

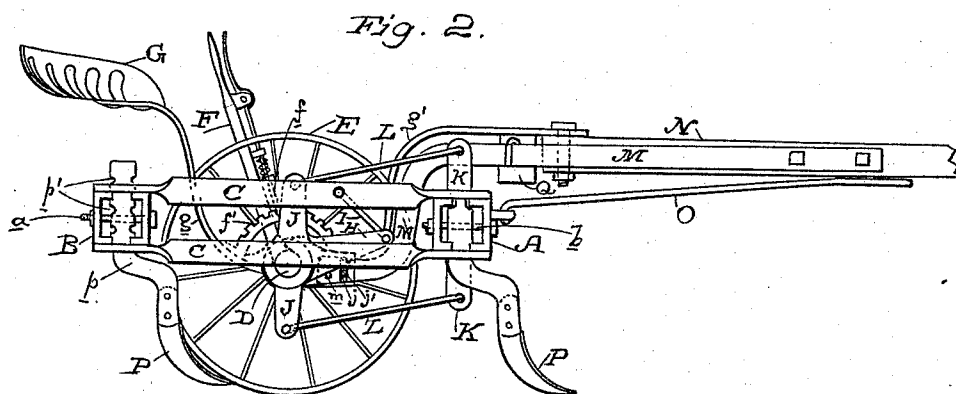
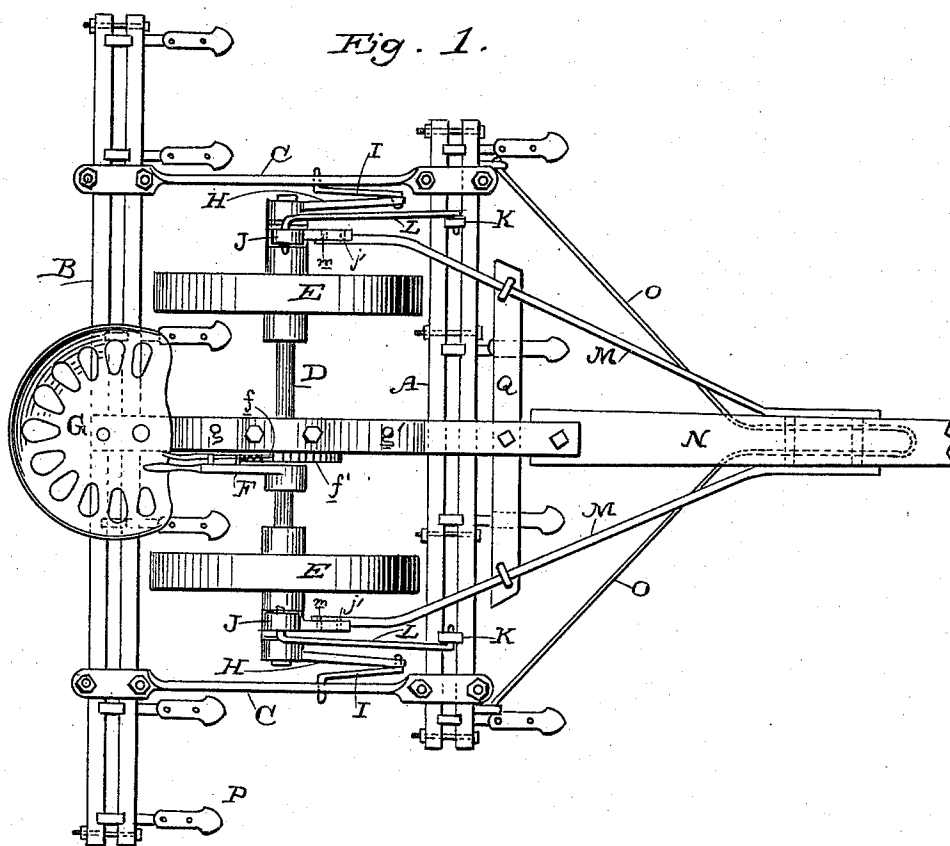
(No Model.)

2 Sheets—Sheet 1.

D. F. OLIVER.
CULTIVATOR.

No. 470,502.

Patented Mar. 8, 1892.



Witnesses,
G. H. House
J. A. Bayless

Inventor,
Doctor F. Oliver
By Dewey & Co. atty

(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

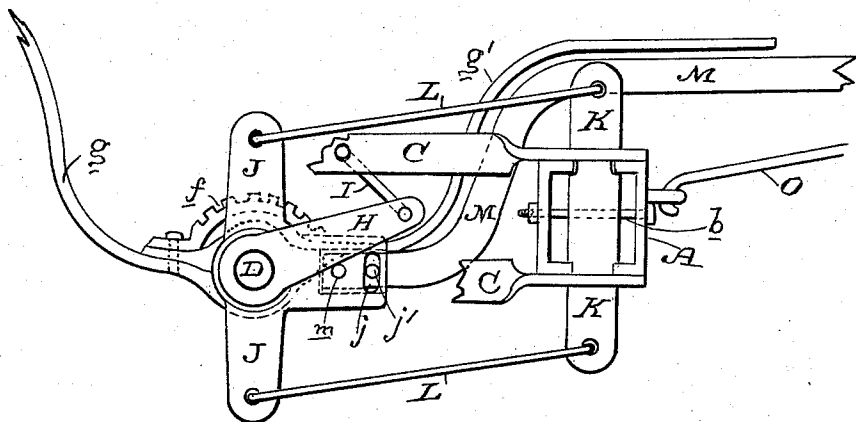
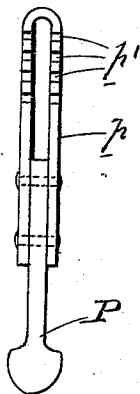


Fig. 4.



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UNITED STATES PATENT OFFICE.

DOCTOR FRANKLIN OLIVER, OF OAKLAND, CALIFORNIA.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 470,502, dated March 8, 1892.

Application filed November 16, 1891. Serial No. 412,002. (No model.)

To all whom it may concern:

Be it known that I, DOCTOR FRANKLIN OLIVER, a citizen of the United States, residing at Oakland, Alameda county, State of California, have invented an Improvement in Cultivators; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of wheeled cultivators in which the frame is adapted to be raised and lowered by connections with a rocking axle.

My invention consists in the novel construction and arrangement of parts herein-
after fully described, and specifically pointed out in the claims.

The object of my invention is to provide a simple and strong cultivator, easy and accurate of adjustment to regulate its teeth either in or above the ground, and in the frame of which the teeth may be readily placed and varied both as to number and position.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a plan of my cultivator. Fig. 2 is a side elevation of same. Fig. 3 is a side view showing the adjustable connection between arm J and brace-bar M. Fig. 4 is a view of the connection between the tooth
and its shank.

The frame is composed principally of the front beam A, the rear beam B, and the bars C, connecting the two beams.

D is the axle, carrying on its ends the wheels E. These lie between the two beams, as shown. The axle is a rocking one and is oscillated by means of a lever F, which carries a pawl *f*, engaging a rack *f'* on the support *g* of the seat G, said support being carried by the axle and having an upwardly-bent front extension *g'*. Firmly fixed on the axle ends are the crank-arms H, one on each end. These incline upwardly and forwardly and have pivoted to their free ends the links I, which incline upwardly and backwardly and are pivoted to the connecting-bars C of the frame. The links I and crank-arms H form toggles which, when the axle is rocked will raise and lower the frame, thereby lifting the teeth clear of the ground and lowering them into the ground to any depth de-

sired. This toggle motion is of advantage in that it adjusts the frame positively and rapidly with but slight movement of the axle.

In order to move and hold the frame evenly and squarely, there are pivoted freely on the axle, at suitable points, the arms J, which extend above and below said axle. Firmly secured to the front beam A of the frame are similar arms K, and extending between the ends of arms J and K are rods L. The arms J are held upright by the forwardly-extending brace-bars M, which converge and receive between their forward ends the tongue or pole N, the rear end of which is bolted to the forward extension *g'* of the seat-support. Both said extension and said brace-bars are secured to a cross-bar Q. The braces thus connected hold the frame even and square, so that it will rise and fall true.

The connection between the rear ends of the brace-bars M and the arms J is preferably an adjustable one formed by pivoting them together at *m* and controlling them by a slot *j* and bolt *j'*. By setting this bolt at different places the arms J are changed in position, and the frame may be thus set true or at an inclination, if desired.

O is a draft-bail secured at its ends to the front beam of the frame. The draft is thus directed upon the frame instead of the axle and the frame pulls the axle and wheels along. This provides for the easy adjustment of the axle and for its removal when necessary.

The beams A and B of the frame each consists of two separated channel-iron bars set sidewise with their sides projecting toward each other, but leaving a space between. The teeth P have shanks *p*, provided with a series of notches *p'* in their edges. The shanks fit between the separated sides of the channel-iron members of the beams, the edges of which enter the notches *p'* and are confined therein by the bolts *a* and *b*, which hold the members of the beams together. Thus the teeth may be set at any height, may be adjusted laterally, and may be removed and others substituted and varied in number at will.

The shanks *p* are preferably forwardly bent and consist of bent bars, between the separated lower ends of which the teeth are re-

movably bolted. The notches p' in the tooth-shanks not only serve to hold the shanks, but also to hold the members of the beam rigidly in relation to each other, so that they will have no tendency to slip or twist, but will hold together solidly.

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

1. In a cultivator, the combination of a frame composed of connected front and rear tooth-carrying beams, a rocking axle and wheels located between said beams, connections from the axle for raising and lowering the frame, and connections for holding the frame square in said movement, substantially as herein described.

2. In a cultivator, the combination of a frame composed of front and rear tooth-carrying beams and side connections, a rocking axle and wheels located between said beams, the crank-arms on the axle, and the links connecting the crank-arms with the side connections of the frame, substantially as herein described.

3. In a cultivator, the combination of a frame composed of connected front and rear tooth-carrying beams, a rocking axle and wheels located between said beams, connections from the axle for raising and lowering the frame, and the connections for holding the frame square in its movement, consisting of the arms pivoted on the axle, the arms secured to the frame, the connecting-rods between the arms, and suitable connections with the pivoted arms for holding them upright, substantially as herein described.

4. In a cultivator, the combination of a frame composed of connected front and rear tooth-carrying beams, a rocking axle and wheels located between said beams, connections from the axle for raising and lowering the frame, and the connections for holding the frame square in its movement, consisting of the arms pivoted on the axle, the arms secured to the frame, the connecting-rods between the arms, and the brace-bars secured to the pivoted arms and to the pole for holding said arms upright, substantially as herein described.

5. In a cultivator, the combination of a frame composed of connected front and rear tooth-carrying beams, a rocking axle and wheels located between said beams, connections from the axle for raising and lowering the frame, and the connections for holding the

frame square in its movement, consisting of the arms pivoted on the axle, the arms secured to the frame, the connecting-rods between the arms, the brace-bars secured at their forward ends to the pole, and the adjustable connection between the rear ends of the brace-bars and the pivoted arms, substantially as herein described.

6. In a cultivator, the combination of a frame composed of front and rear tooth-carrying beams and side connections, a rocking axle and wheels located between said beams, the crank-arms on the axle, the links connecting said arms with the side connections of the frame, and the connections for holding the frame square in its movement, consisting of the arms pivoted on the axle, the arms secured to the frame, the connecting-rods between the arms, and suitable connections with the pivoted arms for holding them upright, substantially as herein described.

7. In a cultivator, the combination of a frame composed of front and rear tooth-carrying beams and side connections, a rocking axle and wheels located between said beams, the crank-arms on the axle, the links connecting said arms with the side connections of the frame, and the connections for holding the frame square in its movement, consisting of the arms pivoted on the axle, the arms secured to the frame, the connecting-rods between the arms, and the brace-bars secured to the pivoted arms and to the pole for holding said arms upright, substantially as herein described.

8. In a cultivator, the combination of the frame composed of the front and rear connected tooth-carrying beams, the rocking wheeled axle between said beams, the seat-support carried by the axle and having a forward extension and a rack, the lever secured to the axle and having a pawl engaging the rack, the crank-arms and links whereby the frame is moved by the axle, the connected arms J and K of the axle and frame, respectively, the brace-bars secured to arms J, and the pole or tongue secured to the forward extension of the seat-support and to the brace-bars, substantially as herein described.

In witness whereof I have hereunto set my hand.

DOCTOR FRANKLIN OLIVER.

Witnesses:

S. H. NOURSE,
J. A. BAYLESS.