

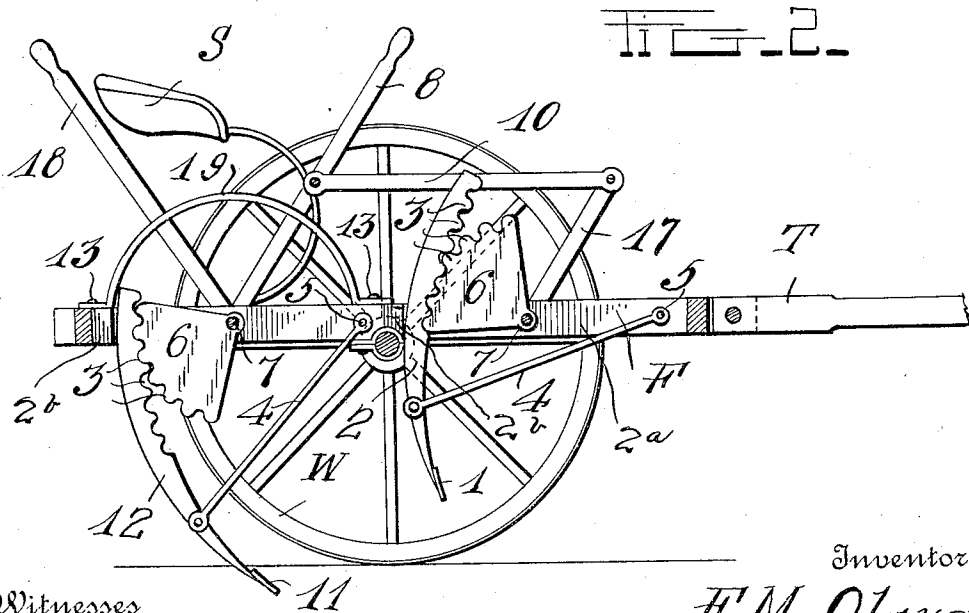
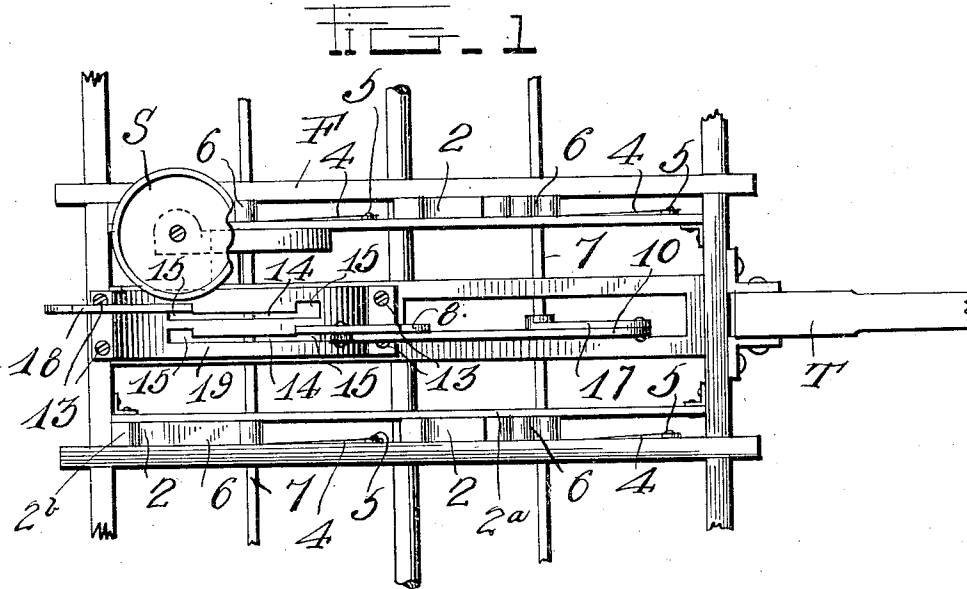
F. M. OLIVER.

WEEDER.

APPLICATION FILED JUNE 8, 1911.

1,049,905.

Patented Jan. 7, 1913.



Witnesses

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# UNITED STATES PATENT OFFICE.

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WEEDER.

1,049,905.

Specification of Letters Patent.

Patented Jan. 7, 1913.

Application filed June 8, 1911. Serial No. 631,940.

*To all whom it may concern:*

Be it known that I, FREDERICK M. OLIVER, a citizen of the United States, residing at Pendleton, in the county of Umatilla and State of Oregon, have invented certain new and useful Improvements in Weeders; and I do 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.

This invention relates to cultivators, and more especially to those intended for doing weeding; and the object of the same is to save the time of the user by providing two blades, one directly in front of the other, with independent mechanism for raising and lowering them, so that if the front blade should become clogged the rear blade could be lowered and the front blade raised and dumped as it were, after which it is again lowered and the rear blade meanwhile does the work.

Another and important object of the invention is in provision of curved standards which are movably attached to and in sliding engagement with the longitudinal members of the frame of the machine, whereby the lower end or blade of the standards are properly and adjustably directed into the ground. This and other objects are carried out by the construction hereinafter more fully described and claimed, and as shown in the drawings wherein—

Figure 1 is a top plan view of a machine constructed in accordance with my invention, with parts broken away; Fig. 2 is a vertical longitudinal section of the machine.

In the drawings, the frame F is mounted on a running gear here shown as wheels W and drawn by a team attached to the tongue T in any suitable way, and this frame carries a seat S supported on a spring or otherwise. The machine is shown as of sufficient size to require a team of horses, although it will be understood that the tongue could be replaced by a pair of shafts and a single horse could draw the machine if it were not too wide.

Coming now more particularly to the details of the present invention, the numeral 1 designates the front and 11 the rear blades, carried respectively at the lower ends of standards 2 and 12 disposed one forward of the other and which are of like construction and hence I need describe but one. Each

standard therefore has teeth 3 in its front edge, and its body is preferably curved slightly to the rear throughout its length as shown, its lower portion being connected by a draft rod 4 with a pivotal point 5 on the frame forward of the standard itself and about at the center of the arc in which it is curved so that the resistance set up by forcing the blade through the earth is thrown onto the frame of the vehicle. Engaging the teeth 3 of the standard is a toothed segment 6 fixed upon a shaft 7 extending transversely of the frame F and journaled therein, and the shafts have handles 8 and 18 rising to within reach of the operator sitting on the seat S if one be provided. The shafts 7 are necessarily of equal length and have a number of segments 6 engaging said teeth, although there need be but one handle for each shaft.

As previously stated the rear handle 18 is intended to be fast upon the rear shaft 7, whereas the front handle 8 is loose upon the same shaft and is connected by a link 10 which extends forward and is pivoted to the upper end of a lever 17, the latter in turn being fast upon the front shaft as will be clearly understood.

While any suitable form of rack or other device may be employed for holding the handles in a locked position, I prefer that best illustrated in Fig. 1. Herein the rack 19 is a curved sheet or plate of metal secured at its extremities as at 13 upon the frame and having in the upper portion of its body two slots 14, each having at each end an offset 15. The handle 8 moves in one slot 14 and the handle 18 in the other, and it will be obvious from the showing in Fig. 1 that when either handle is moved to an extreme position it can be deflected laterally into one of the offsets 15 so as to hold it there.

The parts of this machine are of the desired sizes, shapes, proportions, and materials, and changes in details may be made at will.

Referring particularly to Fig. 2 of the drawings the forward curved standards 1 are movably supported and mounted adjacent to the shaft of the machine upon which the wheels W are revolubly secured, the rear curved wearing surfaces of said standards being adapted for sliding contact with the shaft whereby the same are readily operated and held in position. It is to be noted in this connection that the forward standards

1 are principally operated and consequently should be confined and guided in such a manner as to be freely operated, whereas the rear auxiliary standards 11 are only employed when the standards 1 become clogged or inoperative.

With the above construction, the operation is as follows: When the user drives his team over the ground, the front handle 8 is usually set to the rear whereby the front blade 1 is projected downward to a point beneath the earth's surface and weeding is being done, whereas the rear blade at this time is elevated. In case said front blade should become clogged or muddy so that it does not functionate properly, the rear handle 18 is manipulated to drop the rear blade into the ground, after which the front handle is manipulated to raise the front blade so that there is no interruption to the weeding. The curved shape of the standards is such that when they are raised by their segments 6 their lower extremities stand substantially vertical as best seen in Fig. 2, and the result will be that the earth or mud which has accumulated on the front blade 1 will drop off of it by reason of the vibration of the machine. After this blade has thus cleaned itself, it may be dropped again into the ground, and the rear blade elevated again without any interruption to the operation. A striking feature of this construction consists in the fact that in case the operator desires his blades to work deeper into the ground, he may disengage the teeth 3 from the teeth on the segment 6 and re-engage them at proper points. Obviously the draft rods 4 convey the strain set up by the blades when working to the frame F and throw the teeth 3 into close engagement with those on the segments 6. As clearly shown the curved standards are slidingly engaged between the outer longitudinal members of the frame F of the machine and metallic bars 2<sup>a</sup> the latter being arranged parallel with said members, and disposed between and fixed to the latter and bars are wear blocks 2<sup>b</sup> with which the rear smooth curved edges of the rear standards 12 slidingly engage, whereby the blades 11 of said standards are properly projected into the ground, and the teeth 3 of the standards held in engagement with the toothed segments 6 during the movement of the levers. It is further to be noted that by the construction referred to the blades 11 are inserted into the ground in a curved direction, by which means the blades are easily projected in the ground to be operated upon. As will be further observed the metallic bars 2<sup>a</sup> perform several useful and important functions

and as clearly shown they form bearings for the rock shafts 7 and thereby reducing the cost of the machine and constructing a frame for the latter which is rigid and durable.

It is quite possible to use this machine by depressing the blade 1 to a less degree than the blade 11, so that the forward blade digs partly into the earth and the rearward blade digs deeper. When the operator desires to drive the machine idle over the ground, obviously both blades are raised.

What is claimed as new is:

In a weeder, the combination of a frame mounted upon wheels, of metallic strengthening and guide bars secured to the frame and arranged in parallel relation to the longitudinal members of the frame but separated therefrom, wear blocks secured between the longitudinal members and bars, front and rear curved standards slidingly located between the members and bars, the rear smooth curved edges of the rear standards being frictionally engaged with the blocks, the opposite edges of said standards being provided with teeth, the rear smooth curved edges of the front standards being adapted for sliding contact with the axle, rods movably connecting the frame with the standards below the teeth thereof, front and rear rock shafts journaled in the longitudinal members and adjacent bars, toothed segments secured to said shafts for engagement with the teeth on the standards and limited in an elevated position by the teeth of the latter, an arm the lower end of which is secured to the front shaft, a hand operated lever the lower end of which is movably mounted upon the rear shaft, a link one end of which is movably attached to the upper end of the arm and having its opposite end movably attached to the intermediate portion of the lever, a second lever fixed to the rear rock shaft, whereby the standards are under perfect control of the operator from the seat of the machine, a centrally disposed frame secured to the end bars of the machine, and a curved plate secured upon said frame and provided with slots and notches for guiding and holding the levers in a reverse position to one another, whereby, when one standard is elevated the other is in operative position.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

FREDERICK M. OLIVER.

Witnesses:

S. A. NEWBERRY,  
J. P. WALKER.