

No. 639,171.

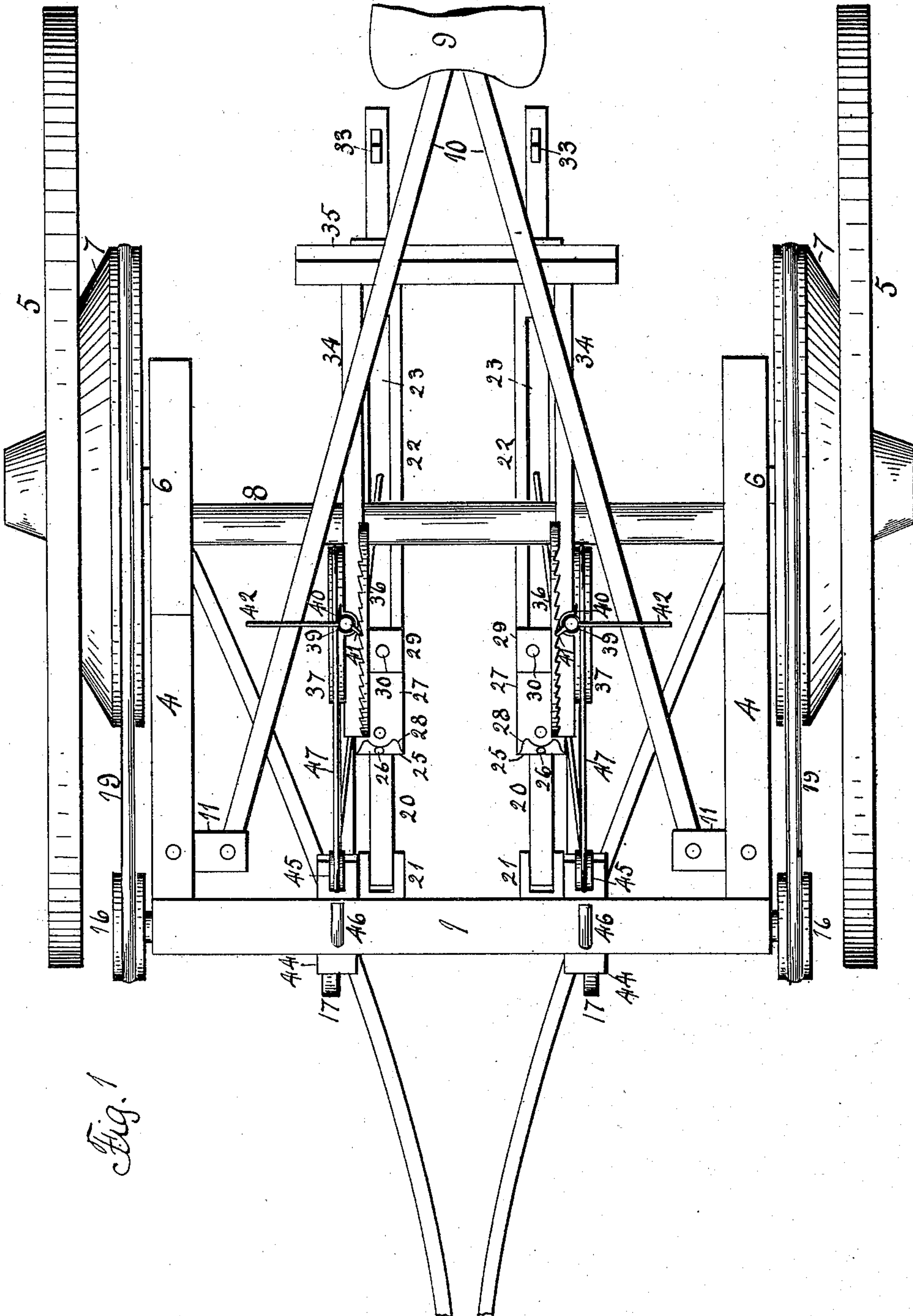
Patented Dec. 12, 1899.

A. E. GREEN.  
CULTIVATOR.

(Application filed Apr. 17, 1899.)

(No Model.)

3 Sheets—Sheet 1.



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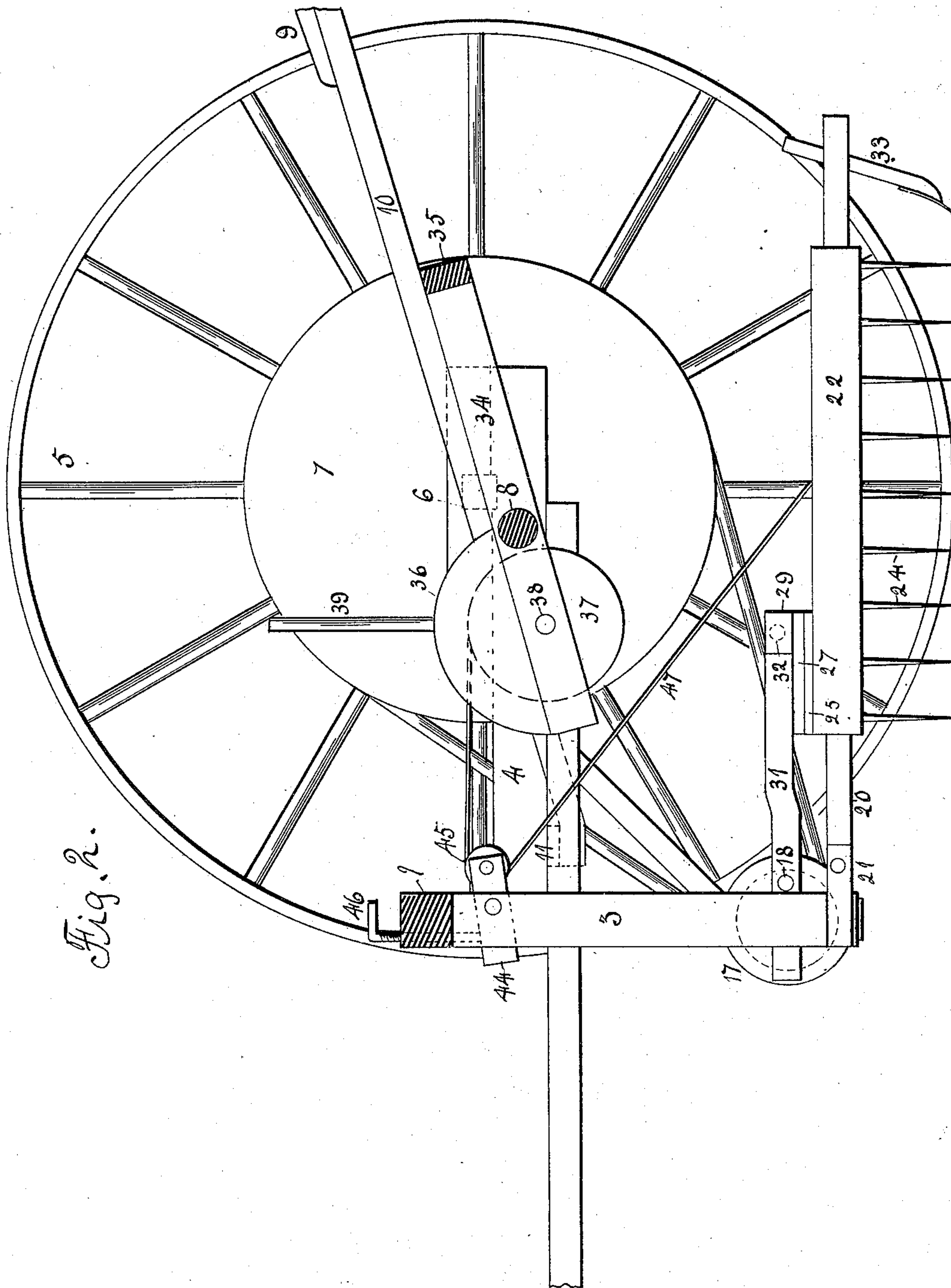


Fig. 2.

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Fig. 3.

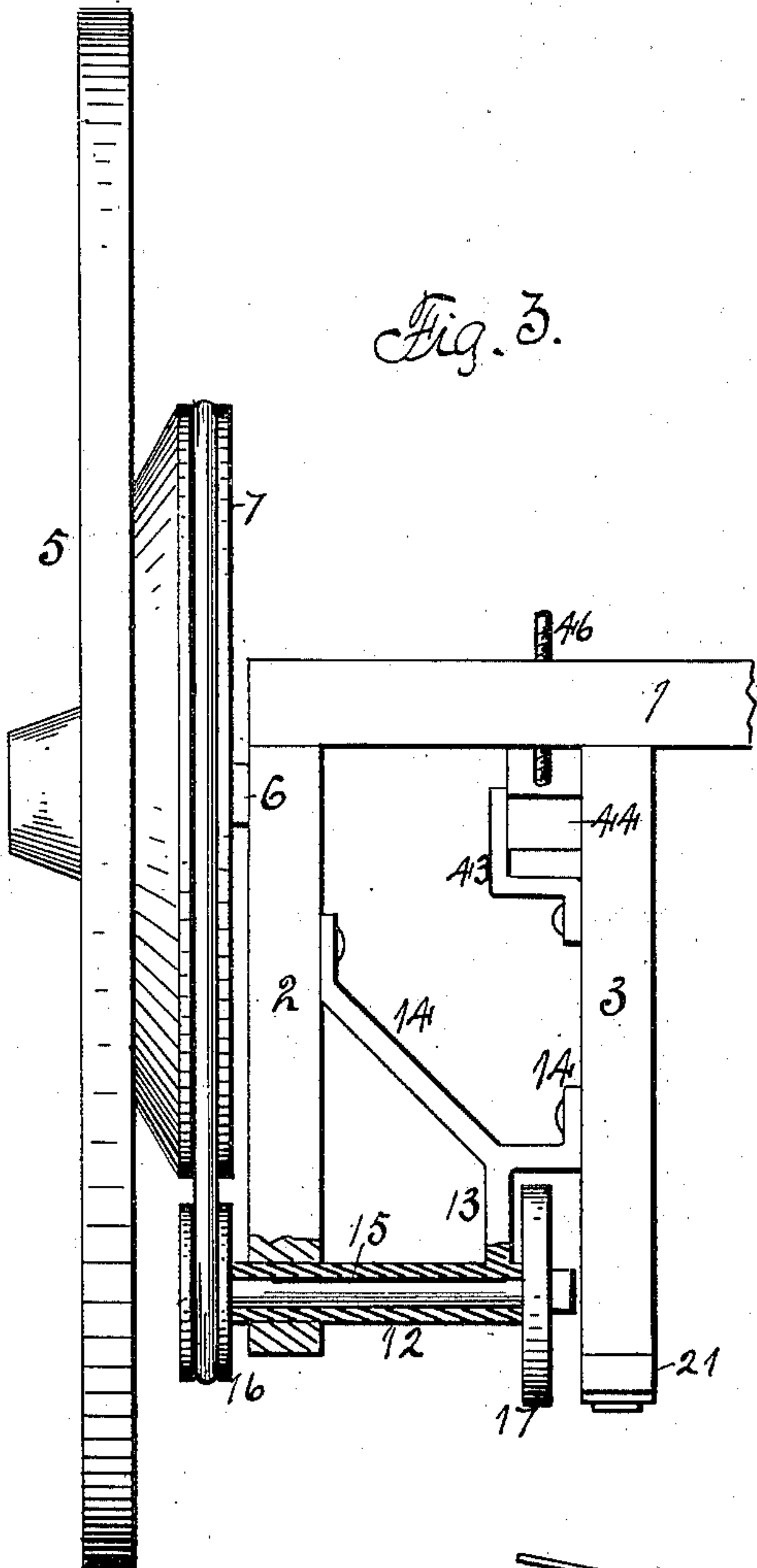


Fig. 5.

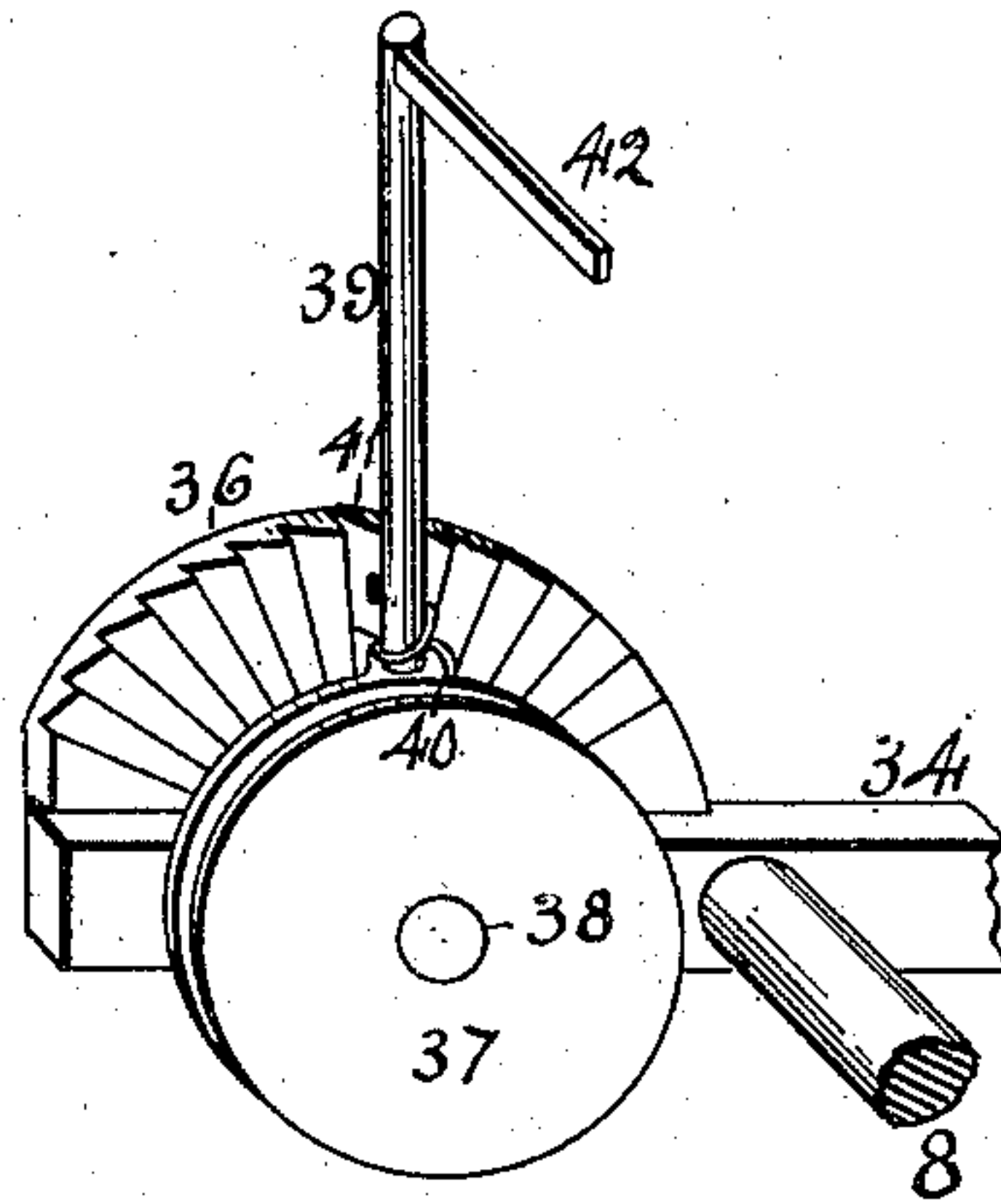
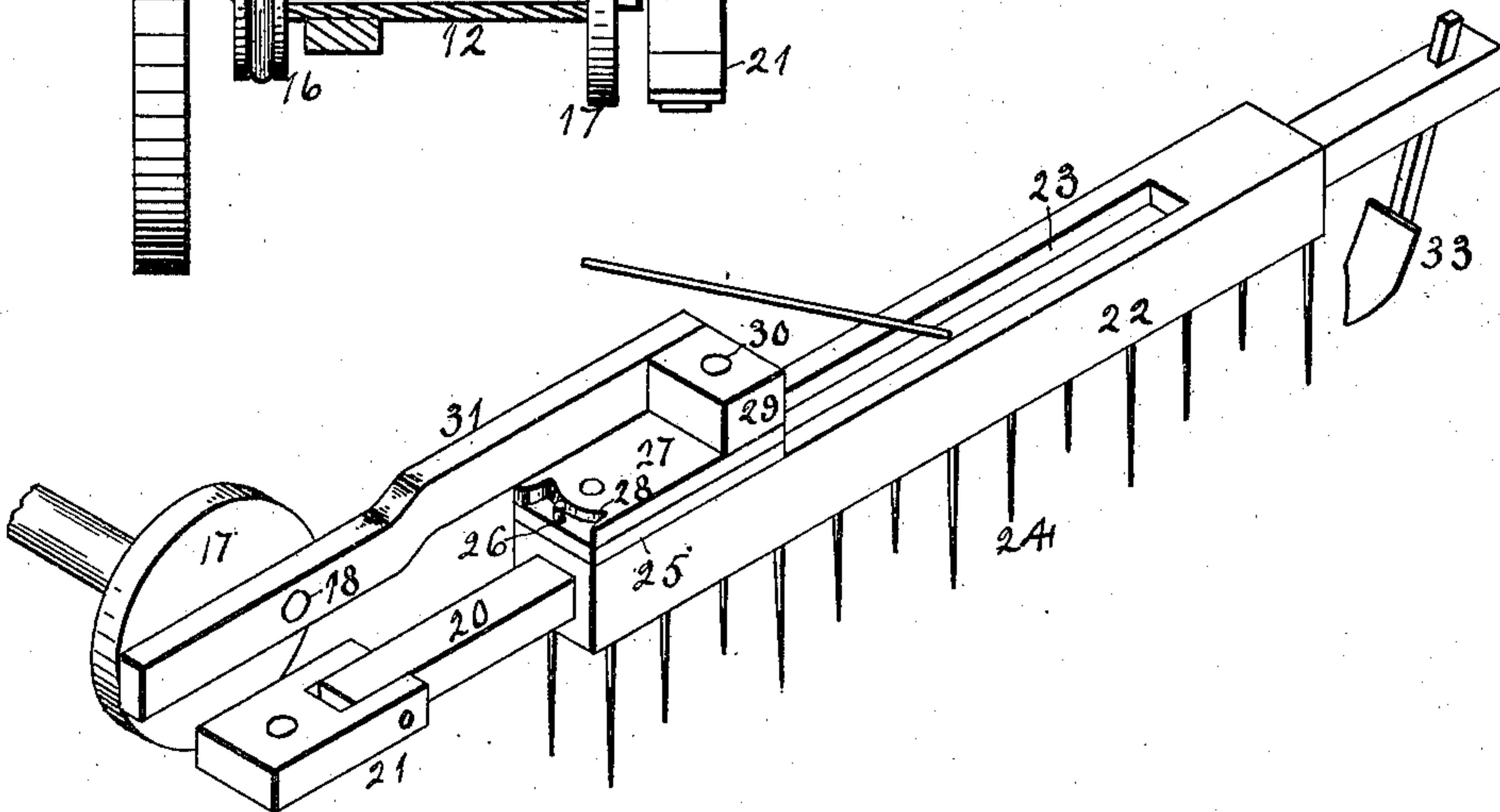


Fig. 4.



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# UNITED STATES PATENT OFFICE.

ALBERT E. GREEN, OF ROCKFORD, ILLINOIS.

## CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 639,171, dated December 12, 1899.

Application filed April 17, 1899. Serial No. 713,335. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT E. GREEN, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Cultivators, of which the following is a specification.

The object of this invention is to construct a cultivator in which a frame supporting teeth is given a reciprocating movement and also a movement transverse to its reciprocating movement.

In the accompanying drawings, Figure 1 is a plan view of a cultivator embodying my improvements. Fig. 2 is a vertical lengthwise central section. Fig. 3 is a front elevation of one-half of the cultivator. Fig. 4 is an isometrical representation of the drag-bar and attachments. Fig. 5 is an isometrical representation of the lifting-lever.

The main frame consists of the transverse bar 1, from which depend bars 2 and 3. Lengthwise bars 4 connect with the bars 2. Wheels 5 are supported upon stub-axes 6, secured to the lengthwise bar 4, and to the inner face of each of the wheels is secured a groove-faced wheel 7.

A stationary shaft or support 8 extends transverse of the main frame and is connected with the lengthwise bars 4. A driver's seat 9 is supported by the bars 10, pivotally connected to the short bars 11, which are pivotally connected to the lengthwise bars 4 of the main frame. The supporting-bars for the seat rest upon the stationary support 8, and by means of the pivoted short bars 11 the seat can be adjusted forward or backward, and, if necessary, the short bars can be placed on the upper surface of the lengthwise bars 4, which will depress the seat and bring it nearer the drag-bar.

A bracket is secured to the inner face of the depending-bars 2 and 3, and consists of the tubular section 12, vertical portion 13, and branches 14. A shaft 15 is located in the tubular section, and to one end is secured a grooved wheel 16, and to its other end is secured a crank-head 17, having a wrist-pin 18. A belt 19 connects the groove-faced pulleys 7 and 16, and the rotary movement of the carrying-wheel

will impart a rotary movement to the crank-head.

A drag-bar 20 of rectangular form has a pivotal connection with a head 21, which in turn has a pivotal connection with the depending bar 3, so as to move in a horizontal plane, while the pivotal connection of the drag-bar with the head permits the drag-bar to move in a vertical plane.

The drag-bar supports a frame 22, having a lengthwise opening 23 in its upper face, and its under surface supports teeth 24. A plate 25 is secured to the upper surface of the forward end of the frame, and a pin 26 projects from its upper surface. To this plate is pivoted a plate 27, its forward end having a cut-away portion 28 and its rear end supporting a block 29, pivoted thereto upon the vertical stud 30. A pitman 31 has a pivotal connection with the crank-head 17 and a pivotal connection with the block 29 upon a horizontal stud 32. (Shown in dotted lines, Fig. 2.) As the crank-head is rotated the pitman will impart a reciprocating movement to the frame in the lengthwise direction of the drag-bar, and the various pivotal connections permit the drag-bar to be moved horizontally without moving the pitman laterally.

A shovel 33 is supported by the drag-bar in rear of the reciprocating frame, and, if deemed necessary, others may be supported in advance of the frame and serve to hill the corn.

A frame composed of the lengthwise bars 34 and cross-bars 35 is pivoted upon the stationary shaft 8, the ends of the bar 34 in advance of the shaft supporting lifting-levers, a detached view being shown at Fig. 5, in which a segment 36 is secured to the bar, and a grooved wheel 37 is pivoted upon a stud 38, extending from the bar. This toothed wheel supports a hand-lever 39 in a pivotal manner, and a coiled spring 40 surrounds the lever, one end connected to the grooved wheel and its other end connected to the projection 41, extending from the lever. An arm 42 extends from the lever at its upper end, by means of which the grooved wheel is moved.

To the depending bar 3 is secured a bracket 43, its free end pivotally supporting a bar 44. The rear end of the bar supports a roller 45.



A screw-threaded rod 46 passes through the transverse bar 1 and engages the forward end of the bar 44. A flexible connection 47 is secured to the grooved wheel 37, passes over the roller 45, and is secured to the drag-bar 20.

By means of the frame pivoted upon the rod 8 and its connection with both drag-bars the attendant in the seat can, with his feet, depress the rear end of the frame, which will raise the grooved rollers 37, thereby raising both drag-bars. The depth at which the teeth work in the ground may be regulated by the hand-lever 39 in connection with the toothed segment 36, and a finer adjustment may be had by means of the screw-threaded rod 46. The projection 41 of the hand-lever will engage the teeth of the segment, and by a movement rearward of the arm 42 the hand-lever will be oscillated, which will disengage the projection from the toothed segment.

By imparting a reciprocating movement to the frame the teeth supported thereby will scratch the ground and destroy the weeds.

It is evident that sprocket-wheels and a linked chain may be employed to drive the crank-head.

In the horizontal movements of the drag-bar the ends of the cut-away portion 28 will come in contact with the pin 26, thereby limiting its movement.

I claim as my invention—

1. The combination of a main frame, sup-

porting-wheels, a drag-bar, a frame supported by the drag-bar, means forming a connection between the wheels and frame whereby a reciprocating movement is imparted to the frame, the frame supporting teeth, a stop limiting the horizontal movement of the drag-bar. 35

2. The combination of a main frame, supporting-wheels, a drag-bar, a frame supported by the drag-bar, means forming a connection between the wheels and frame whereby a reciprocating movement is imparted to the frame, the frame supporting teeth and the drag-bar a shovel. 40 45

3. The combination of a main frame, supporting-wheels, a drag-bar, a hand-lever, a flexible connection between the hand-lever and drag-bar, and means operating upon the flexible connection as means additional to the hand-lever for adjusting the drag-bar. 50

4. The combination of a main frame, supporting-wheels, a drag-bar, a hand-lever adjusting the drag-bar, consisting of a saw-toothed segment, a pivoted lever, a projection extending from the lever engaging the segment, a spring holding the projection in engagement with the segment and a grooved curved surface connected with the lever. 55

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