

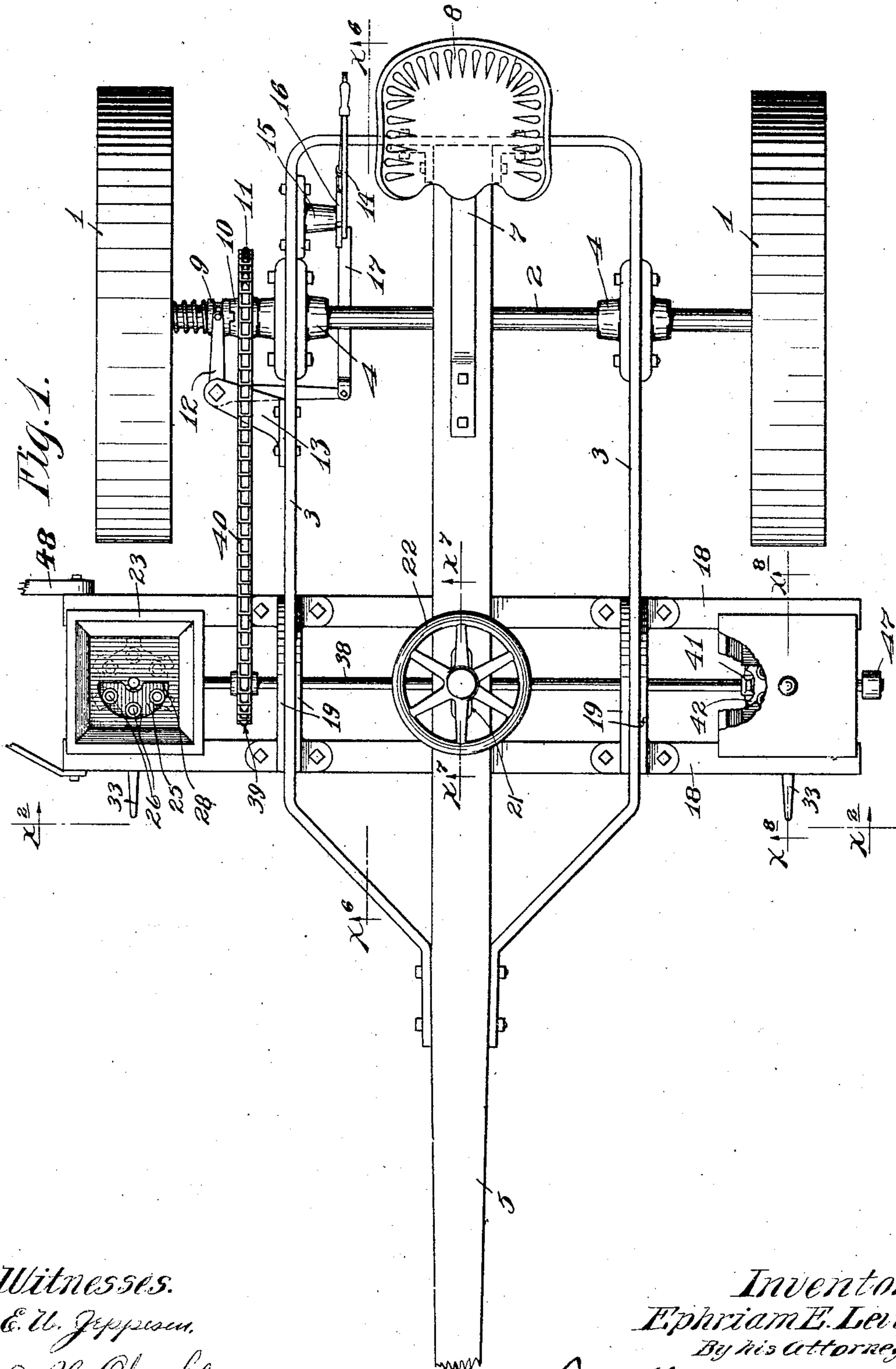
No. 779,552.

PATENTED JAN. 10, 1905.

E. E. LEVIG.
CORN PLANTER.

APPLICATION FILED AUG. 8, 1904.

3 SHEETS—SHEET 1.



Witnesses.
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A. H. Opsahl.

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3 SHEETS—SHEET 2.

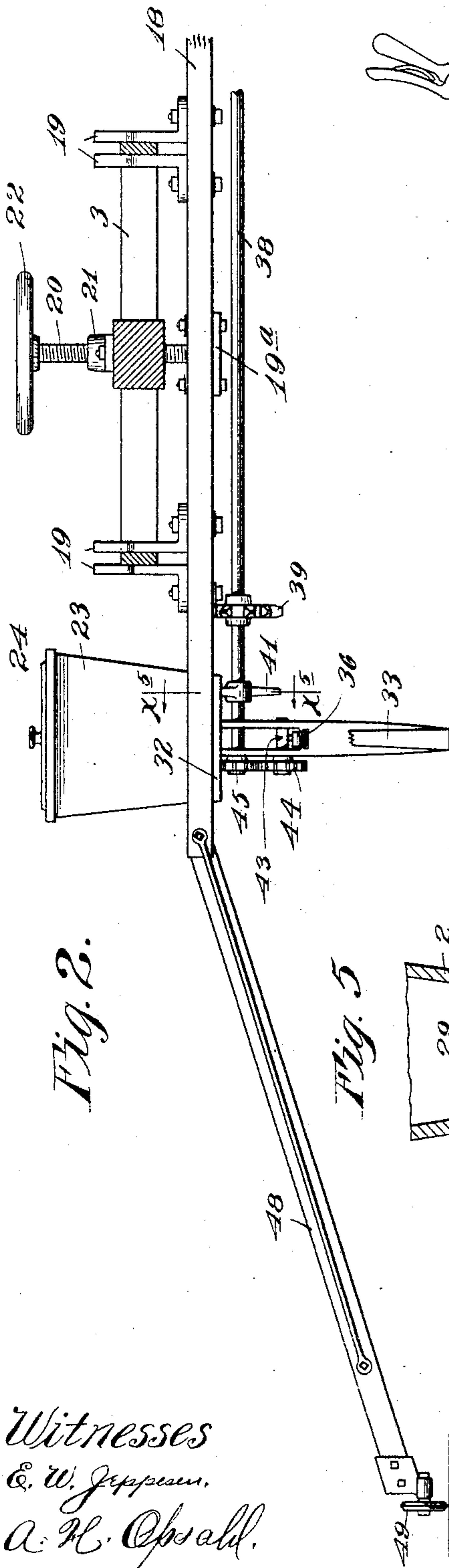


Fig. 5

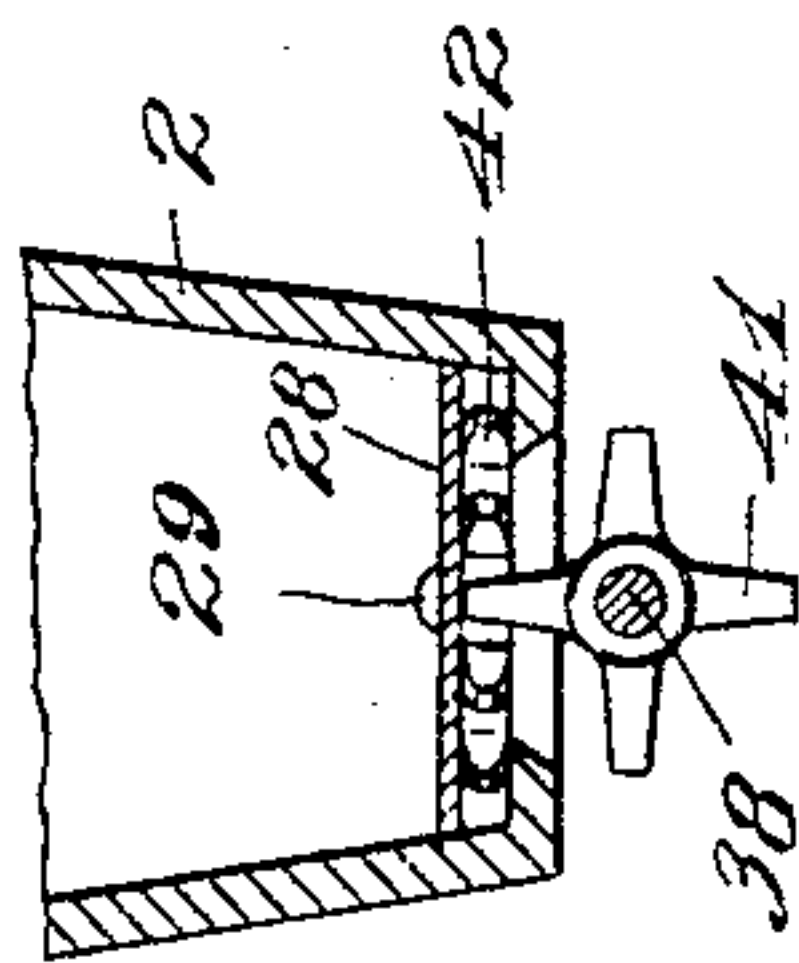


Fig. 4

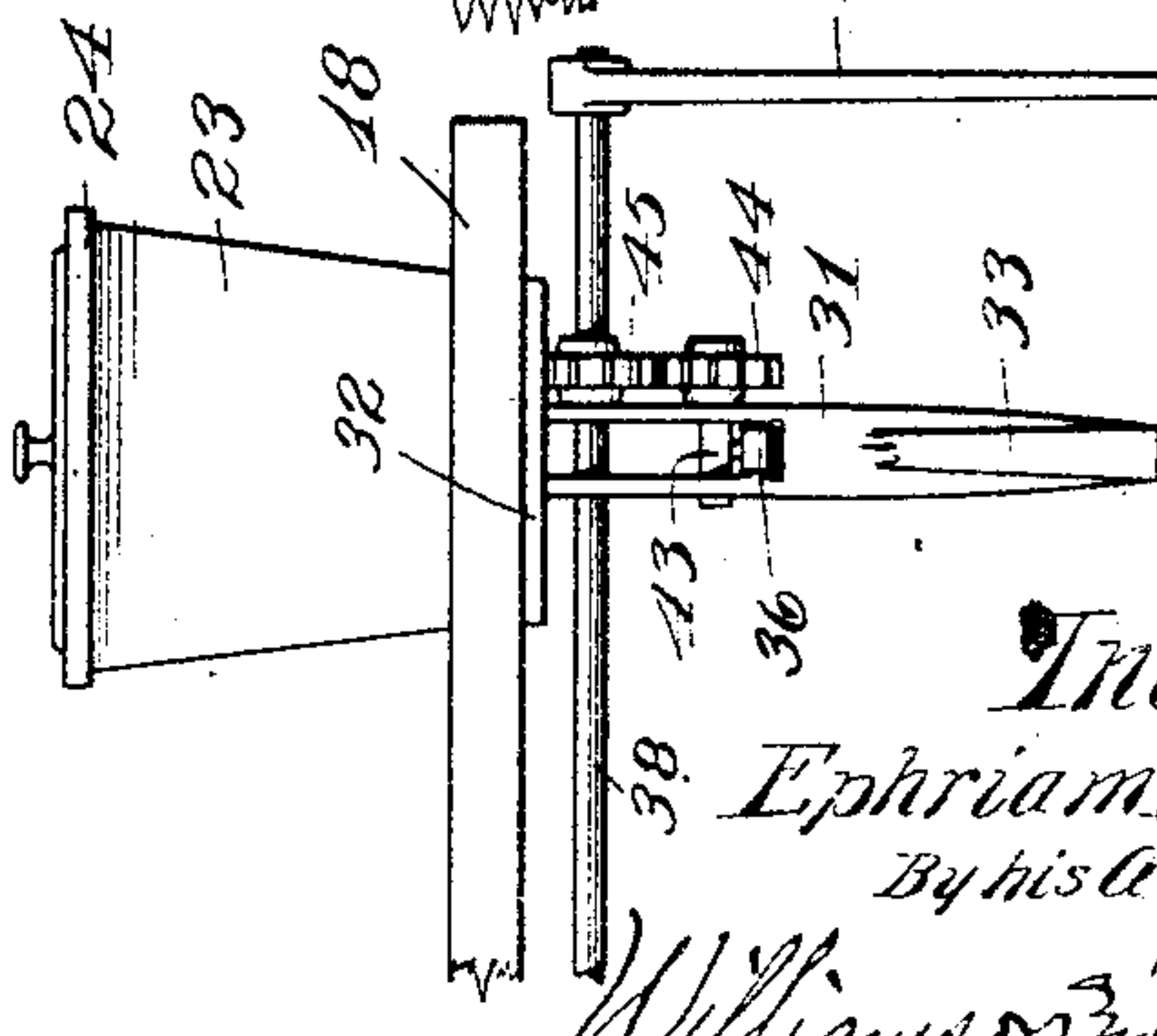
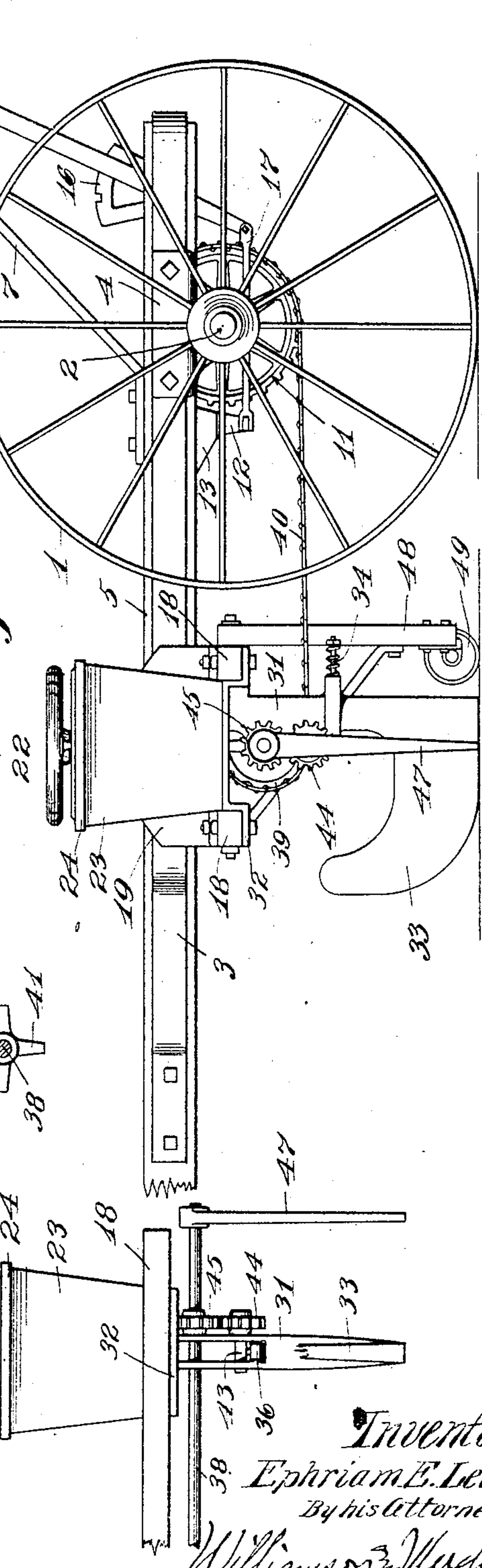


Fig. 3.



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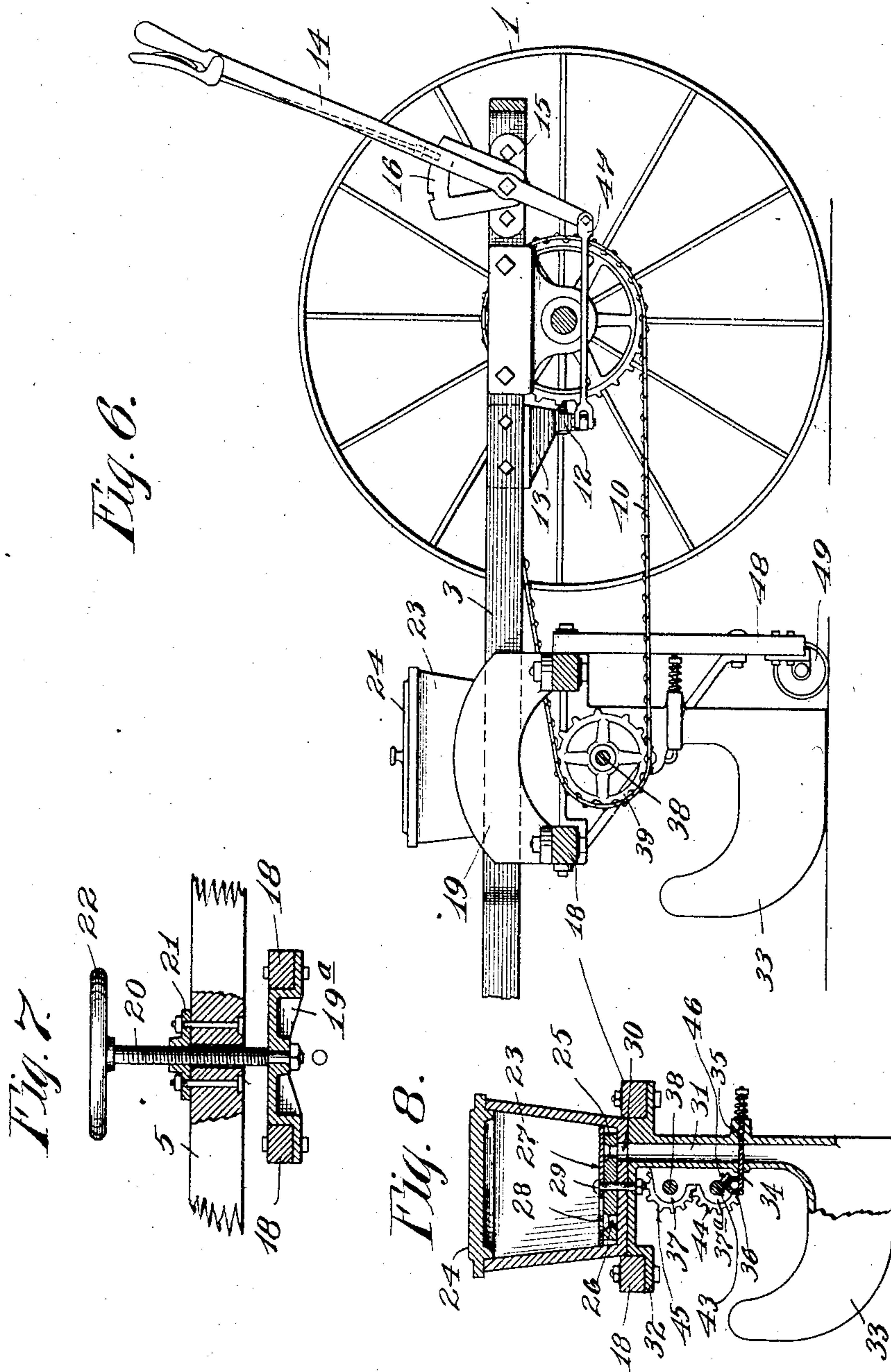
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3 SHEETS—SHEET 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

EPHRAIM E. LEVIG, OF GRANITE FALLS, MINNESOTA.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 779,552, dated January 10, 1905.

Application filed August 8, 1904. Serial No. 219,856.

To all whom it may concern:

Be it known that I, EPHRAIM E. LEVIG, a citizen of the United States, residing at Granite Falls, in the county of Yellow Medicine and State of Minnesota, have invented certain new and useful Improvements in Corn-Planters; 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 check-row corn-planters, and has for its object to improve the same in the several particulars hereinafter mentioned.

The invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 is a plan view with some parts broken away, showing the improved machine. Fig. 2 is a transverse vertical section on the line $x^2 x^2$ of Fig. 1. Fig. 3 is a left-side elevation of the machine. Fig. 4 is a detail view, in front elevation, showing that portion of the machine which is broken away or removed from Fig. 2. Fig. 5 is a detail in vertical section on the line $x^3 x^3$ of Fig. 2. Fig. 6 is a detail in vertical section on the line $x^4 x^4$ of Fig. 1. Fig. 7 is a detail in section on the line $x^5 x^5$ of Fig. 1, and Fig. 8 is a vertical section on the line $x^6 x^6$ of Fig. 1.

The numeral 1 indicates the bearing-wheels, and the numeral 2 an axle upon which, as shown, the left-hand wheel is loosely mounted and to which the right-hand wheel is rigidly secured.

The numeral 3 indicates the skeleton yoke-like frame, having bearings 4, in which the axle 2 is loosely journaled.

The numeral 5 indicates the pole, which is rigidly secured both to the forward and rear portions of the frame 3 and, as shown, is provided with a bearing in which the axle 2 is also journaled. The supporting-bar 7 of a driver's seat 8 is rigidly secured to the rear portion of the pole 5.

The axle 2 inward of the right-hand wheel 1 carries a spring-pressed sliding half-clutch 9, which coöperates with a half-clutch 10, formed on the hub of a sprocket-wheel 11, loosely mounted on said axle. The sliding half-clutch 10 is subject to a shipper-lever 12, pivoted to a bracket 13, rigid on one side of the frame 3.

The shipper-lever 12 is adapted to be held in either of two positions by a latch-equipped hand-lever 14, pivoted to a bracket 15 on the frame 3 and coöperating with a latch-segment 16, rigidly secured to said bracket. A link 17 connects the lower end of the lever 14 to the inner arm of the shipper-lever 12. The upper end of said lever 14 stands in position to be readily engaged by the driver seated on the seat 8.

Extending transversely of the machine, in front of the wheels 1, is a vertically-adjustable supplemental frame 18, which is provided with laterally-spaced guide-plates 19, that embrace the side bars of the primary or main frame 3. At its intermediate portion this supplemental frame 18 is provided with a metallic tie-bar 19^a, to which is swiveled the lower end of a screw-rod 20, which screw-rod works with threaded engagement through a nut 21, rigidly secured to the pole 5, as best shown in Fig. 7. At its upper end said screw-rod is provided with a hand-wheel 22, by means of which it may be turned to raise and lower the supplemental frame with respect to the main frame.

Each end of the supplemental frame 18 supports a seed-hopper 23, shown as provided with a detachable cover 24. The seed-hoppers and seed-feeding devices and furrow-opening devices are arranged in duplicate, and hence a description of one thereof will answer for both.

Mounted to rotate on the bottom of the hopper 23 is a feed-disk 25, having a plurality of circumferentially-disposed perforations 26, affording pockets, preferably of such size that they will receive but one kernel of corn each. Just above the feed-disk 25 is a false bottom 27, which is cut away at 28, so as to expose several of the perforations or pockets 26, as

best shown in Figs. 1 and 8. A small bolt 29, passed through the false bottom 27 and through the bottom of the hopper, serves as a journal for the feed-disk 25. At one point
 5 under the false bottom 27 the bottom of the hopper 23 is formed with a discharge-orifice 30, which opens into the upper end of a vertically-disposed seed-delivery leg or spout. At its upper end this leg 31 has a tie-bar exten-
 10 sion 32, which is bolted or otherwise rigidly secured both to the supplemental frame 18 and to the overlying seed-hopper 23. At its lower end said leg 31 is formed with a furrow-opening shoe 33, which is located directly in
 15 front of the corresponding wheel 1, so that the latter serves to press or pack the furrow after the seeds have been deposited.

Working through the leg 31 and normally closing the same is a spring pressed slide-valve
 20 34, having a discharge-passage 35 and a projecting tappet 46 engaging lug 36.

Extending transversely of the machine, just below the supplemental frame 18 and, as shown, journaled in bearings 37 on the legs 31, is a coun-
 25 ter-shaft 38, provided with a sprocket-wheel 39, over which and the sprocket 11 on the axle 2 runs a sprocket-chain 40. Below the hoppers 23 the counter-shaft 38 is provided with tappet-hubs 41, (see Fig. 5,) each, as shown, hav-
 30 ing four arms or tappets, which tappets engage with peripheral teeth 42 of the feed-disks 25, the bottoms of said hoppers being cut away to permit such engagements. (See Figs. 1 and 5.) Journaled in bearings 37^a on
 35 the legs 31 are stub-shafts 43, having gears 44, that mesh with gears 45 on the counter-shaft 38. Each stub-shaft 43 carries a single tappet 46, which is adapted to engage the lug 36 of the corresponding valve 34. As shown, the
 40 gears 44 and 45 are of the same diameter, so that the counter-shaft and stub-shafts make the same number of rotations.

At one end—to wit, as shown, (see Fig. 4,) at its left-hand end—the counter-shaft 38 car-
 45 ries a long radially-projecting marking-arm 47, which comes into contact with the ground once on each rotation of the counter-shaft and serves to mark the location or relative loca-
 50 tions of the hills when the machine is adjusted to plant the corn or other grain in hills.

To the right-hand end of the supplemental frame 18 is pivoted a braced arm 48, which at its free end carries a loose row-marking wheel 49, which serves to mark the line to be
 55 traversed by the right-hand shoe 33 on the next succeeding trip of the machine. When this row-marking device is not in use, it may be turned pivotally upward and folded over the top of the machine, where it will be en-
 60 tirely out of the way.

The operation of the machine is substantially as follows: When it is desired to plant corn in drills or close together, as when plant-
 ing fodder-corn, the dropping-valves 34 should

either be removed or locked with their perfora- 65
 tions 35 in line with the passage through the respective legs 31. This being done, for each rotation of the counter-shaft 38 each feed-
 disk 25 will be given four successive steps of 70
 movement, and each will deposit at short distances apart four kernels of corn in the re-
 spective furrow. When it is desired to plant corn in hills, the parts are adjusted as shown
 in the drawings, and under such adjustment for each rotation of the counter-shaft 38 four 75
 kernels of corn will be dropped into each seed-delivery leg 31 and onto the corresponding dropping-valves 34, and these four collected
 kernels will be simultaneously dropped into the furrow by the said dropping-valves. The 80
 said dropping-valves 34, as is evident, are given their operative movements by the engage-
 ment of the respective tappets 46 with the lugs 36 of said valves.

The so-called “feed-disks” 25 may very 85
 properly be treated as primary feeding de-
 vices, and the so-called “dropping-valves” 34 as secondary feeding devices. The former
 operate to pick up the kernels and deliver them to the respective legs or spouts 31, and the 90
 latter serve to deposit an accumulation of the kernels into the furrow to form a hill or hills.

The machine described, while extremely simple and of small cost, is efficient for the
 purposes had in view. It will of course be 95
 understood that the machine described is capable of modification within the scope of my in-
 vention as herein set forth and claimed.

What I claim, and desire to secure by Let-
 ters Patent of the United States, is as follows: 100

1. In a machine of the character described, the combination with hoppers 23, having false bottoms 27, cut away at 28, the seed-delivery legs 31 depending from said hoppers and ter-
 minating in shoes 33, the feed-disks 25 jour- 105
 naled in the bottoms of said hoppers, below said bottoms 27, and having the perforations 26 affording seed-pockets, the spring-pressed drop-valves 34 working through said legs 31 and provided with perforations 35 and lugs 110
 36, the counter-shaft 38 having tappet-hubs 41 operating on said feed-disks to impart operating movements thereto, the stub-shafts 43 gear-driven from said shaft 38, and having
 tappets 36 engageable with the lugs 36, to 115
 operate said valves 34, and means for driving said shaft 38 from one of the machine-wheels, involving a clutch device for throwing the same into, and out of action, at will, substan-
 tially as described. 120

2. In a machine of the character described, the combination with a hopper and a seed-delivery leg depending therefrom, of a feed device controlling the discharge of the seeds from the hopper into the furrow, and a counter-
 shaft driven from one of the machine-wheels 125
 having connections for operating said feed device and provided at one end with a rigidly-

secured radially-projecting hill-marking arm, substantially as described.

3. In a machine of the character described, the combination with a primary frame 3, secured to the pole, of a supplemental frame 18 having guide-plates 19 embracing the sides of said frame 3, a screw-rod applied to the said two frames for adjusting said supplemental frame vertically, and furrow-opening devices,

seed-hoppers, and feeding devices carried by said supplemental frame, substantially as described.

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

EPHRAIM E. LEVIG.

Witnesses:

THOS. W. ALLISON,
H. O. CORBUL.