

(No Model.)

L. A. MARTIN.  
CULTIVATOR.

No. 302,923.

Patented Aug. 5, 1884.

Fig. 1.

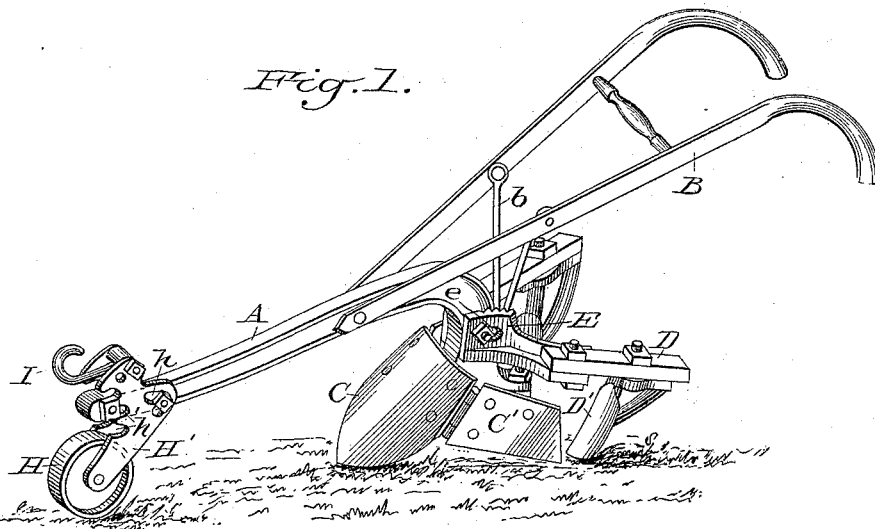
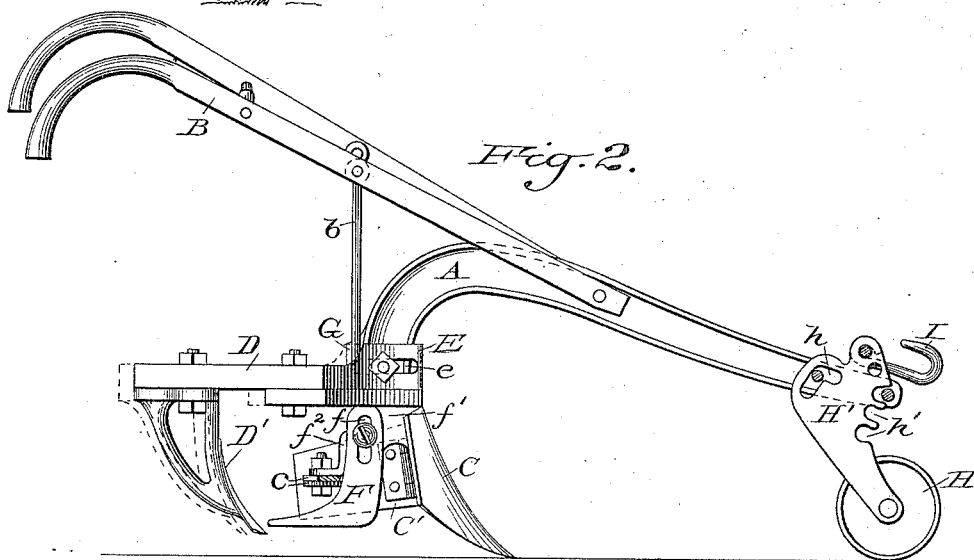


Fig. 2.



Witnesses:

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Inventor:

*Lewis A. Martin*  
*By J. W. Cronel*  
*Att'y.*

# UNITED STATES PATENT OFFICE.

LEWIS A. MARTIN, OF WARSAW, NEW YORK.

## CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 302,923, dated August 5, 1884.

Application filed May 16, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, LEWIS A. MARTIN, a citizen of the United States, residing at Warsaw, in the county of Wyoming and State of New York, have invented a new and useful Improvement in Cultivators, of which the following is a specification.

My invention relates to improvements in cultivators in which the operator walks behind the team and guides the implement by the use of rearwardly-extending handles; and the objects of my improvements are, first, to provide facilities for the lateral adjustment of the shovel-carrying beams, and providing means for securing the same in working position without the aid of connecting-bars; second, to afford a simple method of regulating the depth of the cut by the use of an adjustable gage resting in the bottom of the plow-furrow in the wake of the said plow; and, third, to secure a ready and simple adjustment of the gage-wheel and draft-clevis, to cause the plow to take more or less depth of soil without the removal of the securing-bolts. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view taken from the front of the machine. Fig. 2 is a side view showing in dotted lines the convex and concave joint, by means of which the lateral adjustment is given to the shovel-beams.

Similar letters refer to similar parts throughout the several views.

A is the plow-beam; B, the handles, of the ordinary construction, and having braces *b*, to securely unite the handles with the beam.

C is the main plow-shovel, having the hinged wings *C'* and adjusting-bars *c*, all of which are of the usual form found in this class of implements. D are the cultivator-beams, carrying the well-known cultivating-shovels *D'*.

E are curved metallic supports—one to each cultivator-beam—and to which the said beams are bolted for the purpose of making an adjustable fastening to the plow-beam in the following manner: By having the forward ends of these bars E made convex in the direction of their length, and provided with a longitudinal slot, *e*, with a corresponding concavity in the plow-beam at the point of junction,

the convex portion is made to turn by means of the slot and securing-bolt, and allowed to swing outward and inward, so as to either spread or draw the beams together, as may be desired.

In order that a firm jointure may be made between the parts, a large bearing-surface is made upon each portion, and to prevent displacement vertical notches or serrations are made in the pieces, so as to interlock, and by tightening the bolt that passes through the whole the beams are securely held in the desired position without the intervention of the usual cross-bar or other instrumentalities.

F is a furrow-gage having a right-angled turn to form the foot, so as to give the necessary bearing in the furrow, and by means of which the implement is made to run more steadily than would be done were the gage-wheel H only used to regulate the depth of the cut.

*f* is a slot made in the vertical part of the gage F.

*f'* is a heel-extension upon the curved plow-beam, through which (as well as through the slot *f*) passes a bolt, so as to adjustably secure the furrow-gage in the required position for work.

To prevent the turning of the furrow-gage upon its securing-bolt, a rib, *f''*, is placed vertically upon the face of the extension *f'*, and in close proximity with the vertical part of the gage. If desired, still another rib may be stationed upon the reverse side of the gage.

G is a slotted ear just above the heel-extension, and forming a part of the plow-beam. This slotted ear is for the purpose of adjustably securing (by the use of an ordinary bolt) the brace *b* (in this instance forked) in such manner that the handles may be raised or lowered to suit the stature of the operator.

H is the gage-wheel, and *H'* are the side plates for holding the wheel in working position. These plates—one upon each side of the plow-beam—are of peculiar construction, having an angular adjusting-slot, *h*, through which passes the rear bolt for securing the plates to the beam.

Forward of the slot *h* are a series of peripheral detents, *h'*, upon the arc of a circle of

which the longitudinal front of the angular slot is the center. A bolt passes through the extreme forward end of the plow-beam, of a diameter to correspond with the recesses between the detents, so that when the wheel, with its frame, is drawn forward, the detents engage with this first bolt, so that the wheel can be secured in any desired position vertically.

It will be observed that the gage-wheel can be raised or lowered without removing these bolts, as the nuts upon each can be turned so that the hold will be loosened upon the wheel-plates and permit the whole frame to be swung forward upon the arc of a circle of which the front bolt is the center, so as to bring the rear bolt in line with the upper elongation of the angular slot, when the wheel and frame are pushed back, so as to disengage the detentures from the forward bolt and allow the wheel to be raised or lowered by turning upon the rear bolt, which now acts as the adjusting-pivot, instead of the forward one. After the adjustment is made the frame is drawn forward, so as to cause the desired recess and detent to engage with the forward bolt, when the nuts upon each bolt can be tightened and the wheel secured in position for work.

I is the draft-hook, hinged to a bolt which passes through the upper part of the wheel-

plates. This draft-hook is also made vertically adjustable by the use of different bolt-holes, by which, in connection with the other adjustments herein described, a large range of work is given to the implement.

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

1. In the shovel-beam joint-connection, the combination of the arched plow-beam having the serrated concavity, the serrated convex cultivator-beam irons, the slot *e*, and securing-bolt, all arranged and operating substantially as described.

2. The gage-wheel, in combination with the adjustable bearing-plates, having the angular slot and the adjusting-detents, to allow the raising and lowering of the wheel without the removal of the securing-bolts, substantially as described.

3. The adjustable draft-hook, in combination with the wheel-bearing plates, having the angular slot and adjusting-detents, all arranged and operating substantially as described.

LEWIS A. MARTIN.

Witnesses:

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F. E. HURLBURT.