W McCORMICK.

Wheel-Cultivator.

No. 54,751. Patented May 15, 1866.

Fig. 1.

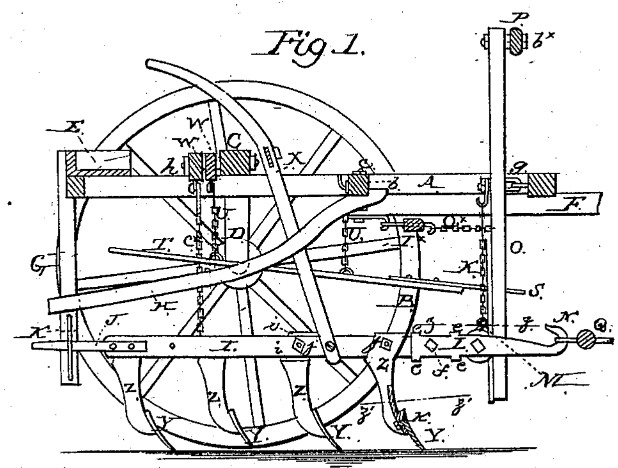


Fig. 3.

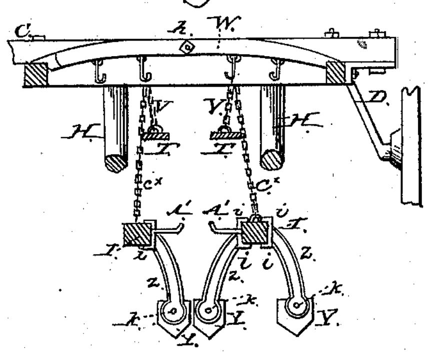


Fig. 2.

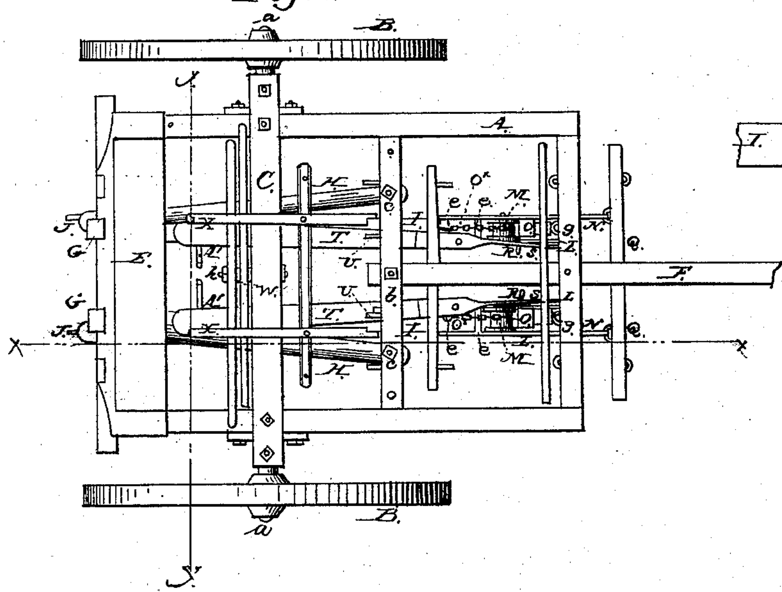


Fig. 4.

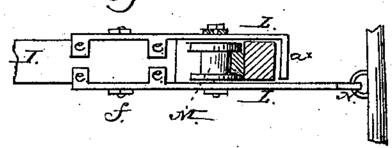
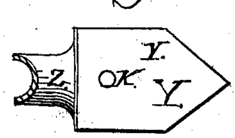


Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM McCORMICK, OF MUSCATINE, IOWA.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **54,751**, dated May 15, 1866.

To all whom it may concern:

Be it known that I, WILLIAM McCORMICK, of Muscatine, in the county of Muscatine and State of Iowa, have invented a new and Improved Riding or Cultivator Plow; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side sectional view of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a plan or top view of the same; Fig. 3, a transverse vertical section of the same, taken in the line *y y*, Fig. 2; Fig. 4, a horizontal section of a portion of the same, taken in the line *z z*, Fig. 1; Fig. 5, a horizontal section of a plow-standard pertaining to the same, taken in the line *z' z'*, Fig. 1.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved riding and cultivator plow; and it consists in constructing and arranging the parts in such a manner that the plows may be operated or manipulated with the greatest facility, the draft of the machine rendered easy or light, the plow-standards attached to the beams in such a manner that they may be readily applied to and detached therefrom, and a very desirable machine throughout of the kind specified obtained.

A represents a horizontal frame of rectangular form, and mounted upon wheels B B, the axle C of which is bolted on the upper side of the frame, and has angle-irons D D projecting down from each end at the outer side of the frame, with the arms *a*, on which the wheels turn, at their lower ends.

E is the driver's seat, placed on the rear part of the frame A, and F the draft-pole, secured to the front part of the latter.

To the rear cross-bar of the frame A there are securely bolted two uprights, G G, which are braced by rods or bars H H from a cross-bar, *b*, of the frame A, the bolts *c*, which secure the front ends of the bars H to the cross-bar *b*, being fitted in any of a series of holes in the cross-bar, according to the distance required between said bars H H. The uprights G G may also be adjusted at a greater or less distance apart on the rear cross-bar of the frame A corresponding to the distance between the front ends of the rods or bars H.

I I represent two plow-beams, the rear ends of which have metal rods J J bolted to them, one to each, to fit into or pass through oblong staples or guides K at the outer sides of the lower parts of the uprights G G, said staples or guides admitting of a vertical play or movement of the beams, and the rods J being sufficiently long to admit of a longitudinal play of the same, as will be fully understood by referring to Fig. 1.

To the front ends of the plow-beams I I there are attached clevises L L, one to each side. These clevises have a roller, M, fitted between them, and one clevis of each beam projects forward and terminates in a hook, N, while the hook N is bent inward in contact with the one which is provided with the hook, as shown at $a^{\times}$ in Fig. 4. Each clevis L is provided with lips or flanges *e* to project over and underneath the beams, and the clevises of each beam are secured to the latter by a bolt, *f*. (Shown clearly in Fig. 4.)

O O are two uprights, which are secured to the front cross-bar of the frame A by staples or universal joints *g*, the lower ends of said uprights passing between the clevises L L of the plow-beams I I, in front of the rollers M, the bent front part $a^{\times}$ of one of the clevises of each beam keeping said uprights in contact with the rollers, as shown clearly in Fig. 4. The upper ends of the uprights O O are connected, by bolts $b^{\times}$, with a cross-bar, P, and a double-tree, Q, is applied to the hooks N of the clevises L of the beams I I, and in order to obtain a draft-equalizer the uprights O are connected, by chains $O^{\times}$, to a bar, $I^{\times}$, connected to the rear of the draft-pole.

The front ends of the plow-beams I I are connected, by chains R R, to the uprights O O, and each chain has a rod, S, fitted in it, said rods being secured to the front ends of treadles T, which are suspended by chains U from the cross-bar *b* of the frame A. Each treadle T is connected, by a chain, V, with a lever, W, and these levers are fitted on one and the same pin *h*, which passes through the axle C. The lever W, with which one treadle T is connected, is attached to the plow-beam I at the opposite side of the machine by a

chain, $c^{\times}$, and hence it will be seen that either plow-beam may be raised by depressing the treadle T at the side of the machine opposite to it. For instance, if the right-hand plow-beam is to be raised the left-hand treadle is depressed, and vice versa.

Each plow-beam has a handle, X, attached to it for the purpose of giving a lateral motion to the plow-beams when required.

The plows Y are attached to cast-iron standards Z. These standards are of concave form at their rear sides, in order to insure lightness with strength, and they have flanges or lips *i* at their upper ends to fit over the upper and lower surfaces of the beams and form a socket to retain the standards in position, no braces being required. These standards are cast in curved form, and there are two attached to each beam, a single bolt, *j*, being required for each, and the two standards of each beam are curved in reverse directions, so as to project out from opposite sides of the beam, as shown in Fig. 3, and admit of the plow of the rear standard filling the furrow made by the plow in front of it. Each plow-beam I is provided with a stirrup, A′, for the plowman to rest his feet upon and steady the plows and keep them in the ground, if needed, and the plows are secured to their standards by a single bolt, *k*.

This implement may be used for cultivating land, for sowing seed, or for plowing crops grown in hills or drills. The plows are under the complete control of the rider or driver.

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

1. The cast-iron standards Z, provided at their upper ends with lips *i*, to fit over the upper and lower edges of the plow-beams I, in order to avoid the use of braces to retain the standards in position, substantially as set forth.

2. The arrangement of the plow-beams I, as shown, to wit: the rear ends being provided with rods J, to fit into staples or guides K at the lower parts of uprights G, at the rear of of the frame A, and their front ends connected, by chains R, to uprights G, which are attached, by universal joints *g*, to the front part of the frame A, the uprights G passing down between rollers M and the front bent parts $a^{\times}$ of one of the clevises L of each beam, substantially as and for the purpose specified.

3. The attaching of the double-tree Q to the front ends of the beams I, when said beams are connected to the bar $I^{\times}$ through the medium of the uprights O, in the manner substantially as set forth.

4. The arrangement of the treadles T T, with the beams I I and levers W, substantially as and for the purpose specified.

WILLIAM McCORMICK.

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