

No. 791,522.

PATENTED JUNE 6, 1905.

L. E. WATERMAN.

WEEDER.

APPLICATION FILED NOV. 16, 1903.

2 SHEETS—SHEET 1.

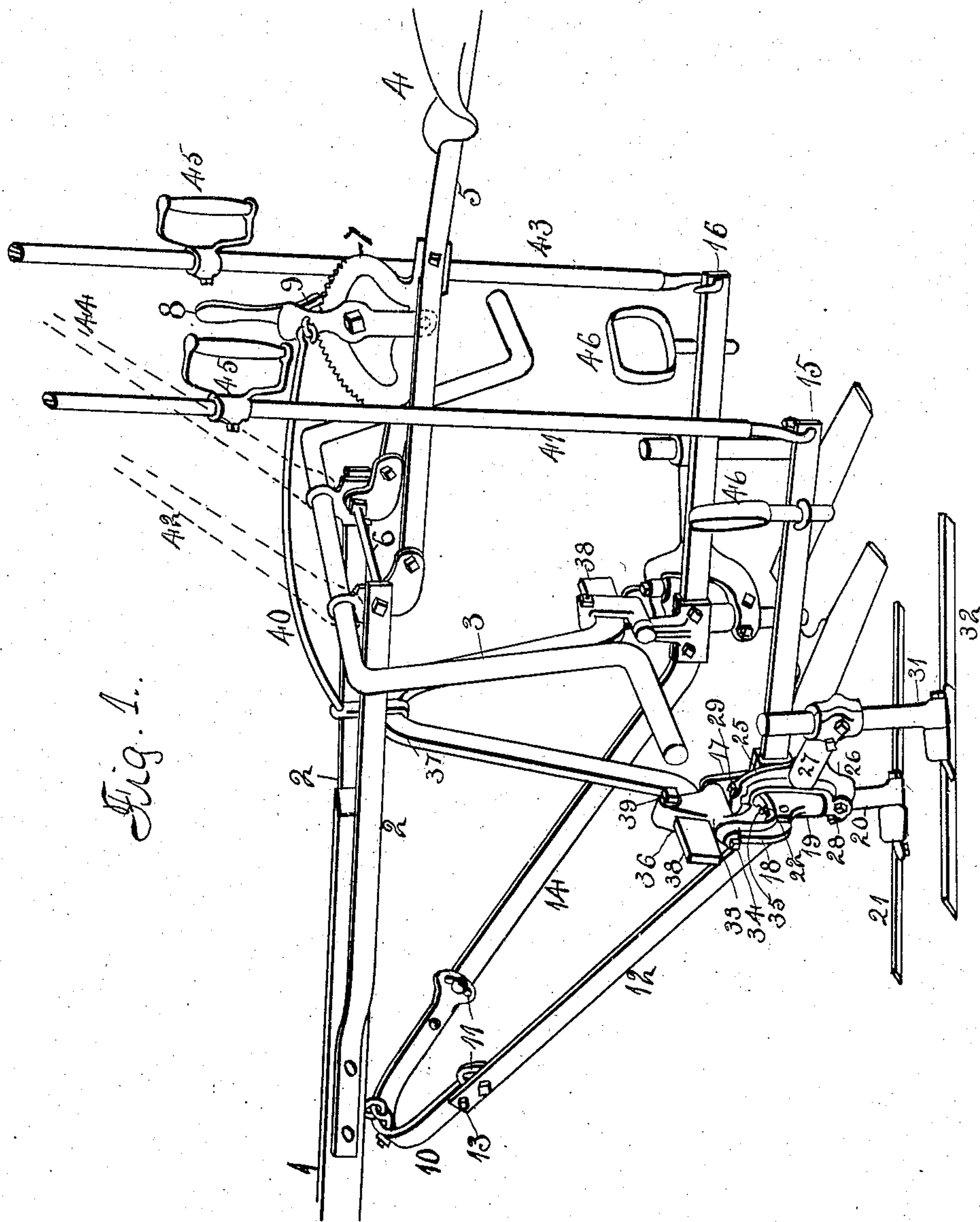


Fig. 1.

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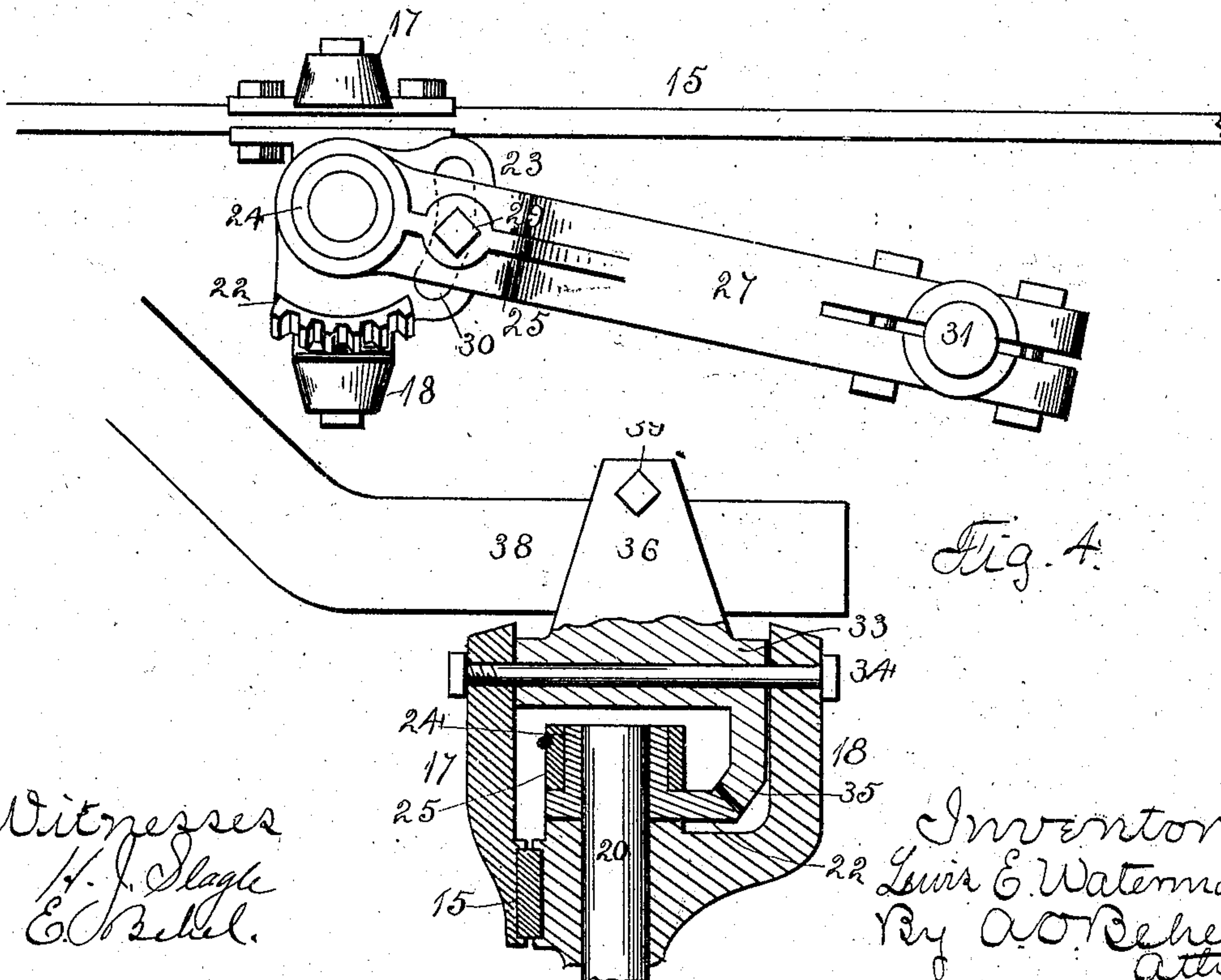
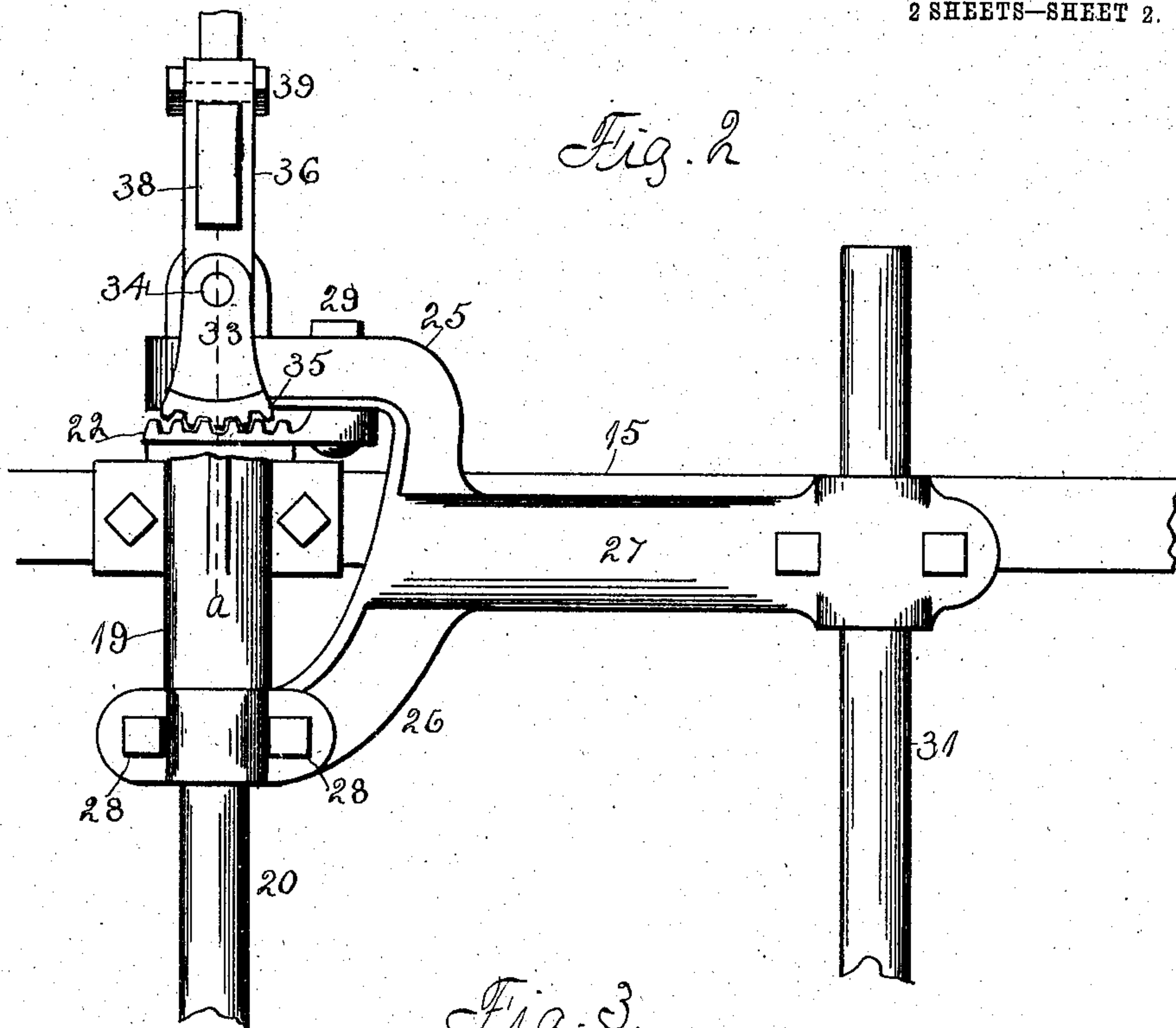
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2 SHEETS—SHEET 2.



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Fig. 4.

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UNITED STATES PATENT OFFICE.

LEWIS E. WATERMAN, OF ROCKFORD, ILLINOIS, ASSIGNOR TO EMERSON MANUFACTURING COMPANY, OF ROCKFORD, ILLINOIS, A CORPORATION OF ILLINOIS.

WEEDER.

SPECIFICATION forming part of Letters Patent No. 791,522, dated June 6, 1905.

Application filed November 16, 1903. Serial No. 181,456.

To all whom it may concern:

Be it known that I, LEWIS E. WATERMAN, 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 Weeders, of which the following is a specification.

The object of this invention is to construct a weeder attachment in which the knives are supported by two bars having a pivotal connection in a manner to swing horizontally and movable in unison by a movement imparted to the bail connecting the bars.

In the accompanying drawings, Figure 1 is a perspective view of a cultivator-frame supporting my improvements. Fig. 2 is a side elevation, partly in section, of one of the pivoted bars. Fig. 3 is a plan view of one of the pivoted bars in which the bail connection is removed. Figure 4 is a vertical section on dotted line *a*, Fig. 2.

My improvements are applied to the frame of a riding-cultivator, and in the drawings only so much of the cultivator-frame is shown necessary to give a clear idea of the relation of my improvements thereto.

To the tongue 1 are connected the side bars 2 and extending rearwardly thereof. An axle 3 has a connection with the bars 2. A seat 4 is supported by the bars 5, connected to the cross-rod 6. The bars 5 support a toothed segment 7 and to which is pivoted a hand-lever 8, having dogs 9, engaging the teeth of the segment.

To the under face of the tongue is pivoted a yoke 10, having its ends provided with transverse slots 11. To one arm of the yoke is pivoted a bar 12 at the point 13 and has an adjustable connection with the slot 11. An arm 14 has a pivotal connection with the other arm of the yoke 10 and adjustable by means of the slot and a bolt passing through the slot. These bars 12 and 14 extend downwardly and rearwardly, their sections 15 and 16 lying substantially parallel and horizontal. Each of the bars 15 and 16 support two knives in a manner that they may be moved toward and from the center of the frame, and a description of one set in its connection with the bar

12 will answer for both, the same reference-numerals applying to both.

To the bar 15 are secured two plates 17 and 18, both extending upwardly and having perforated ends. A plate has a tubular depending extension 19. A standard 20 is located in the tubular extension 19 and has a knife 21 secured to its lower end. The upper end of the standard 20 extends through the plate 18 and has a segment of a miter-gear 22 located in connection therewith. This segmental gear has an extension 23 and a reduced upwardly-tubular portion 24. A yoke composed of the upper arm 25, lower arm 26, and rearwardly-extending arm 27 has a connection with the standard 20 by the rear arm 27, clamped in connection therewith by the bolts 28. The upper arm 25 is located over the tubular portion 24 of the segmental gear 22 and clamped in connection with the extension 23 by the bolt 29 and adjustable in connection therewith by reason of the curved slot 30 in the extension through which the bolt passes. The free end of the rearwardly-extending arm 17 supports a standard 31 in a manner to permit of its vertical and axial adjustments. This standard 31 supports a knife 32 at its lower end. The standard 20 has a vertical and axial adjustment in its connection with the lower arm 26 of the yoke.

The upper ends of the plates 17 and 18 support a bracket 33 by the bolt 34 extending through the parts. This bracket has an extension provided with teeth 35, meshing with the teeth of the segmental gear 22, and has a rectangular socket 36 at its upper end.

A bail has a curved center portion 37 and horizontally-extending ends 38. One of the ends of the bail is located in the socket 36 and held in an adjustable manner by the bolt 39. The other arm of the bail is connected with the socket of the bracket supported by the bar 16, so that the bail forms a connection between the two bars 15 and 16 in a manner that the bars may be adjusted toward and from each other to vary the distance between the two sets of knives.

To the upper end of the center portion of the bail is pivotally connected a rod 40, and

the other end of the rod has a pivotal connection with the hand-lever 8.

To the rear end of the extension 15 is connected a rod 41, its upper end having a connection with the axle by the link 42. (Shown in dotted lines.) The extension 16 has a rod 43 connected thereto and a connection with the axle by the link 44. (Shown in dotted lines.)

Handholds 45 have a connection with the rods. By means of these rods and links the bars 16 and 17 can be raised and lowered, and by means of the foot-loops 16 they can be moved transverse to the line of draft as usual in riding-cultivators and can be held suspended.

By means of the hand-lever 8 and rod connection with the bail the bail can be moved on its pivotal connection with the arms 17 and 18, connected to the bars 15 and 16. Such movement will rock the teeth 35, which engage the segmental toothed gear 22 and will move it on its pivotal center, and as the upper arm 25 has a segmental toothed gear the downward extension 27, carrying the knife 32, and the standard 20, carrying the knife 21, will be moved axially, the standard 20 acting as the center, and by moving the hand-lever forward from its center position the extensions will be moved toward each other, a rearward movement of the hand-lever will separate them, and they can be held in any desired position within the range of the toothed segment.

I claim as my invention—

1. In a weeder, the combination of a supporting-frame, a frame having a pivotal connection with the main frame, and composed of two branches, each branch supports a pivoted bar, a knife supported by each bar, a bail connecting the bars whereby a movement of the bail will move the knives.

2. In a weeder, the combination of a supporting-frame, a frame having a pivotal connection with the main frame, and composed of two branches, each branch supporting a pivoted bar, a knife supported by each bar, a bail connecting the bars whereby a movement of the bail will move the knives, and means for holding the bail against movement.

3. In a weeder, the combination of a main

frame, a frame having a pivotal connection with the main frame, and composed of two branches, each branch supporting a bar, a knife supported by each bar, a bail connecting the bars whereby a movement of the bail will move the knives and means for moving the bail and holding it when adjusted.

4. In a weeder, the combination of a main frame, a frame having a pivotal connection with the main frame, two standards supported by the pivoted frame, a knife supported by each standard and a bail connecting the standards whereby a movement of the bail will oscillate the standards.

5. In a weeder, the combination of a main frame, a frame having a pivotal connection with the main frame, and composed of two branches, each branch supporting a pivoted bar and a standard, a knife supported by each bar and standard, a bail connecting the bars and standards whereby a movement of the bail will move the bars toward or from each other and oscillate the standards.

6. In a weeder, the combination of a supporting-frame, two frames having a pivotal connection with the main frame, a standard supported by each pivoted frame, a knife supported by each standard, and a connection between the frames whereby both frames can be oscillated in a horizontal plane by a back-and-forth rocking movement of the connection.

7. In a weeder, the combination of a main frame, a frame having a pivotal connection with the main frame, a bracket connected with the pivoted frame having upwardly-extending arms and a tubular depending extension, a segmental toothed gear supported by the ears, means for oscillating the gear, a standard located in the tubular extension a segmental toothed gear, a yoke having a connection with the last-mentioned segmental toothed gear and the standard, a standard supported by the yoke and a knife supported by each standard.

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