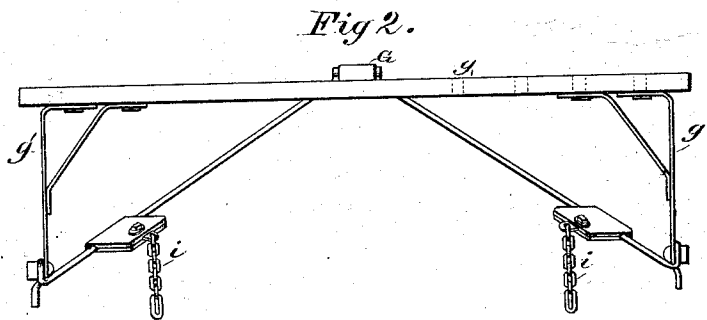
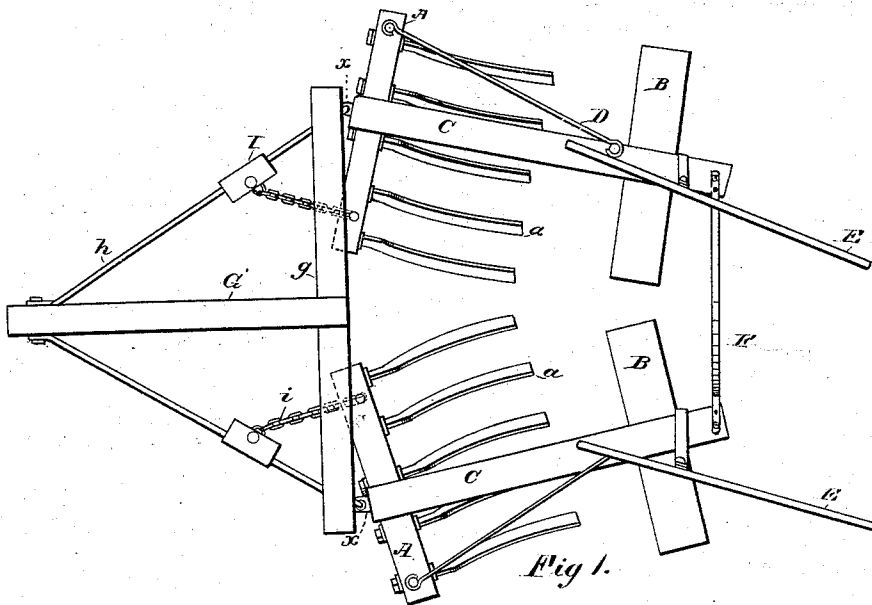


A. C. TOWER.
Cultivators.

No. 152,778.

Patented July 7, 1874.



Witnesses;
H. C. Clark
H. C. Matthews

Inventor.
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Atty's

UNITED STATES PATENT OFFICE.

AUGUSTUS C. TOWER, OF MENDOTA, ILLINOIS.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **152,778**, dated July 7, 1874; application filed February 20, 1874.

To all whom it may concern:

Be it known that I, AUGUSTUS C. TOWER, of Mendota, in the county of La Salle and State of Illinois, have invented a new and useful Improvement in Cultivators; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

This invention is an improvement upon my patent of January 14, 1873, No. 134,824; and consists mainly in the peculiar means employed for adjusting the beams to any desired angle, consisting of certain clamping-irons and chains, as will be fully described hereinafter.

In the drawings, Figure 1 represents a plan view of the entire machine; Fig. 2, a rear elevation of the draft device; and Fig. 3, a sectional elevation of the clamp uniting the knife-beam to the draft-rod.

To enable others skilled in the art to make and use my invention, I will now proceed to describe fully its construction and manner of operation.

The machine in its general construction resembles that described in my patent referred to above—that is, it is constructed in two parts, and has two front beams carrying knives and two following smoothing-beams, the parts being properly united, so as to form a single machine.

A A represent the front beams of the machine. They are identical in their construction, and are made of any proper material, and suitable size. They are each provided with a series of curved knives, *a a*, similar to those described in my former patent, and secured to the beam in the same way, excepting that they are held at right angles thereto instead of at the angle there described. B B represent the following smoothing-beams, united to the beams A A by the connecting-beams C C, as shown. The beams B B may consist of a simple metal plate, and be connected to the beams C C by triangular blocks, as described in my former patent.

It will be observed that the beams A A are united to the beams C C at an angle, so that the rear ends of the knives are brought nearer to the center line of the machine than their front ends, this result being the same as that

described in my former patent; but it is accomplished in a more simple and convenient manner.

D represents the brace-rod, by means of which the beams A and C are securely held in their relative positions. E represents handles properly secured to the beams C C, as shown. F represents an adjustable connecting-bar, by means of which the rear ends of the two parts are properly united. The front ends of the machine are properly united by means of the draft device, which will now be described. G represents a tongue attached in rear to the cross-bar *g*, having the pendent bars *g'* suitably braced, as shown. *h h* represent draft-rods properly secured to the tongue in front, and to the lower ends of the pendent bars *g'*, near their rear ends, and terminating in a hook adapted to catch into the eye *x* attached to the knife-beams, as shown. As the eyes are centrally attached to the beams, the tendency of the draft-strain would be to draw them at right angles to the center line of the machine, instead of at the desired angle.

To secure the proper angle, and to provide for its adjustment, the following means are employed: I represents a clamp or clasp consisting of two metallic plates, grooved upon their inner faces, near one edge, and provided with a securing-bolt, the same being adapted to gripe the draft-rod, and be secured in any desired position by tightening the securing-bolt. *i* represents a chain, by means of which the clamp I is connected to the inner end of the beam A, as shown.

By means of the described construction the knives may be united at right angles to the beam instead of being bent, as was necessary in my former patent, the result simplifying very much the construction, and avoiding all difficulty in turning the nuts to adjust the vertical angle of the knives. The beams themselves may be adjusted to the desired angle by moving the clamping-iron properly upon the draft-rod.

The parts are suitably connected in part by the draft device, instead of the bar described in my former patent.

To adjust the parts of the machine to or from each other, the pendent bars are adjusted upon the cross-beam in front, as indicated in

Fig. 2, and the bar F is properly adjusted in rear.

The machine, as represented, is adapted for low corn. When employed for high corn, the pendent bars are removed, and longer ones substituted for them, and the rear cross-bar is entirely removed from the machine.

The handles, it will be observed, are inclined to one side, so that the person holding them may walk upon one side of the row.

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

1. The combination of the adjustable clamping-irons, the draft-rods, and the beams A.

2. The knife-beam A, knives *a*, chains *i*, clamping-irons, draft-rods, and tongue, combined and arranged substantially as described.

This specification signed and witnessed this 16th day of February, A. D. 1874.

AUGUSTUS C. TOWER.

Witnesses:

THOMAS FURNISTALL,
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