

No. 774,630.

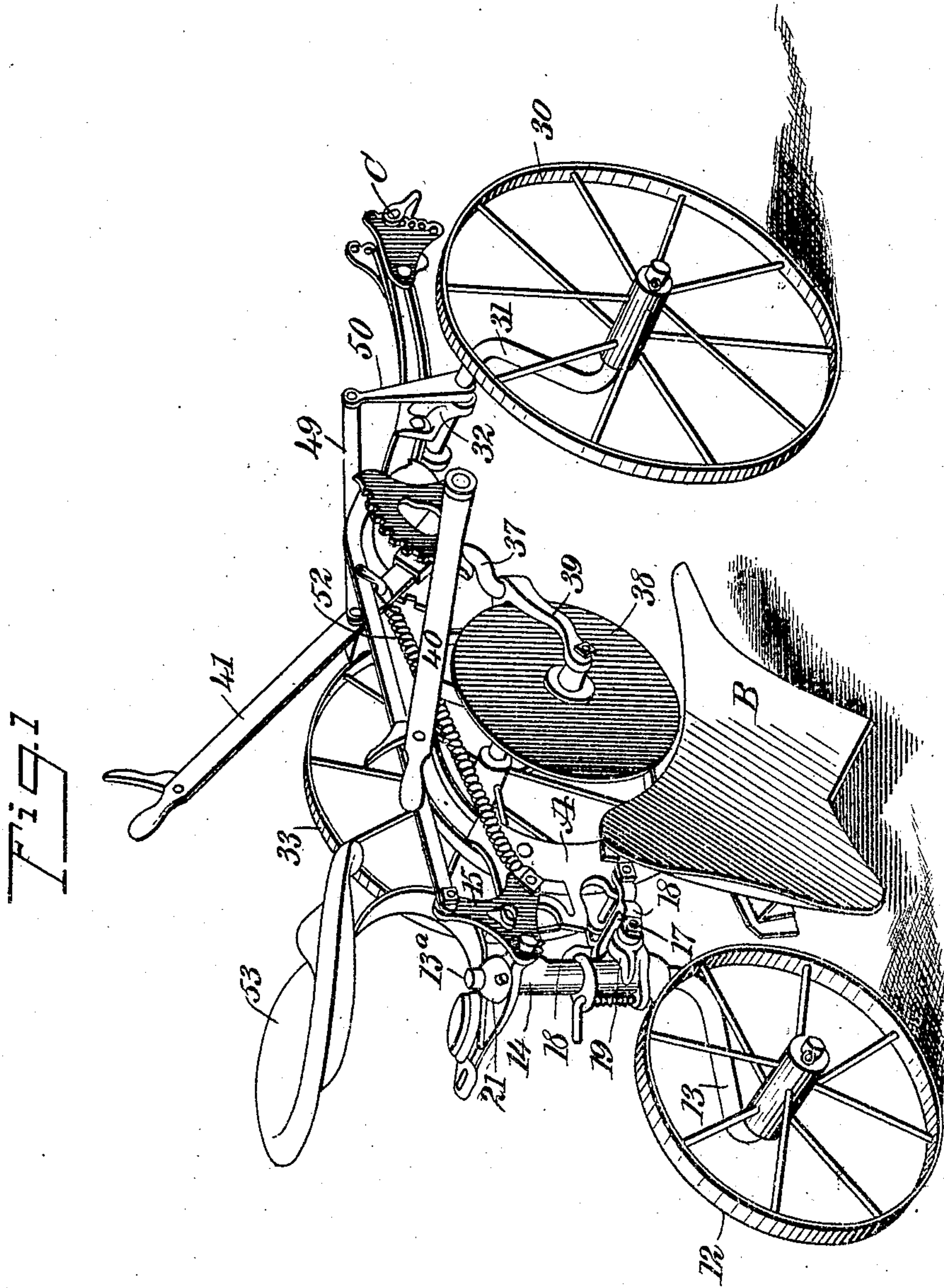
PATENTED NOV. 8, 1904.

E. B. WINTERS.  
PLOW.

APPLICATION FILED OCT. 19, 1903.

NO MODEL.

3 SHEETS—SHEET 1.



WITNESSES:

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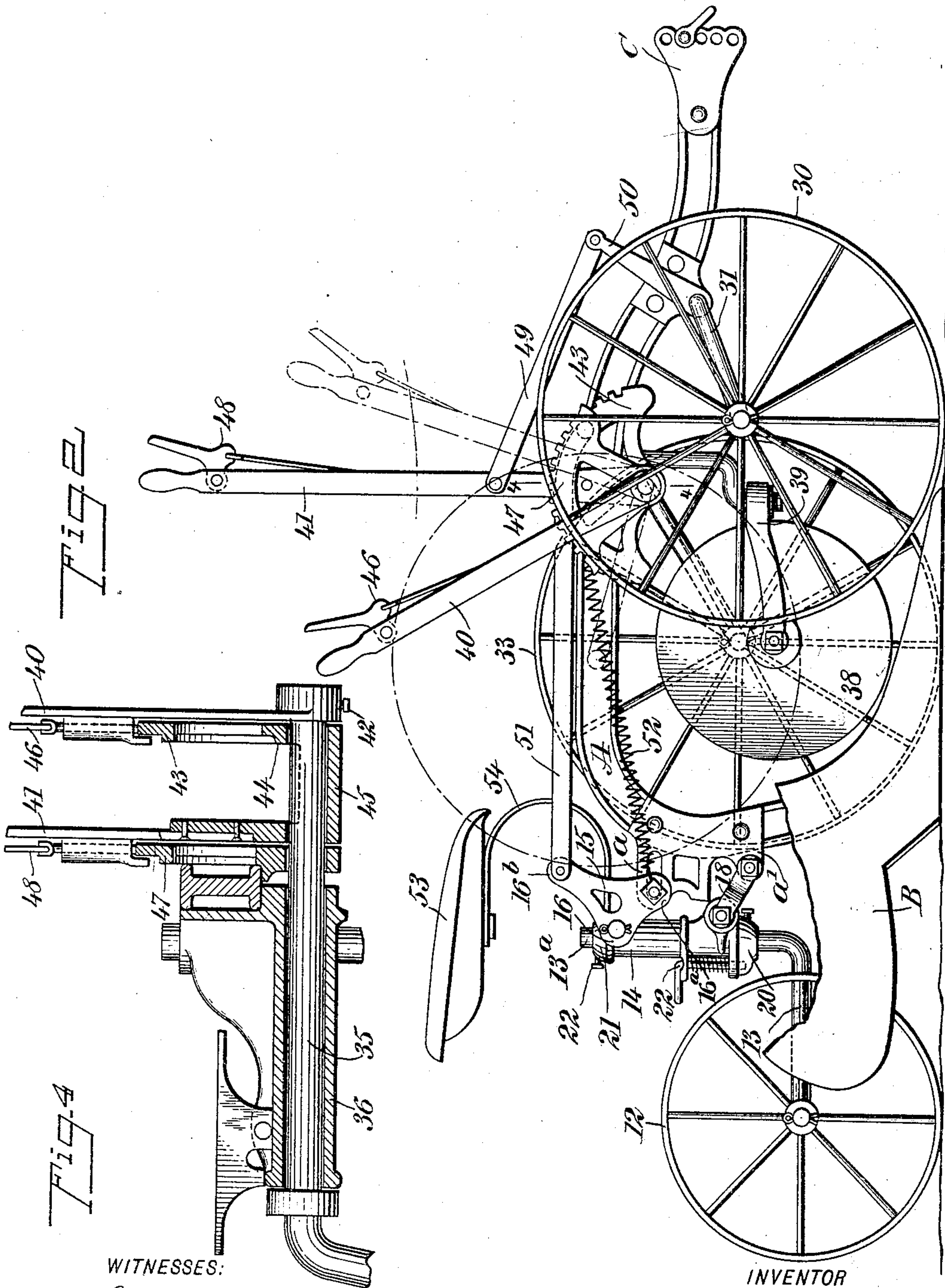
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3 SHEETS—SHEET 2.



WITNESSES:

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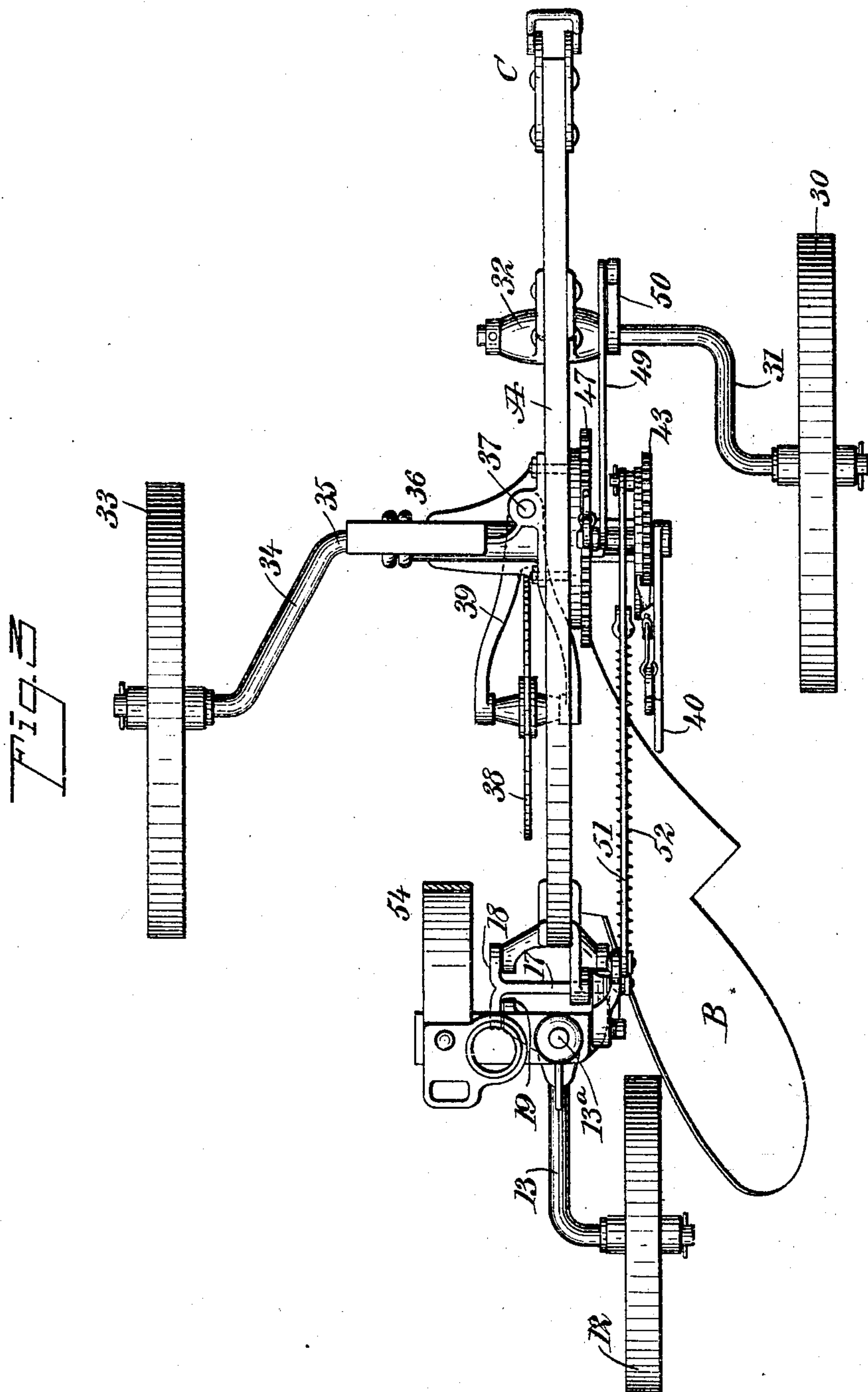
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APPLICATION FILED OCT. 19, 1903.

NO MODEL.

3 SHEETS—SHEET 3.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

EDWARD B. WINTERS, OF COFFEYVILLE, KANSAS.

## PLOW.

SPECIFICATION forming part of Letters Patent No. 774,630, dated November 8, 1904.

Application filed October 19, 1903. Serial No. 177,610. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD B. WINTERS, a citizen of the United States, and a resident of Coffeyville, in the county of Montgomery and State of Kansas, have invented new and useful Improvements in Plows, of which the following is a full, clear, and exact description.

This invention is an improvement upon a plow that was patented by me April 30, 1901, Patent No. 673,230. In that invention I provide in a sulky-plow or lister that is supported on three wheels two media, such as levers arranged convenient to the seat of the driver, for the purpose of adjusting the wheels vertically with respect to the plow-beam. In said invention one of these levers serves to adjust the single wheel on the landside of the plow, while the other lever effects the adjustment of the two wheels arranged on the furrow side of the plow, the levers working independently of each other. Consequently the movement of either one would raise one side of the plow, and thus change its angle relative to the vertical. When it was desired to give the plow a strictly vertical adjustment, it was hence necessary to move both of the levers, requiring the use of both hands of the driver to effect this adjustment.

In the present invention I have provided means whereby there are two levers for effecting the vertical adjustment of the plow, one of which adjusts the wheel on the landside only, without affecting the adjustment of the other wheel, while the other lever is arranged to simultaneously adjust the wheels on each side of the plow-beam.

One purpose of the present invention is to provide two levers for accomplishing the adjustments as above set forth—that is, one lever for adjusting a single wheel on one side and a second lever for adjusting the wheels on both sides—which levers are arranged in close proximity to each other and on one side of and adjacent to the plow-beam. These levers are preferably placed to the right of the plow-beam, with the driver's seat on the left of the beam, thereby making it perfectly convenient for the driver to manipulate said le-

vers with his right hand, while guiding the team with the lines in his left hand, as is the usual custom.

A further object of this invention is to provide an improved arrangement for giving a substantially vertical movement to the adjustable rear supporting-wheel.

With these objects in view and others my invention comprehends the construction and arrangement of parts, substantially as hereinafter set forth and then particularly pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of a plow embodying my invention. Fig. 2 is a side elevation. Fig. 3 is a plan view, partly in horizontal section; and Fig. 4 is a vertical section on the line 4 4 in Fig. 2 through the main bearing-block, showing the mounting of the operating-levers.

Referring now to the accompanying drawings, A represents a beam to which is secured the plowshare B in any suitable manner. The beam is provided with a clevis C at its forward end for draft purposes.

The rear of the plow is supported upon a small wheel 12, revoluble on a bent axle 13. This axle is given two right-angular bends, first in a horizontal plane and then in a vertical plane, and its vertical portion 13<sup>a</sup> is journaled in a standard 14, thereby giving the axle and wheel a caster motion to facilitate the turning of the plow to the right or left. The standard 14 is connected to the beam A by a pair of links, thus providing what is termed a "parallel" motion. One of these links comprises a bell-crank 15, one angle, 16, of which is pivoted to the standard 14, while a second angle, 16<sup>a</sup>, is pivoted to a lug *a* on the beam A. The lower portion of this standard 14 is pivotally connected with a sort of double link formed practically I-shaped. This link comprises a shank 17, having a cross-bar 18 at each end, said cross-bars, lying in the same plane. These bars are bolted, respectively, to



lugs 19 on the standard 14 and to lugs *a'* on the beam A. The bell-crank 15 and the double link are proportioned so that the pivotal arms are equidistant, thereby giving a parallel motion to the standard with respect to the beam when the bell-crank is rocked by means hereinafter set forth. Collars 20 and 21 are secured to the axle 13 above and below the standard 14, respectively, thereby preventing endwise movement of the axle in the standard, the collar 20 serving as the vertical support for the axle. A spring-pin 22, engaging suitable notches in the collar 20, serves to lock the rear wheel of the axle against motion side-  
wise.

A supporting-wheel 30, revoluble on a bent axle 31, serves to support the plow on the furrow side. This axle 31 is bent twice at right angles and has its upper end supported in a bearing-block 32, secured to the forward end of the beam. When the axle 31 is rocked in this support, it will be seen that the wheel 30 will be moved up or down with respect to the plow-beam. A third supporting-wheel 33 is revoluble on a bent axle 34, the latter having two bends, the free end 35, that is parallel with the end on which the wheel 33 is journaled, having bearing in a bearing-block 36, rigidly secured on the landside of the beam A. This bearing-block 36 also forms a vertical bearing for the shank 37, to which the colter 38 is pivoted by a forked portion 39.

For the purpose of revolving the axle portions 35 and 31 and also rocking the bell-crank 15 I provide a lever 40 and also a lever 41. The lever 40 is secured to the axle or shaft 35 by a bolt 42. When the lever 40 is rocked, it will be seen that the lower portion of the axle 34, with the wheel 30, will be moved through an arc that will raise and lower the wheel with respect to the plow-beam. On the portion 35 of the axle or shaft 34 is loosely mounted a rack 43 by a collar 44. The lever 41 is also loosely mounted on the shaft or axle 35, adjacent to the rack 43, and these two members—the rack and the lever 41—are movable together and connected by a block 45. A latch 46 on the lever 40 serves to engage the teeth of the rack 43, thereby adjustably securing the lever 40 with the portion 35 of the shaft 34 to the rack 43, and hence adjusting the lever 41. Thus it will be seen that when the latch engages this rack and the lever 40 is moved the lever 41 will also be rocked. A second rack, 47, is rigidly secured to the plow-beam on the inner side of the lever 41 and is engaged by a thumb-latch 48 on said lever. It will be observed that the rack 47 has a portion encircling the portion 35 of the shaft 34; but there is no positive connection between these members—that is, the portion 35 rotates independently of the rack 47.

Connecting members are provided whereby the operation of the lever 41 will rock the axle

31 and at the same time rock the bell-crank 15, thereby simultaneously raising or lowering the wheels 12 and 30. This means preferably comprises an arm 49, pivoted at one end to the lever 41 and at its other end pivoted to an arm 50, rigidly secured to the axle 31 adjacent to the bearing-block 32. An arm 51 is pivoted at one end to the third angle, 16<sup>b</sup>, of the bell-crank 15, and its other end is pivoted on the inner side of the rack 43. A coiled spring 52 is preferably interposed between the stationary pivot of the bell-crank 15 and the forward portion of the arm 51, this spring having a tendency to overcome the tension of the levers by gravity, thus facilitating the raising of the wheels.

The operation of the above-described parts is as follows: When it is desired to alter the angle or rate of the plowshare without materially affecting the depth of its cut, the outer lever 40 is raised or lowered. From Fig. 4, in connection with the other views, it will be observed that this will rock the shaft 34; but since the latch 46 is raised neither the rack 43 nor the lever 41 will be affected, and hence the arms 49 and 51 will not be moved nor the wheels on the furrow side disturbed; but when the lever 41 is moved this will move the arms 49 and 51 and the rear and furrow side wheel. Since the rack 43 is rigidly connected with the lever 41 and also the rack 43 is now secured to the lever 40 by its latch 46, the shaft 34 will also be rocked and the landside-wheel 33 will be raised and lowered simultaneously with the other wheels. In other words, the operation of the lever 40 will simply serve to raise or lower the landside-wheel, while the operation of the lever 41 will have the effect of simultaneously raising or lowering all of the wheels with respect to the plow-beam.

As in my above-mentioned patent, the driver's seat 53 is secured to an arm 54 on the standard 14, and consequently is immovable relatively to the wheel 30.

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

In a device of the character described, the combination with a plow-beam, a supporting-wheel mounted at one side of the beam on a bent axle, said axle having a bearing in the forward portion of the beam, a second supporting-wheel mounted on the other side of the beam and having a bent axle, a bearing-block secured to the beam, said latter axle having bearing in said bearing-block, a segmental rack connected to said beam, a U-shaped member having a longitudinal bore through its bottom portion and loosely mounted upon said latter axle, the axle passing through said bore, a lever rigidly connected to one side of said U-shaped member and having a latch adapted to engage said segmental rack carried by the beam, a second segmental

rack upon the other side of the U-shaped member, a lever rigidly connected to the axle carrying said U-shaped member, said latter lever having a latch adapted to engage the  
5 rack on the U-shaped member, a crank carried by said first-named bent axle, and an arm or link connecting said first-named lever with said crank.

In testimony whereof I have signed my name to this specification in the presence of two sub- 10 scribing witnesses.

EDWARD B. WINTERS.

Witnesses:

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C. W. PETERSON