No. 849,575. PATENTED APR. 9, 1907.

J. H. SAMUELS.

PLOW.

APPLICATION FILED OCT. 17, 1906.

3 SHEETS—SHEET 1.

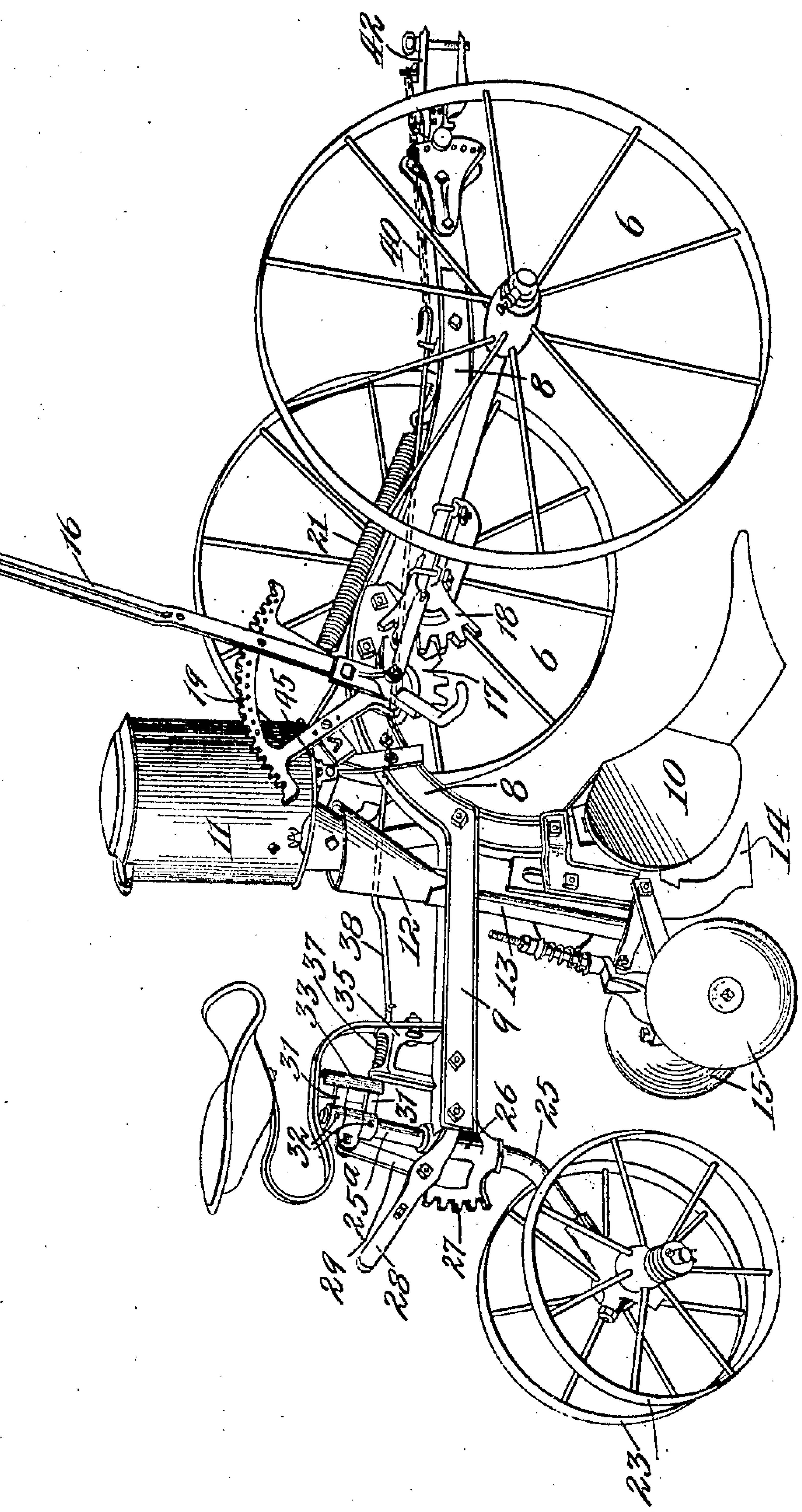

Fig. 1.

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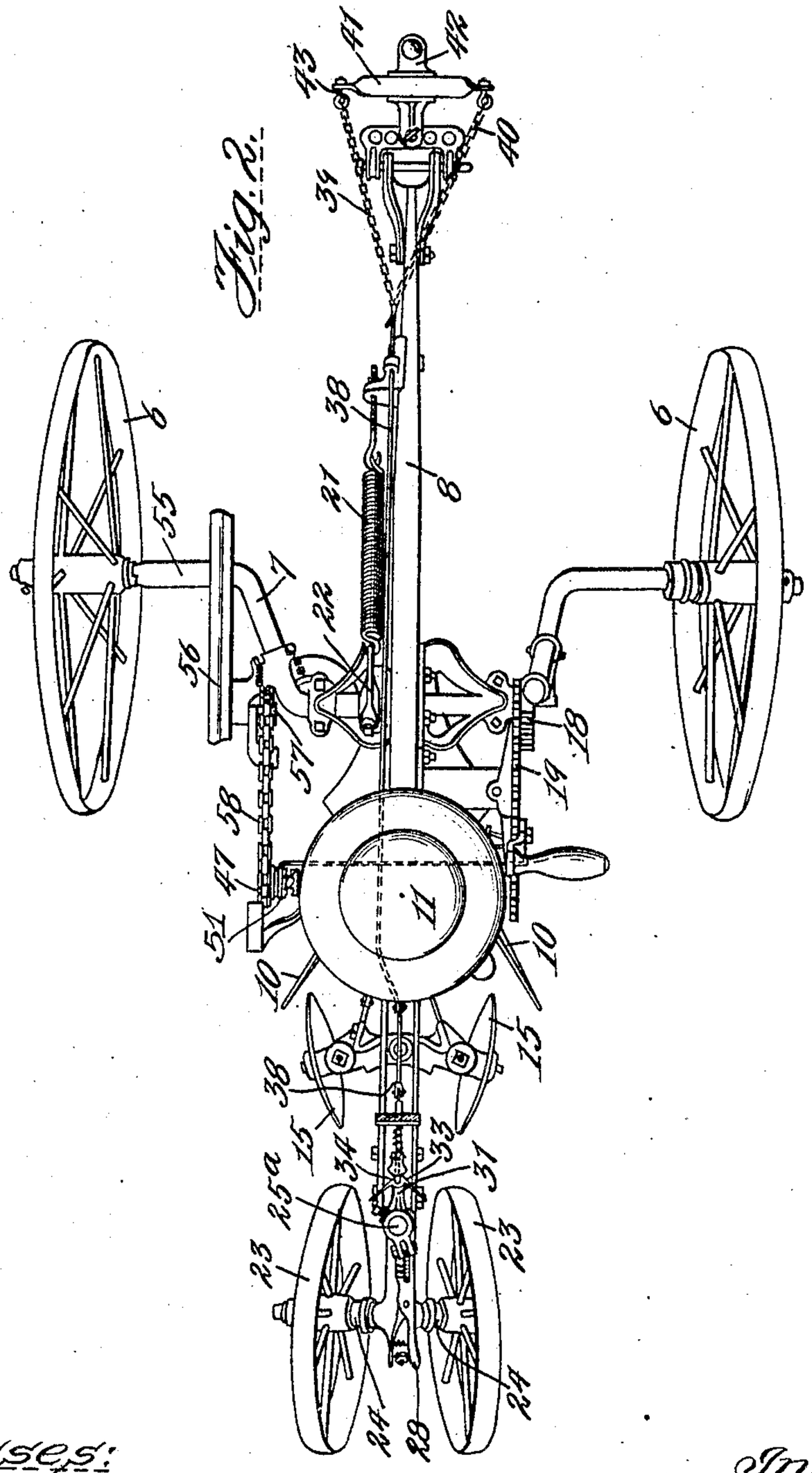
3 SHEETS—SHEET 2.

Fig. 2.



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3 SHEETS—SHEET 3.

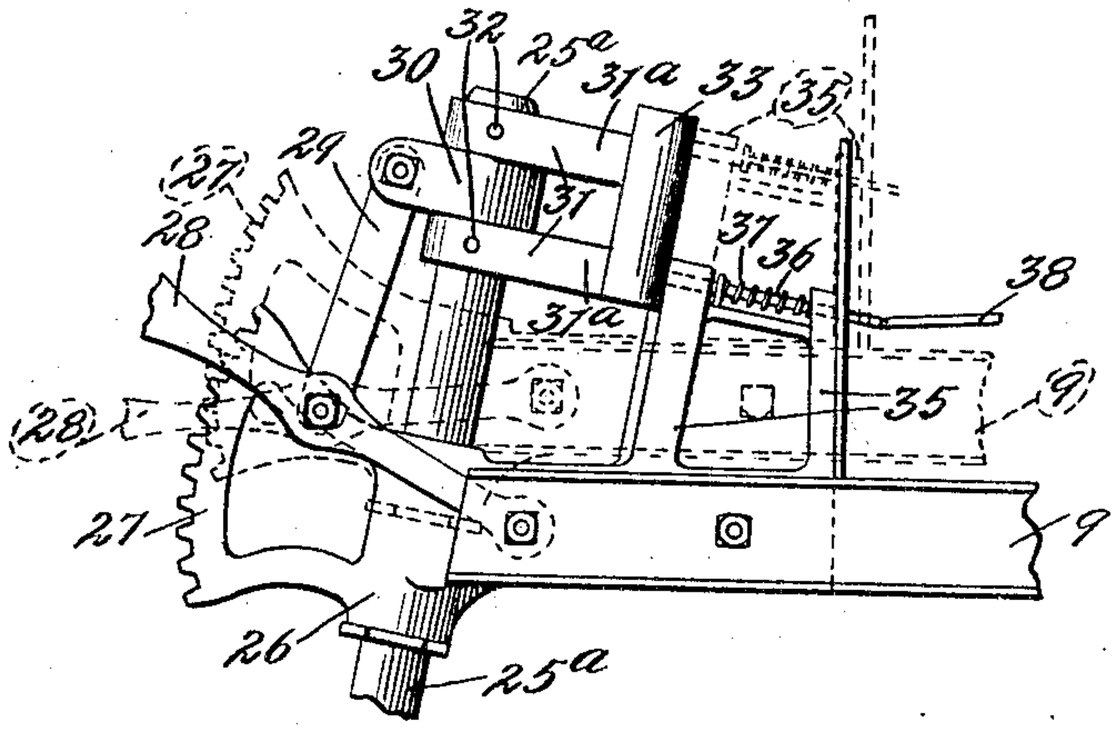

Fig. 3.

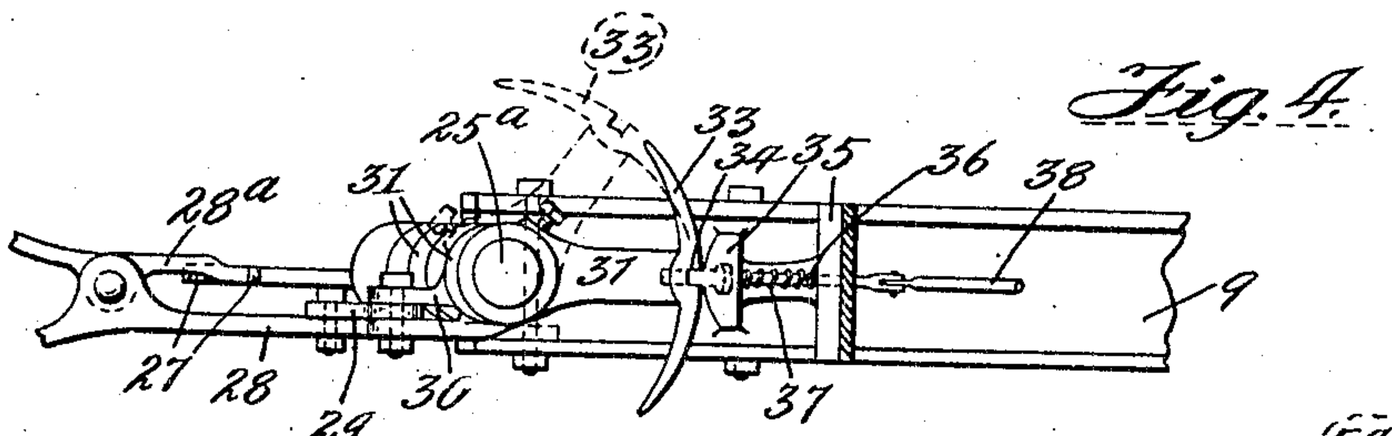

Fig. 4.

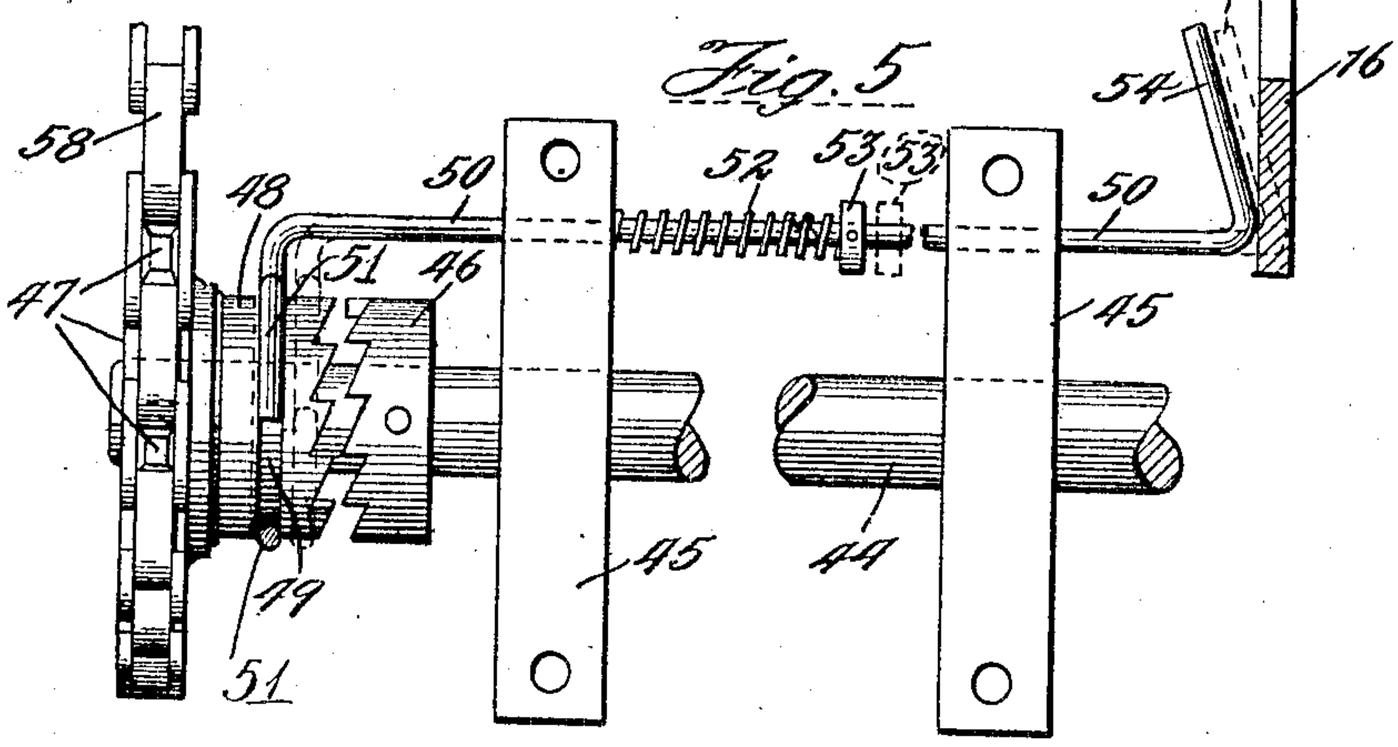

Fig. 5

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UNITED STATES PATENT OFFICE.

JONATHAN H. SAMUELS, OF MOLINE, ILLINOIS, ASSIGNOR TO D. M. SECHLER CARRIAGE COMPANY, OF MOLINE, ILLINOIS, A CORPORATION OF ILLINOIS.

PLOW.

No. 849,575. Specification of Letters Patent. Patented April 9, 1907.

Application filed October 17, 1906. Serial No. 339,372.

To all whom it may concern:

Be it known that I, JONATHAN H. SAMUELS, a citizen of the United States, residing at Moline, in the county of Rock Island and State of Illinois, have invented certain new and useful Improvements in Plows, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to plows; and its objects are to provide new and improved mechanism for operating the rear or caster wheel or wheels of such a plow.

My invention relates to the improvement of such plows; also, in sundry details hereinafter pointed out.

In the accompanying drawings, Figure 1 is a side elevation. Fig. 2 is a top or plan view. Fig. 3 is an enlarged detail, being a view of a portion of the standard of the caster-wheel and the mechanism by which it is operated. Fig. 4 is an enlarged detail, being a top or plan view of the same parts as those shown in Fig. 3; and Fig. 5 is an enlarged detail, showing the mechanism by which the seeding devices are disconnected by the operation of the lever, broken away for convenience of illustration.

Referring to the drawings, 6 indicates the front or carrying wheels, which are journaled upon a bent axle 7. The axle 7, as is best shown in Fig. 2, is a single axle bent four times approximately at right angles upon itself.

8 indicates the plow-beam, which is pivotally mounted upon the central portion of the bent axle 7 and is provided with a rearward extension 9.

10 indicates a plow-bottom which may be of any well-known and approved form of construction.

11 indicates a seedbox which is mounted upon suitable supports above the plow-beam 8 and which in use is provided with any suitable seed-plates, which, being of the well-known form and description, are not illustrated or further described. The seedbox 11 discharges into the spout 12 and from thence by means of a tube 13 into the ground behind a subsoiler 14.

15 indicates covering-wheels, which are mounted, by means of suitable supports, upon the plow-beam 8 behind the plow-bottom 10.

16 indicates a lever which is pivotally mounted at its lower end upon a suitable support from the plow-beam 8 and is provided at its lower end with a mutilated gear 17.

18 indicates a mutilated gear which is secured to the bent axle 7 in registry and adapted to mesh with the mutilated gear 17.

19 indicates a rack which is engaged by a suitable dog operated by a thumb-lever 20 on the hand-lever 16.

21 indicates a spring the forward end of which is connected with the plow-beam near its forward end and the upper end of which is connected with a suitable arm 22 on the bent axle 7.

All of the parts above described operate in the well-known and usual manner, and none of them form in themselves any part of my present invention. It is believed that it is not, therefore, necessary to describe them further herein. It is enough to say that it will be obvious that by the rocking of the lever 16 the bent axle is turned in one direction or the other and the plowshare accordingly raised or lowered, the spring 21 operating to assist in the raising of the plow.

23 indicates rear caster-wheels, which are journaled upon an axle 24.

25 indicates the caster-wheel standard, which is secured to the axle 24 and is provided with a sleeve 26, which is secured to the rear end of the extension 9 of the plow-beam 8, so that the upright portion 25[a] of the caster-wheel standard 25 slides in said sleeve.

27 indicates a rack which is preferably integral with the sleeve 26.

28 indicates a lever the forward end of which is pivoted to the extension 9 of the plow-beam 8, near the rear end thereof. The lever 28 is provided with a thumb-lever 28[a], which is adapted to engage with the rack 27 and lock the lever 28 in any desired position.

29 indicates a link which is pivotally connected at its lower end to the lever 28 a suitable distance to the rear of the pivotal connection of such lever with the beam extension 9 and is pivotally connected at its upper end with a clip 30, which is carried near the upper end of the caster-wheel standard 25 between two castings 31. The castings 31 are provided with suitable openings through which the upper end of the standard 25 passes and are secured thereto by pins 32 or in any other suitable manner. The

castings are provided with forwardly-extending arms 31ª, to the forward end of which is secured a centering-plate 33. The centering-plate 33, as is best shown in Fig. 4, is convex in front and is provided throughout its length with a vertical slot 34. The centering-plate 33 is of a length from top to bottom which somewhat exceeds the amount of the relative motion of the caster-wheel 23 and extension 9—that is to say, the distance which the straight portion 25ª of the standard 25 may be slid in the sleeve 26 when the hand-lever 28 is operated, as hereinafter described.

35 indicates a bracket which is mounted upon the top of the rear extension 9 of the plow-beam 8.

36 indicates a latch which is slidingly mounted in the bracket 35, the rear end of which is adapted to engage with the slot 34 of the centering-plate 33 and is held normally in engagement therewith by a spring 37.

38 indicates a rod which is slidingly mounted in suitable supports on the plow-beam 8 and whose rear end is connected with the forward end of the latch 36. The forward end of the rod 38 is connected by chains 39 40 with the ends of a cross-bar 41, which is mounted upon a yoke 42, connected with the clevis 43. The draft is applied to the plow by hitching the horses to the yoke 42.

The operation of the devices last above described is as follows: When it is desired to raise the rear portion of the plow-beam upon the caster-wheels 23, the outer end of the lever 28 is moved forward, the lever 28 and thumb-lever 28ª being released from the rack 27. The caster-wheels bearing upon the ground, it will be readily understood that by means of the link connection 29 the rear end of the rearward extension 9 will be lifted by this movement into the position, for instance, shown in dotted lines in Fig. 3, the latch 36 sliding in the groove 34 in the centering-plate 33, which, as has been said above, is made of sufficient length to permit this movement to the full extent of the motion desired without releasing the latch from the groove. It will of course be understood that by the hand-lever 16 and the lever 28 the plow may be properly adjusted to do the work required or may be lifted from the ground entirely, as may be desired. It will also be observed that by means of the latch 36, which engages the groove 34, and the centering-plate 33 the caster-wheels 23 will be centered—that is, held in line with the plow-beam as long as the latch is engaged with the groove and that the plow-beam may be raised or lowered upon the caster-wheels without disturbing this engagement. As long as the team is pulling straight ahead this engagement will be the normal position of the parts. As soon, however, as the team is turned to one side or the other the cross-bar 41 is moved by means of the chains 39 40 into whichever side this movement is made and the rod 38 will be pulled forward, disengaging the latch 36 from the groove 34. This leaves the standard of the caster-wheels 23 free to turn in the sleeve 26, and the caster-wheels will so turn, assisting in the turning of the plow. As soon, however, as the draft is straight forward again with reference to the plow-beam the caster-wheels will turn so as to be in alinement with the plow-beam, and the convex side of the centering-plate 33, bearing upon the spring-seated latch 36, will force it backward until it comes opposite the groove 34, when the latch will be forced by the spring into the groove and the caster-wheels centered, so as to be in alinement with the plow-beam and the draft. It will also be clear from what has been said above that as the plate 33 is made of a length somewhat greater than the sliding motion of the caster-wheel standard in its support the latch will always be in position to engage the centering-plate no matter at what height the rear portion of the plow-beam may be fixed upon the standard of the caster-wheel.

Referring particularly to Fig. 5, 44 indicates a seed-shaft which is journaled below the seedbox 11 in suitable supports 45 and which is adapted to drive any seeding mechanism in the box 11 in the well-known and usual manner, and therefore not shown. 46 indicates a clutch member which is pinned or otherwise secured to the shaft 44. 47 indicates a sprocket-wheel which is loosely mounted upon the outer end of the seed-shaft 44 and carries upon its hub on the inner side a second clutch member 48. 50 indicates a rod which is slidingly mounted in the suitable supports 45 below the seedbox 11, so as to slide longitudinally of itself therein. The rod 50 is provided at its outer end with a ring 51, which is adapted to engage the groove 49 of the second clutch member 48. 52 indicates a spring which bears at one end upon the support 45 and at the other end upon a head 53, secured to the rod 50, and which acts normally to keep the two clutch members 46 and 48 in engagement with one another. 54 indicates a cam portion on the other end of the rod 50, which is located in alinement with the lever 16 and is adapted to be engaged by said lever when the lever is thrown backward almost to its extreme limit. Upon the movement of said lever 16 thereupon backward to its extreme limit the bearing of the lever upon the cam portion 54 causes the rod 50 to be slid to the left in Fig. 5 against the action of the spring 52 and disengage the two clutch members 46 and 48 from one another, as is shown in Fig. 5, the dotted lines in said figure indicating the position of several of the parts normally when not forced into the other position by the

backward movement of the lever 16. 55 indicates a sleeve which is mounted on a horizontal part of the bent axle 7 and engages with the hub of the wheel 6, so as to be rotated upon the axle when the wheel 6 rotates in the driving forward of the machine. This is of the well-known construction and operates in the usual manner and operates to drive gearing of any approved form and construction (and therefore not shown) and carried within a gear-case 56. 57 indicates a sprocket-wheel which is journaled in suitable supports and driven by the gearing (not shown) in the gear-case 56. 58 indicates a sprocket-chain which connects the sprocket-wheel 57 and sprocket-wheel 47.

It will be obvious from the above description that when the last-described parts are in their normal position the seeding devices in the seedbox 11 will be operated by the rotation of the seeding-shaft 44 to drop seed in the usual and well-known manner behind the plowshare 10. When, however, the lever 16 is thrown back, so as to raise the plow-bottom out of the ground, said lever engages the cam 54 and forces the clutch members out of engagement with each other, whereupon the rotary movement of the shaft 44 of course ceases until the plow is again lowered into position.

That which I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination with a plow-beam, a standard journaled at the rear end of said plow-beam and movable vertically therein, a caster-wheel carried by said standard, and a lever adapted to raise and lower the rear end of said beam on said standard, of a centering-plate carried by said standard, a spring-seated latch adapted to engage said centering-plate, and mechanism operated by the draft to disengage said latch from said plate when the team is turned to either side, said plate being adapted to remain in engagement with said latch regardless of the varying relative position of said standard and said plow-beam.

2. The combination with a plow-beam, a standard journaled at the rear end of said plow-beam and movable vertically therein, a caster-wheel carried by said standard, a lever pivoted on said plow-beam, and connections between said lever and said standard whereby said standard may be moved longitudinally of itself in said plow-beam, of a centering-plate carried by said standard and of a length equal to the distance of the movement of said standard in said plow-beam, a centering-slot in said plate, a spring-seated latch normally in engagement with said slot, and mechanism operated by the draft to disengage said latch from said slot when the team is turned to either side.

3. The combination with a plow-beam, a standard journaled at the rear end of said plow-beam and movable vertically therein, a caster-wheel carried by said standard, a lever pivotally connected with the rear end of said plow-beam, and a link pivotally connected at one end with said lever and at the other end with the upper end of said standard, of a centering-plate carried by said standard and of a length equal to the distance of the movement of said standard in said plow-beam, a centering-slot in said plate, a spring-seated latch normally in engagement with said slot, and mechanism operated by the draft to disengage said latch from said slot when the team is turned to either side.

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