J. E. MUSTARD.
Wheel-Cultivator.

No. 206,961. Patented Aug. 13, 1878.

Fig. 1.

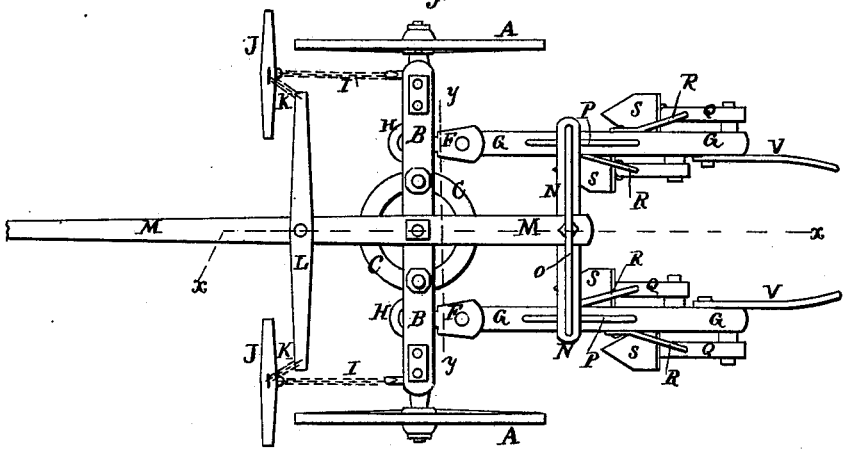


Fig. 2.

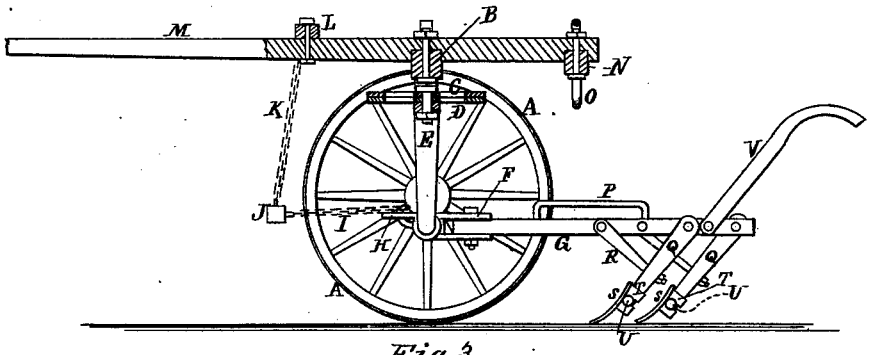
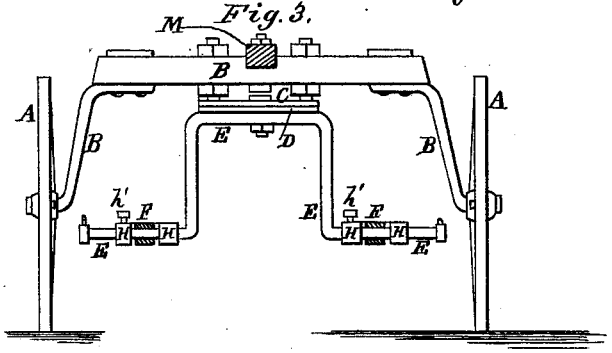


Fig. 3.



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UNITED STATES PATENT OFFICE.

JAMES EDGEDEE MUSTARD, OF GLEN HALL, INDIANA.

IMPROVEMENT IN WHEEL-CULTIVATORS.

Specification forming part of Letters Patent No. **206,961**, dated August 13, 1878; application filed March 4, 1878.

To all whom it may concern:

Be it known that I, JAMES E. MUSTARD, of Glen Hall, in the county of Tippecanoe and State of Indiana, have invented a new and useful Improvement in Wheel-Cultivators, of which the following is a specification:

Figure 1 is a top view of my improved cultivator. Fig. 2 is a vertical longitudinal section of the same, taken through the line *x x*, Fig. 1. Fig. 3 is a cross-section of the same.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved wheel-cultivator which shall be so constructed that it may have a direct draft, which will have no side draft, and will require less power to draw it than ordinary cultivators.

A are the wheels, which revolve upon the journals of the axle B. The axle B is bent four times at right angles, or nearly at right angles, to raise its middle part out of the way of the plants, and of the mechanism placed beneath it.

The middle part of the axle B may be made of wood, and to its lower side is bolted a circular plate or frame, C, which forms the upper or stationary part of a fifth-wheel. To the center of the circular plate C is pivoted the center of a corresponding circular plate or frame, D, which forms the lower or movable part of a fifth-wheel, and to which is bolted the middle part of the bar E. The bar E is bent four times at right angles, and around its end parts are passed clevises F, which are bolted to the plow-beams G by a single bolt, so that the rear ends of the plow-beams may have a free lateral movement upon the said bolts or pivots. The movements of the clevises F upon the arms of the bar E allow the rear ends of the plow-beams to have a free vertical movement. The clevises F are kept in place upon the arms of the bar E by the U-bars or clevises H, which receive the clevises F between their arms, and have holes formed in their ends to receive the arms of the bar E. The clevises H are secured in place upon the arms of the bar E by set-screws *h'*, which pass through them and rest against the said arms, so that by loosening the said set-screw *h'* the plow-beams G may be adjusted wider apart or closer together, as may be desired. To the ends of the bar E are attached the ends of two chains, I, to the other ends of which are attached the whiffletrees J. The whiffletrees J are supported and kept from dropping down and breaking or injuring the plants by the chains K, the lower ends of which are attached to the center of the upper sides of the said whiffletrees J, and their upper ends are attached to the ends of a cross-bar, L. The cross-bar L is pivoted at its center to the tongue M, which is bolted to the center of the axle B.

The tongue M projects in the rear of the axle B, and to its rear end is attached a cross-bar, N, to the ends of which are attached two downwardly-projecting hooks, O.

If desired, the hooks O may be formed upon the opposite ends of a rod which passes along the upper side of the cross-bar N, and down through its ends.

To the upper side of the plow-beams G are attached long staples P, to be hooked upon the hooks O, to support the plows away from the ground when passing from place to place. To the opposite sides of the rear parts of the beams G are attached the upper ends of the standards Q, which are kept at the proper distance apart by blocks interposed between them and the said beams G. The draft-strain upon the standards Q is sustained by the braces R, the lower ends of which are attached to the said standards, and their upper ends are attached to the beams G.

S are the plows, which have semi-tubular sockets T attached to their rear sides, to receive the rounded lower ends of the standards Q. The sockets T are slotted transversely to receive the bolts U, that secure the plows S to the standards Q, so that the plows may be adjusted to throw the soil toward or from the plants by loosening the nuts of the said bolts U. To the rear ends of the beams G are bolted the handles V, by means of which the plows are guided.

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

The combination of the arched draw-bar E and fifth-wheel C D with the arched axle B, the plow-beams G, and the independent draft-connection I J K L, substantially as shown and described.

JAMES EDGEDEE MUSTARD.

Witnesses:

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