponding parts in each of the views in which they occur, Figure 1 is a top plan view of a machine embodying my invention. Fig. 2 is a side view of the same. Fig. 3 is a longitudinal sectional view. Fig. 4 is an enlarged sectional detail view showing the construction and manner of operating the vibrating table. Fig. 5 is a similar view showing the manner of throwing the machine out of gear. Fig. 6 is a detail view of the universal joint and means for adjusting the position of the cutter-bar. Fig. 7 is a broken detail view of

the rear end of the tongue, and Fig. 8 is a longitudinal sectional view of the same.

Referring more particularly to the drawings, 1 indicates the frame of my improved harvester, which may be of any desired form and construction, although I prefer to provide the rear ends of the two main side pieces 2 2 with suitable bearings for engaging loosely with the axle 3 of the machine. Rigidly secured to the axle between the side pieces is a zigzag wheel, the forward portion of the periphery of which passes down through a recess or notch 5 in the rear edge of a laterally-reciprocating table 6, which is suitably mounted upon the side pieces 2 2 in such a manner as to be moved back and forth with but little friction or resistance.

Pivotally and detachably secured at their outer ends to the ends of the table 6 are two brace-levers 7, the inner ends of which are provided with antifriction-rollers 8 in position to engage with the opposite sides of the wheel 4. A link 9 is connected at its ends to the inner ends of the lever 7 and at its center is detachably secured to a vertical standard 10, the lower end of which is preferably reduced and shouldered, so as to rest upon the top of the table, when the lower end projects through a perforation 11 therein. The length of the braces is such that normally they will occupy an inclined position relatively to their point of contact with the wheel, so that when the wheel is revolving between them the one that is under the inclined portion of the wheel will lie substantially parallel with the face of the table, while the other one occupies its elevated position; but as soon as the apex of the wave has been passed the two levers will change positions relatively to the top of the table, and thereby permit the waved portion of the wheel to drive the table back and forth without the usual binding or friction resultant from the ordinary construction. When it is desired to throw the machine out of gear, one or both of the latches 12 at the pivotal point of the brace-levers with the table is thrown back far enough to permit of the withdrawal of the bolt 13 and the disengagement of the end of the lever and the table. The standard 10 is then withdrawn from the opening 11 and the antifriction wheels or

rollers 8 are removed from engagement with the sides of the wheel 4.

Owing to the looseness of the joints of the parts and the slight movement necessary to disengage the rollers from the wheel after the standard has been unseated it is not absolutely necessary to remove both latches, although it may be done, if desired.

Pivotally secured above and below the table 6, by means of pivots 14' and 15', respectively, are two levers 14 and 15, the outer ends of which are connected with two sickle-bars 16 by means of pitmen 17 in the usual manner. The inner end of one of the levers, preferably the upper one, is pivotally secured to the reciprocating table near its rear edge, and the intermediate portion of the other or lower lever is pivotally secured to the table near its forward edge. The inner end of the lower lever is pivotally secured to the cross-piece 18, (shown in dotted lines in Fig. 1,) near the rear edge of the table and the intermediate portion of the upper lever is pivotally secured to the cross-piece 19 in front of the table. The outer ends of the two levers are supported by cross-bars 20 and 21, respectively. In this manner it is evident that when the table is moved in one direction one of the levers will be thrown in one direction and the other one in the opposite direction, thereby causing the outer ends of the levers to simultaneously move in opposite directions. As the cutter-bars are thus simultaneously drawn in opposite directions it is evident that they will have the usual cutting capacity when driven with half the usual velocity, thereby permitting of a comparatively slow movement being given to the reciprocating table with equal effectiveness at the cutters.

The shoe 22 of the cutter-bar, which may be of any ordinary construction, is connected with the frame 1 by means of a suitable link or arm 23, which is pivotally secured thereto at one end and connected to the frame at the other end by a universal joint. This joint is preferably formed from a T-bolt, which passes through an eye in the end of one of the side pieces 2 of the frame and has one end of the T formed or provided with an extension 25, which is adapted to engage with a suitable rack 26 to hold the parts in their position after they have been adjusted to cause the cutting portion of the cutter-bar to stand at the proper angle or inclination relatively to the surface of the ground over which it is passing to properly cut the grain. The rear end of the shoe is connected with the rear portion of the frame upon the axle by means of a rod or bar 27, which is pivotally secured at each end, so as to permit of the shoe and bar having a free vertical movement, but preventing its being drawn or forced backward by the resistance to the cutters from the grain.

For the purpose of permitting the backward movement of the tongue to raise the sickle-bar from off the ground, and thereby making the backing or turning of the machine very

much easier than is possible with the bar upon the ground, I provide an auxiliary lifting mechanism which will operate independently of the usual raising mechanism 28. This auxiliary raising mechanism consists of a lever 29, which is pivotally secured upon the pivotal bolt 30 of the ordinary raising mechanism and is connected with the shoe of the machine at one end by means of a connector, as a chain 31, and with the tongue of the machine at its other end by means of the link 32. The tongue is supported upon the machine so as to be movable longitudinally within side flanges 33, and has a bolt 34, projecting from its under side down through slot 35 in the bottom of the frame intermediate the flanges 33. A bar 36 is rigidly secured to the under side of the tongue and has its ends provided with curves 37, one of which engages with the rear of the frame when the tongue is moved forward to draw the machine and the other one engages with the front of the frame and limits the backward movement of the tongue when the machine is being backed. The top of the tongue is provided with a laterally-extending bracket 38, to which the upper end of the link 32 is secured and by means of which movement is transmitted from the tongue to the cutter-bar through the chain 31 and link 32 and the lever 29. The bracket 38 is located forward of the rear end of the lever 29, so that when the tongue is in its forward position the link 32 will be inclined forward and the rear end of the lever will be held at its highest point. As soon, however, as the tongue begins to move backward, the link will be moved more nearly into a vertical position, thereby forcing the rear end of the lever downward and the forward end, which is connected with the shoe of the machine, upward. The doubletree 39 for drawing the machine forward is pivotally secured to a draft-bar 40, which is loosely mounted underneath the tongue in the usual loop or bracket 41. One end of the bar is connected with the shoe 22 by means of a chain 42, and a rod 43 is pivotally secured at its ends to the other end of the bar 40 and to the tongue, respectively. In this manner a portion of the draft is exerted directly upon the shoe, thereby overcoming the usual side draft to a considerable extent, and also lessening the pressure of the shoe upon the ground.

As above described, it will be seen that my invention covers a machine that is absolutely free from gear-wheels and other complicated parts found in many machines and that the motion is transmitted from the driving-wheels to the cutter with the least possible waste or loss of energy, thereby making the machine of exceedingly light operation. In case of any of the parts becoming broken or disarranged they can be easily replaced or restored, and the original cost of the machine can be reduced to a minimum. In addition to this the cutter-bar is quickly and permanently adjusted and will operate in any pos-

sible position in which it may be thrown, and the bar can be manually or automatically raised from the ground in backing the machine or turning it, thereby rendering it very desirable in that particular.

Although I have shown what I consider to be the most desirable form for constructing a machine embodying my invention, yet I reserve to myself the right to make such changes and alterations therein as will come within the scope of my invention.

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

1. In a harvester, the combination, with a frame provided with two cross-bars one in front of the other, of a reciprocatory table adjacent to said bars, two levers pivotally secured to the bars and to the table, the pivotal point of one of the levers with the table being at the rear end of the lever and to the rear of the pivotal point with its bar and the pivotal point of the other lever with the table being intermediate its ends and in front of the pivotal point of said lever with its bar, a cutter-bar connected with the free end of each lever, and a zigzag wheel for reciprocating the table.

2. In a harvester, the combination, with a reciprocatory table, of two brace-levers pivotally secured thereto, a zigzag wheel on the axle of the machine, which engages with the inner ends of said levers, and two cutter-bar-operating levers pivotally connected with said table, substantially as described.

3. In a harvester, provided with a zigzag wheel, the combination, with a reciprocatory table, of a brace-lever pivotally secured to each end thereof, the inner ends of which fit upon opposite sides of said wheel and are provided with antifriction-rollers, a link for connecting the inner ends of said levers, a standard for supporting said link, and cutter-bar-operating levers pivotally connected with said table, substantially as described.

4. In a harvester, provided with a zigzag wheel, the combination, with a reciprocatory table, of brace-levers pivotally secured to the ends thereof, the inner ends of said levers being provided with antifriction-rollers in

engagement with the opposite sides of the wheel, a link secured at its ends to said levers, a removable standard for supporting the same, a latch and a removable pin at the other end of each lever, and cutter-operating levers pivotally connected with said table, substantially as described.

5. In a harvester, the frame of which is provided with a transverse opening at its forward end, of a T-bolt pivotally secured therein in one end of the head of which bolt is extended to form a handle, a rack for engaging with said handle, and a bar pivotally secured to the head of said bolt at one end and to the shoe of the machine at the other, substantially as described.

6. In a harvester, the combination, with the frame provided with a tongue-support, of a longitudinally-movable tongue in the support, and means for connecting the cutter-bar with the tongue so as to be moved vertically when the tongue is moved in its support.

7. In a harvester, the combination, with a longitudinally-movable tongue, of a lever, one end of which is connected with the cutter-bar and the other end is provided with a link, the upper end of which is connected with the tongue in advance of its connection with the lever at the opposite end, substantially as described.

8. In a harvester, a portion of the frame of which is provided with flanges and is slotted longitudinally therebetween, the combination, with the tongue, of a bolt projecting through said slot, a bar upon the under side of the tongue, each end of which is curved in position to engage with the front and rear portion of the frame respectively, a lever pivotally secured at one side of the tongue, the forward end of which is connected with the cutter-bar, and a link secured to the other end of said lever and having its forward end connected with the tongue at a point forward of the rear end of said lever, substantially as described.

MARTIN JEWELL.

Witnesses:

HOWARD O. WYER,

WALTER H. OSBORNE.