C. ALVORD.

Wheel Cultivator.

No. 102,201. Patented April 26, 1870.

Fig. 1

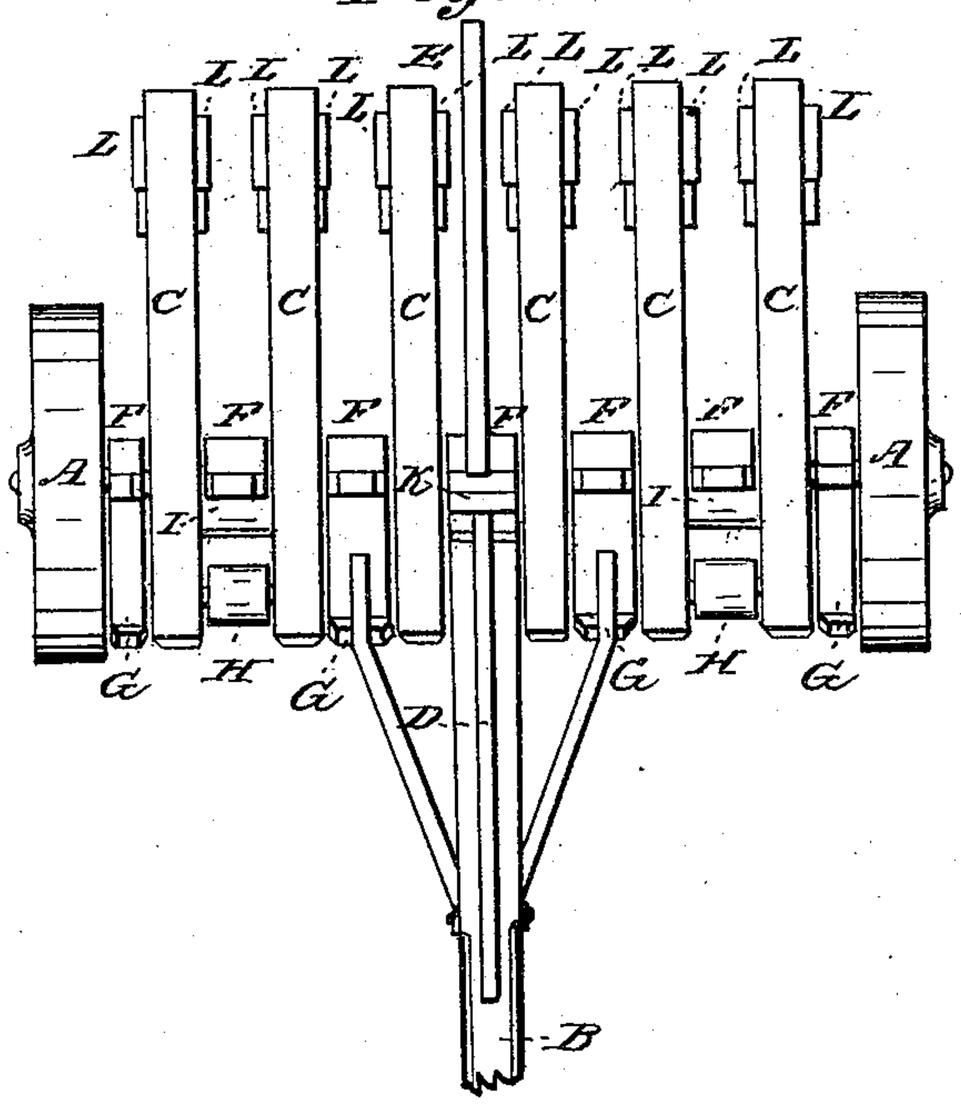


Fig. 2

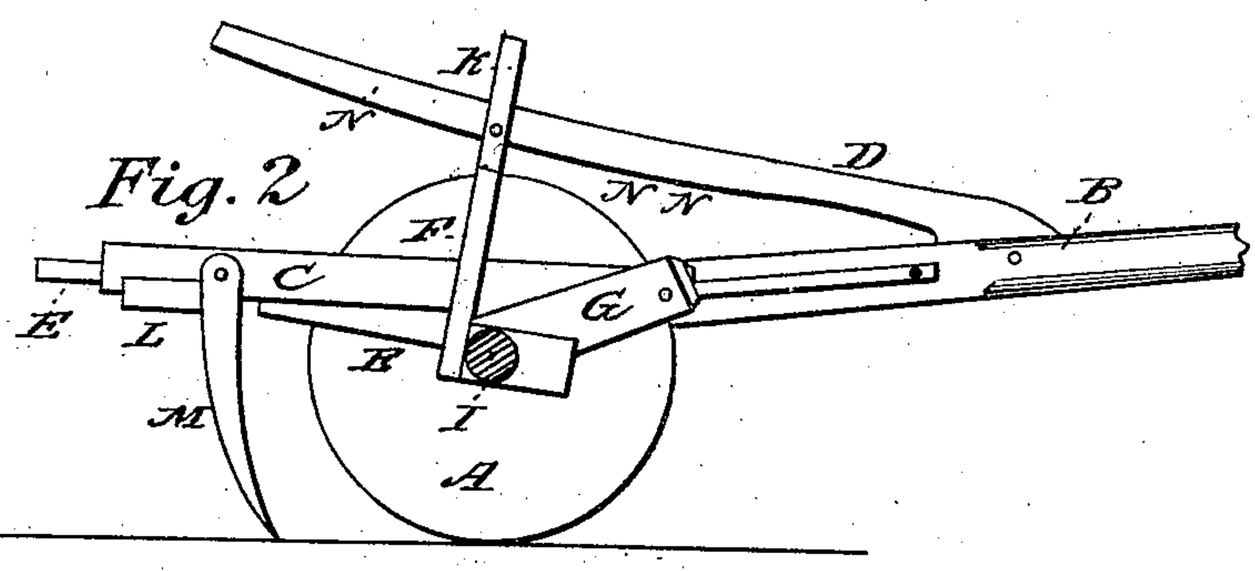
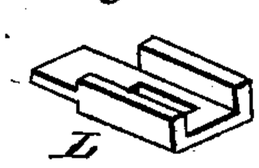


Fig. 3



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UNITED STATES PATENT OFFICE.

CLARK ALVORD, OF COURTLAND, WISCONSIN.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **102,201**, dated April 26, 1870.

To all whom it may concern:

Be it known that I, CLARK ALVORD, of Courtland, in the county of Columbia and State of Wisconsin, have invented a new and Improved Cultivator; and I do hereby declare that the following is a full, clear and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a top view; Fig. 2, a longitudinal vertical end view, one wheel being removed.

The object of this invention is the production of an independent-acting or vibrating-bar cultivator that can be easily handled and controlled, however heavy the drag-bars and cultivator-teeth may be. This is accomplished by the use of an axle of a novel construction, arranged and combined with wheels A, tongue B, drag-bars C, stay-bar D, and lever E, as shown in the annexed drawings. A hardwood plank two and one-half inches thick and eight inches wide, and as long as the cultivator to be constructed is wide, including the wheels, is suitable material of which to construct such axle. At each end and at the back edge bearings for wheels are formed. (Shown at I, Fig. 2.)

Upon the top of this plank are fastened props extending upward and forward from the front edge of the same, as shown at G, Fig. 2. These props are four in number, and are for the purpose of supporting the front ends of the drag-bars and rear end of the tongue, to which they are fastened by a rod passing through holes in the ends of each. The end of this rod is shown near the front end of prop G, Fig. 2. The two middle props are made sufficiently wide to fill the spaces between the drag-bars, and are slotted at the ends to receive the ends of the braces of tongue B, as shown in Fig. 1.

To the rear edge of such plank are fastened short uprights from one and one-fourth inch to one and a half inch thick and sufficiently wide to fill the spaces between the drag-bars, and extending up about a foot, excepting one at or near the middle, which is extended sufficiently high to receive and hold the stay-bar D, and marked F below and K above such stay-bar in Fig. 2. These uprights are for the purpose of steadying the drag-bars and keeping them in line, and are marked F in Fig. 1. The axle thus constructed is combined with the drag-bars C and tongue B by a rod passing through the front ends of props G and the ends of the several drag-bars and tongue, as heretofore described. The several drag-bars are placed between the uprights F, and above the axle, upon the back edge of which they are supported when being raised from the ground. Lever E is fastened to the top of the axle, and extends back a little beyond the drag-bars, and is used to turn the axle on its bearings in the wheels.

D is a stay-bar pivoted to tongue B, and extending back through a slot in standard K, and provided with notches N, which shut over a bolt passing through the slot in such standard, for the purpose of holding the machine in any position which it is placed by working-lever E. The metallic plate, of the form shown in Fig. 3, is placed on the under side of the drag-bar, behind the tooth, where it is fastened by a bolt passing through the slot in the plate and through the drag-bar, for the purpose of supporting the tooth, except it meet with some unusual obstruction, when the plate is forced back and the tooth allowed to swing. This plate is shown in position marked L in the several figures.

The operation of this cultivator is as follows: By lifting up on lever E the rear of the tongue and front ends of the drag-bars are thrown down and the rear ends of the drag-bars are thrown up. By bearing down upon this lever the front ends of the bars and rear of the tongue are thrown up and the back end of the drag-bars down. If this downward movement of lever E be continued, the back edge of the axle will be removed from the under side of the drag-bars, so as to allow the cultivator-teeth to penetrate the ground as far as desired, be the distance more or less, as by locking stay-bar D the machine is held in any desired position.

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

1. The axle I, combined with the props G, when the latter project upward and forward from the axle for the purpose of enabling the drag-bars, whose ends they support, to be

lifted from the ground by turning the axle upon which they rest, as and for the purpose described.

2. The axle I, combined with the upwardly and forwardly projecting props G, tongue B, and drag-bars C, when the two latter are each pivoted between the props, as and for the purpose set forth.

3. The combination and arrangement of stay-bar D and lever E with such axle.

4. The application of plate L to the drag-bar and cultivator-teeth, as above shown and described.

5. The stay-bar D, combined with the tongue B and standard K, in the manner and for the purpose herein shown and described.

6. The tongue B and drag-bar C, when pivoted upon one and the same rod.

CLARK ALVORD.

Witnesses:

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