

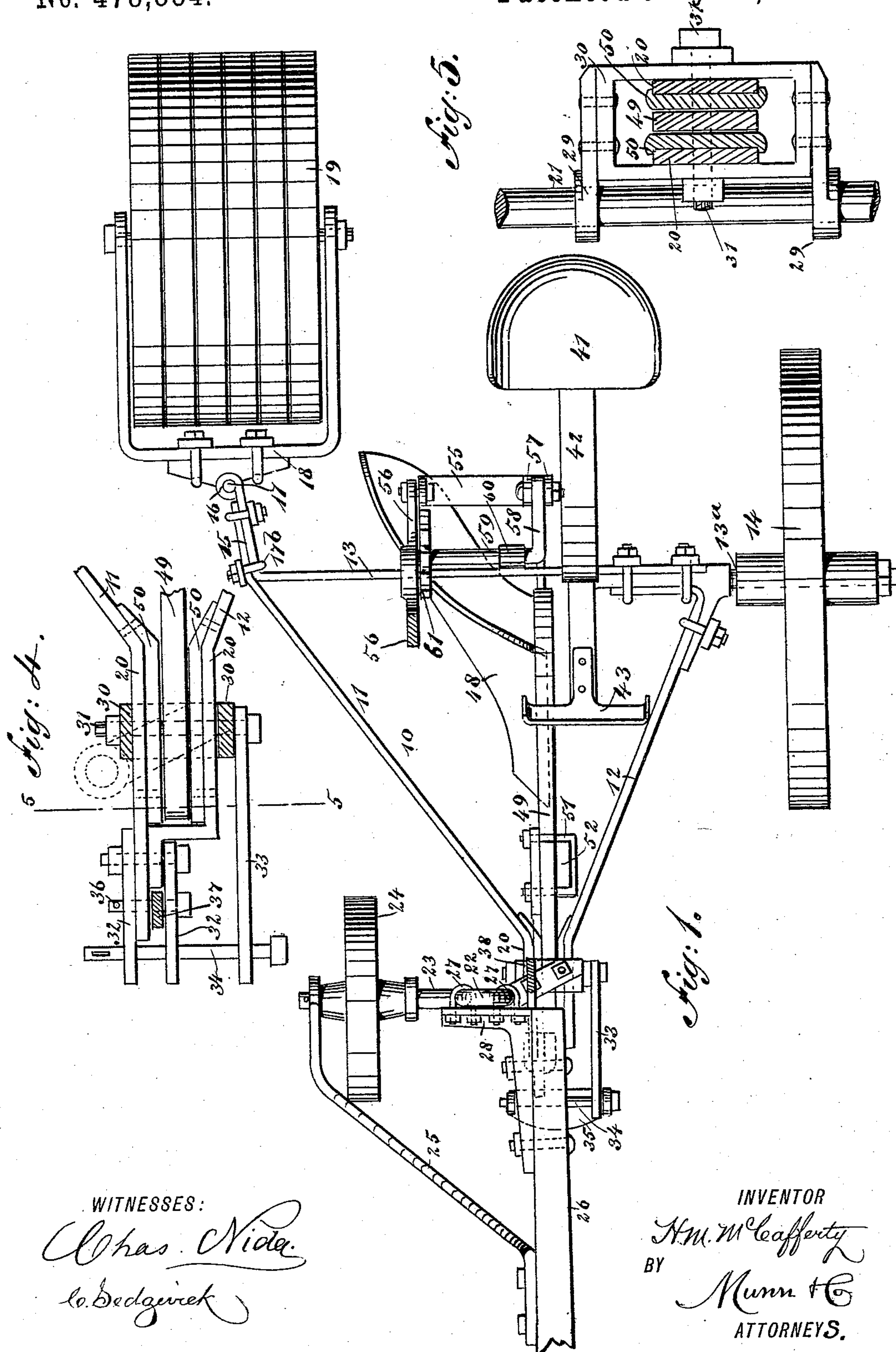
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3 Sheets—Sheet 1.

H. M. McCAFFERTY.  
COMBINATION PLOW.

No. 478,884.

Patented July 12, 1892.



WITNESSES:

Chas. Nida  
C. Sedgwick

INVENTOR

H. M. McCafferty  
BY  
Munn & Co  
ATTORNEYS.

(No Model.)

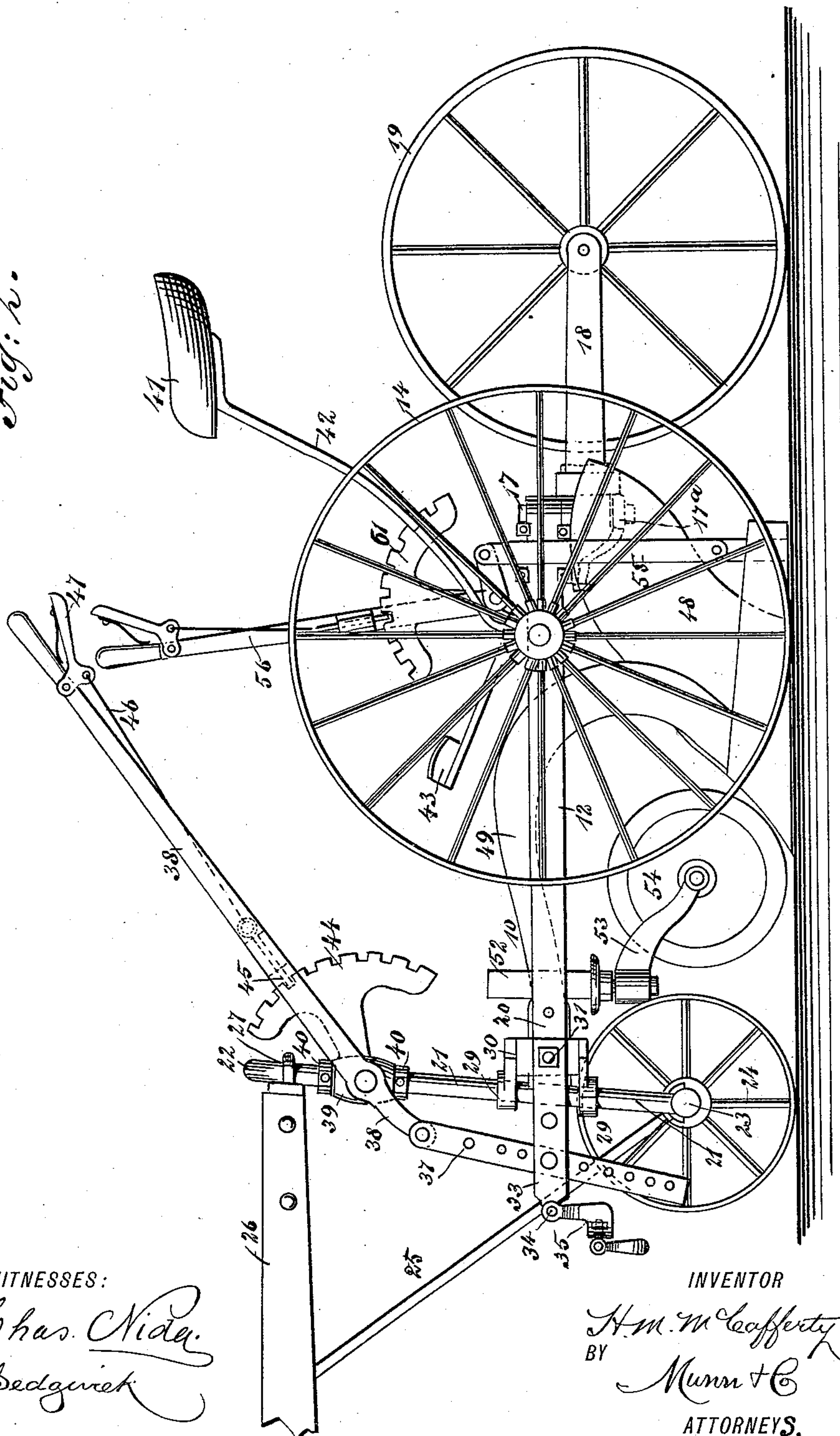
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*Fig. 2.*



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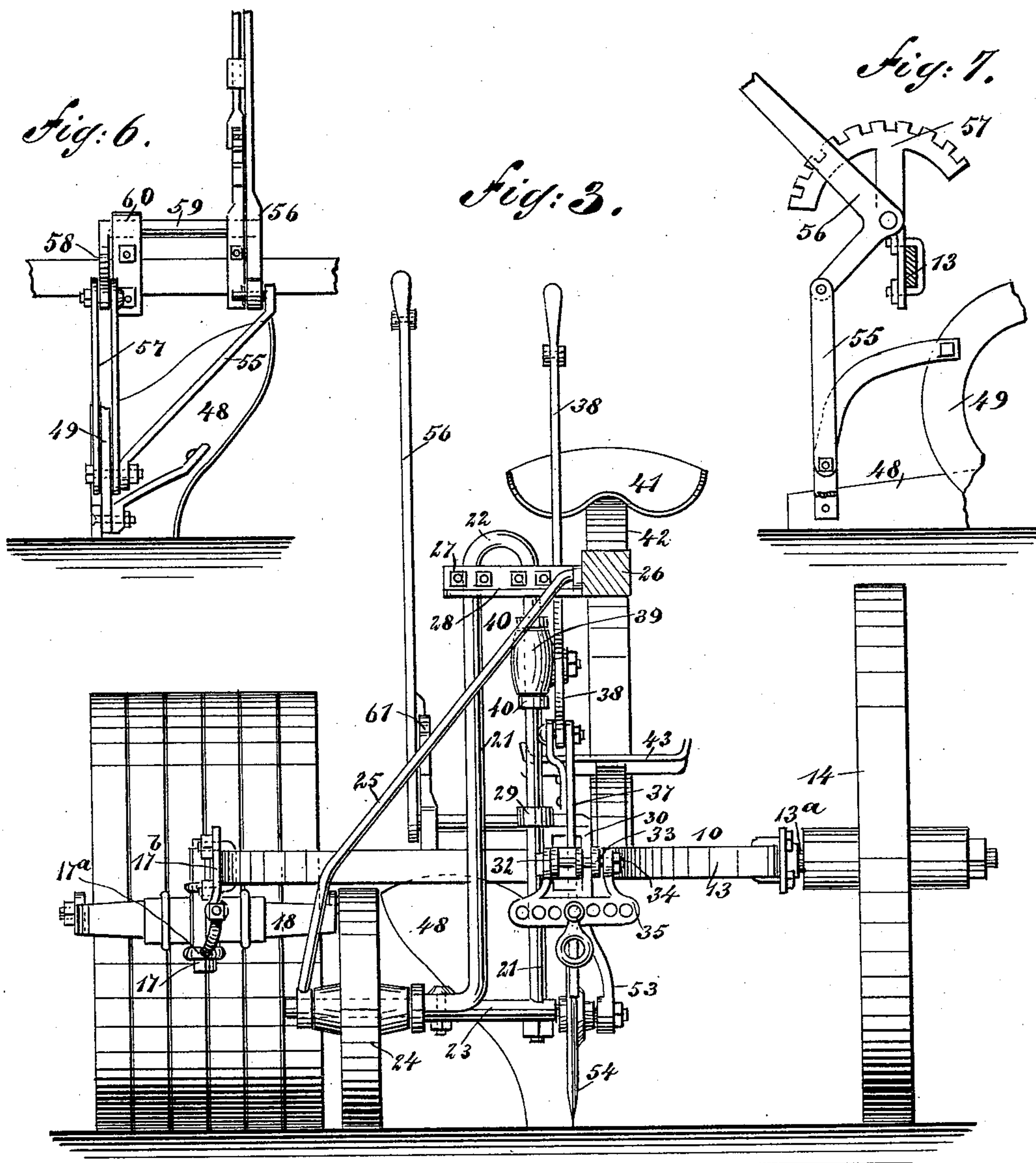
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# UNITED STATES PATENT OFFICE.

HENRY M. McCAFFERTY, OF MONTROSE, COLORADO.

## COMBINATION-PLOW.

SPECIFICATION forming part of Letters Patent No. 478,884, dated July 12, 1892.

Application filed October 13, 1891. Serial No. 408,557. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY M. McCAFFERTY, of Montrose, in the county of Montrose and State of Colorado, have invented a new and Improved Combination-Plow, of which the following is a full, clear, and exact description.

My invention relates to improvements in agricultural implements; and its object is to produce a combination sulky-plow and roller which will thoroughly plow the soil, which will roll it nicely at the same time, and in which the roller forms one of the main wheels of the machine. The machine is especially advantageous from the fact that the soil rolls better while it is somewhat moist and mellow, as the clods will break easier; and, moreover, when the ground is rolled at the same time it is plowed the moisture is retained for a long time. The soil being more plastic at this time also fills all crevices and completely covers all weeds and vegetable matter, so that they will rot quickly and leave the ground in good condition for the drill or planter, as the case may be, thus saving the usual amount of harrowing and rolling.

To this end my invention consists in certain features of construction and combinations of parts, which will be hereinafter described and claimed.

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

Figure 1 is a broken plan view of the machine. Fig. 2 is a broken side elevation of the same. Fig. 3 is a front elevation with the tongue in section. Fig. 4 is a detail sectional plan showing the manner in which the front end of the frame is coupled to the plow-beam and to the mechanism for moving the frame and plow. Fig. 5 is a broken detail cross-section on the line 5 5 in Fig. 4. Fig. 6 is a broken detail rear elevation of the lever mechanism for moving the rear end of the plow, and Fig. 7 is a broken side elevation of the same, showing a portion of the frame in section.

The main frame 10 is of an essentially triangular shape, as best shown in Fig. 1, and is formed of the side pieces 11 and 12 and the rear cross-piece 13, the pieces being suitably

united at their adjacent ends. At one end of the cross-piece 13 is a bearing-axle 13<sup>a</sup>, which enters the hub of the wheel 14 in the usual manner, and on the opposite side of the frame the parts 11 and 13 where they meet are bent rearward, as shown at 15, and the part 13 terminates in a suitable knuckle 16, adapted to receive the coupling-pin 17, by means of which the yoke 18 of the roller 19 is hinged to the main frame. The lower end of the pin 17 extends through a collar 17<sup>a</sup>, as best shown in Fig. 3, and this collar connects by means of a brace with a clevis 17<sup>b</sup> on the part 15 of the frame, the above connection serving to prevent the frame and yoke from sagging. The roller 19 is of common construction, being made up of a series of flat-faced wheels, and the yoke 18 embraces one-half the roller and carries the axle of the same. The front end of the frame 10, where the two side pieces 11 and 12 are united, is elongated, as shown at 20 in Fig. 1, and this front end of the frame is vertically adjustable and is mounted on the rod 21 in the manner described below. This rod 21 is held in a nearly vertical position, as best shown in Figs. 2 and 3, is doubled in the middle, as shown at 22, which doubled portion forms the top of the rod, and the ends of the rod are secured to an axle 23, which carries a wheel 24, adapted to run in the furrow, and the outer end of the axle is connected by a brace 25 with the tongue 26, which tongue is connected with the upper portion of the rod 21 by means of clevises 27, which clamp the members of the rod to the angle-piece 28, which is secured to the tongue and supports the clevises.

On the inner member of the rod 21 are sliding collars 29, which support a rectangular frame 30, and this frame embraces the elongated end 20 of the main frame and is secured thereto by a bolt 31, which bolt also forms a support for the plow-beam, as described below.

To the extreme front end of the frame 10 are pivoted links 32, which are adapted to support the clevis by which the machine is drawn, and a stay rod or bar 33 extends forward from the bolt 31 and parallel with the links 32, and the clevis-pin 34 is carried in



the free ends of the stay-bar and links and supports the clevis 35. A pin 36 extends through the links 32 and also through one of a series of holes in a strap 37, which strap is  
 5 pivoted at its upper end to the short end of a lever 38, and the lever is pivoted to a drum 39, which turns on one member of the rod 21, and is held in place by collars 40. The lever 38 extends rearward to a point where it may  
 10 be easily reached from the seat 41 of the machine, and the seat is supported on the usual spring-bar 42, and is also provided with a foot-rest 43. A segmental rack 44 is also supported on the drum 39, so that it will always  
 15 bear the same relation to the lever 38, and this rack is arranged adjacent to the lever and is adapted to engage a sliding bolt 45 on the lever, the bolt connecting by a rod 46 with a spring-pressed handle 47, which is piv-  
 20 oted on the lever 38 near its free end, and by means of which the bolt 45 may be released from the rack.

The rack mechanism for holding the lever is of common construction, and by its use the  
 25 lever may be held in a desired position and the frame and plow held at the requisite height. By adjusting the strap 37 in relation to the frame 10 the plow may be adapted for shallow or deep plowing. The plow 48 is of  
 30 the usual kind, and is arranged centrally beneath the main frame. The plow is provided with the usual plow-beam 49, which extends forward, and the front end of which is held between wear-plates 50 in the elongated por-  
 35 tion 20 of the main frame, the plow-beam, plates, the main frame, and the rectangular frame 30 all being clamped together by the bolt 31, as best shown in Fig. 5.

The plow-beam has attached to it by means  
 40 of a clevis 51 a colter-bar 52, having a curved arm 53 at its lower end, and this arm carries at its free end a rolling colter 54, which is arranged adjacent to the plow-point in the usual manner. The rear portion of the plow is con-  
 45 nected by a brace 55 with the lower crank end of the lever 56, which lever is pivoted on a suitable support attached to the cross-piece 13 of the main frame and extends upward to a point within easy reach of the driver. The  
 50 plow also connects by means of straps 57 with a crank 58 of the shaft 59, which shaft is mounted in a suitable support 60 on the main frame and is connected with the lever 56, and by moving the lever the plow may be  
 55 raised or lowered, as desired.

The usual form of segmental rack 61 is arranged adjacent to the lever, and the lever is provided with a catch mechanism to engage the rack like that provided for the lever 38  
 60 and already described.

The operation of the machine is as follows: The plow is let into the ground by means of the lever 56 and is adjusted by the lever 38 in the manner already described, so as to plow  
 65 the requisite depth, and as the furrow is turned it will be thrown into the path of the

roller 19, which will roll the soil smoothly and thoroughly.

I have shown the machine provided with a single plow and roller; but it will be under-  
 70 stood that any desired number of plows may be used—that is, a gang of plows—and the roller may be made wide enough to cover all the furrows, or a series of separate rollers may be used.  
 75

In the drawings I have shown the various parts of the frame connected by clevises; but, if desired, bolts may be substituted.

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

1. The combination, with the plow and its frame, of a wheel supporting the frame at the  
 85 landside and a land-roller hinged centrally between its ends at its forward side to the op-  
 posite side of the frame to support it and adapted to have a free lateral swinging move-  
 ment, substantially as set forth.

2. The combination, with the plow and its  
 90 frame, having a rearward extension at its fur-  
 row side, of a wheel supporting the landside of the frame and a land-roller having a yoke hinged centrally in front of and between the  
 95 ends of the roller by a vertical pivot to said rearward extension and traveling outside and  
 in rear of the plow, substantially as set forth.

3. The combination, with the wheeled plow-  
 100 frame formed of side bars 11 12 and a rear transverse bar 13, the forward ends of the side bars converging and then projecting forward  
 in parallel planes, as at 20, and bolted together, of wear-plates 50 50 on the inner faces of the  
 105 parts 20, and the plow-beam pivoted between said wear-plates, and a vertical-wheeled bar on which the front end of the frame is ad-  
 justably supported, substantially as set forth.

4. The combination, with the plow-frame, of a vertical  $\cap$ -shaped bar having a stud-axle  
 110 secured to its lower ends and carrying a wheel, the inner member of the bar having a sliding  
 connection with the front end of the frame, a sleeve on said member and provided with a  
 rack, a lever pivoted to the sleeve and having a latch engaging the rack, and a link con-  
 115 necting it with the plow-frame, substantially  
 as set forth.

5. The combination, with the plow-frame, of the vertical  $\cap$ -shaped frame, one member of which has a sliding connection with the  
 120 front end of the frame, a stud-axle secured  
 to the lower ends of the arm, a tongue secured to the upper end of the arm at its bend, a brace extending from the tongue to the outer  
 end of the stud-axle, a sleeve on the inner  
 125 member of said vertical arm and having an  
 attached rack, a lever pivoted to said sleeve and having a latch engaging the rack, and a link connecting the lever with the forward  
 extremity of the plow-frame, substantially as  
 130 set forth.

6. The combination, with the wheeled plow-  
 frame and the plow having its beam pivoted



in the frame, of a crank-shaft 59 above the rear end of the plow, a bell-crank lever connected at its angle with said shaft and having an adjusting-latch and rack, links 57  
5 connecting the landside of the plow with the crank 58 of said crank-shaft, and the inclined brace-link 55, extending from the same point outward and upward and pivoted to the short arm of said bell-crank lever, substantially as  
10 set forth.

7. The combination, with the frame having its side bar 11 and rear cross-bar 13 extended rearward face to face and clipped together, as shown at 17<sup>b</sup>, the rear extremity of the  
15 cross-bar extension terminating in a vertical knuckle 16, of the land-roller having a yoke 18 coupled to said knuckle by a vertical pin 17, and a brace connecting the clip 17<sup>b</sup> with the

lower end of the bolt by means of the collar 17<sup>a</sup>, substantially as set forth. 20

8. The combination, with the nearly-vertical front support mounted on a supporting-wheel and connected with the pole of the machine, of the main frame having its rear portion mounted, as described, and having an  
25 elongated front end, the plow suspended upon the main frame and having its beam pivoted in the elongated end of the main frame, a coupling-frame secured to the plow-beam and the main frame and held to slide on the sup-  
30 port, and a lever mechanism for moving the coupling-frame, substantially as described.

HENRY M. McCAFFERTY.

Witnesses:

JOHN J. TOBIN,  
JAMES D. GAGE.