THOMAS & MAST.

Wheel Cultivator.

No. 52,093. Patented Jan. 16, 1866.

Fig. 1.

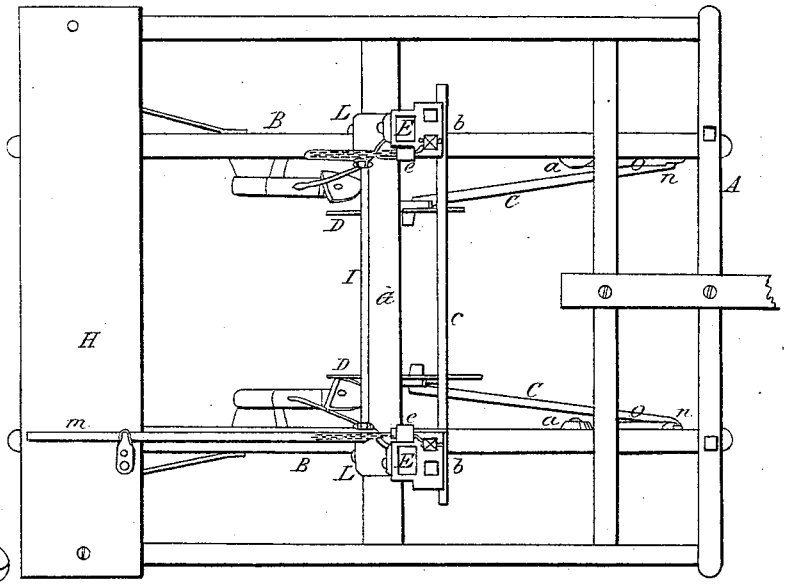


Fig. 5.

Fig. 4.

Fig. 3.

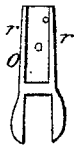
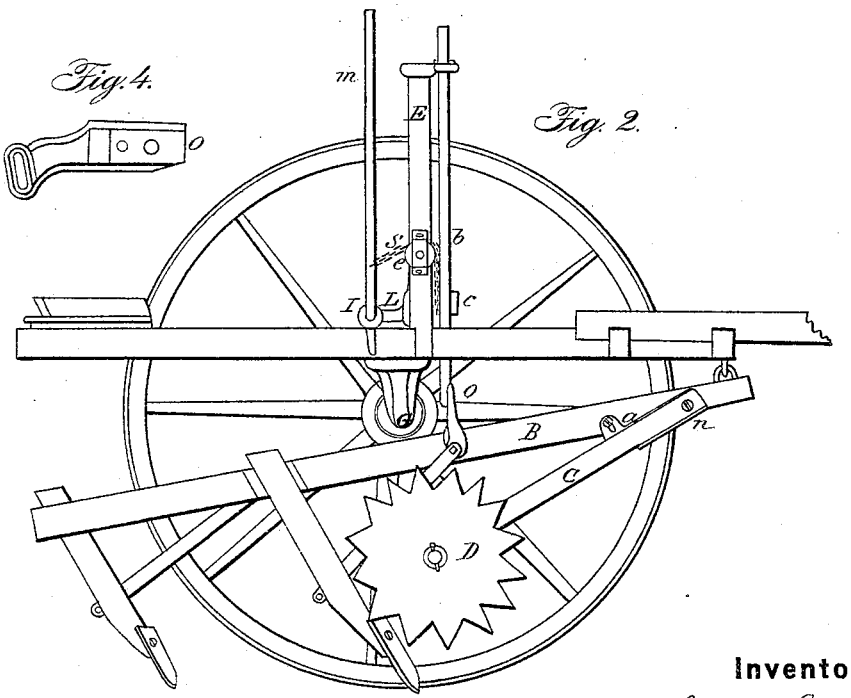


Fig. 2.



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UNITED STATES PATENT OFFICE.

J. H. THOMAS AND P. P. MAST, OF SPRINGFIELD, OHIO.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **52,093**, dated January 16, 1866.

To all whom it may concern:

Be it known that we, J. H. THOMAS and P. P. MAST, of Springfield, in the county of Clarke and State of Ohio, have invented certain new and useful Improvements in Cultivators; and we do hereby declare that the following is a clear, full, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making part of this specification, in which—

Figure 1 is a top-plan view; Fig. 2, a longitudinal vertical section taken on the line of *x x* of Fig. 1. Figs. 3, 4, and 5 are views of parts detached.

Our invention consists of a novel arrangement of the shields for protecting the plants, a novel arrangement of parts for elevating the plows and shields, and in a novel construction of castings to be used in the construction of the implement.

To enable others skilled in the art to construct and use our invention, we will proceed to describe it.

A represents the main frame of the cultivator, which may be made in any suitable form.

B represents the plow-beams, of which there are two, jointed at the front to the frame A in such a manner as to permit them to be moved freely either vertically or laterally at will, each of the beams B being provided with two shovel-plows, as shown.

D represents a circular notched metallic plate, provided with a hub at its center, having a hole therein, so that it can be secured upon a short stud or axle, on which it revolves freely. This plate D constitutes a shield for protecting the young plants from the clods or loose earth that is turned inward by the front plows, which are attached to the inner sides of the beams D. These shields D are secured vertically to the rear ends of bars C, which bars are pivoted to the beams B at *n*. To the front end of the bars C are secured the metal plates O, the form of which is clearly shown in Fig. 4. At the rear end of this piece O is a projection, *a*, having a slot in it, as shown in Fig. 4, through which a bolt, *f*, is passed and secured in the beam B. By this means the shield D is permitted to have a limited vertical movement independent of the beam B, to adjust itself to the inequalities of the surface, and at all times remain in contact with the ground, except when intentionally raised therefrom by elevating the plows, as hereinafter explained.

The plow-beams B are suspended by means of the swinging bars *b* from the top of the rigid standards E, as in the patent heretofore granted to us, except that we now use a metal piece, O, cast in the form shown in Fig. 3, with flanges *r* on each edge for securing it rigidly to the swinging bar *b*, its lower end being made, as shown, to clasp the beam B, to which it is secured by a bolt passing loosely through it, to permit the beams B to be moved laterally to and fro. The flanges *r* serve to secure the plate *o* rigidly to bar *b*, and also keep the latter from being split, thus forming a very cheap and efficient means of uniting the bars *b* to the plow-beams.

For the purpose of securing the standards E more firmly in their proper position, and keeping them from being displaced or becoming loosened, we use the angle-iron L, as shown in Fig. 5. This iron is so made as to clasp the wooden axle G on the top and rear, and projects upward against the back of standard E, to both of which it is firmly bolted. It also has a projection on its upper side, through which a hole is bored or otherwise formed, to afford a bearing for the rock-shaft I, used for raising the plows.

A pulley, *e*, mounted in a metal frame, is secured to the inside of the standards E, as shown in Fig. 2. Over these pulleys a chain is passed, one end being secured to the plow-beams in front and the rear end to the arms of the rock-shaft I, by which the plows can be raised or lowered at pleasure.

The driver sits upon the seat H, with a foot resting on each of the plow-beams B, by which means he is enabled to move the plows laterally, as may be necessary to avoid hitting the plants, and leaving his hands free to manage the team or operate the lever *m*, as may be necessary.

By these improvements we are enabled to produce a very efficient and durable cultivator, one exceedingly well adapted to the purposes for which it is intended.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. Pivoting and bracing the shield-bars C

to the beams B in such a manner that the shields will retain their relative position to the shovels when they are being moved laterally, and at the same time be permitted to play up and down independently of each other and of the shovels, as and for the purpose set forth.

2. The metal pieces O, constructed as shown, and arranged to operate in connection with the bars C, as herein set forth.

3. The metal stirrup *o*, constructed as shown, and arranged to operate in connection with the swinging bar *b* and beam B, as set forth.

4. The pulleys *e*, secured to the standards E, in combination with the rock-shaft I, chains *s*, and beams B, arranged as shown and described.

5. The angle-irons L, constructed as shown, and arranged to operate in connection with the axle G, standards E, and rock-shaft I, as and for the purpose herein set forth.

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Witnesses:
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