(No Model.) 2 Sheets—Sheet 1.

J. S. & G. N. GETCHELL.

HOE CULTIVATOR.

No. 265,668. Patented Oct. 10, 1882.

Fig. 1.

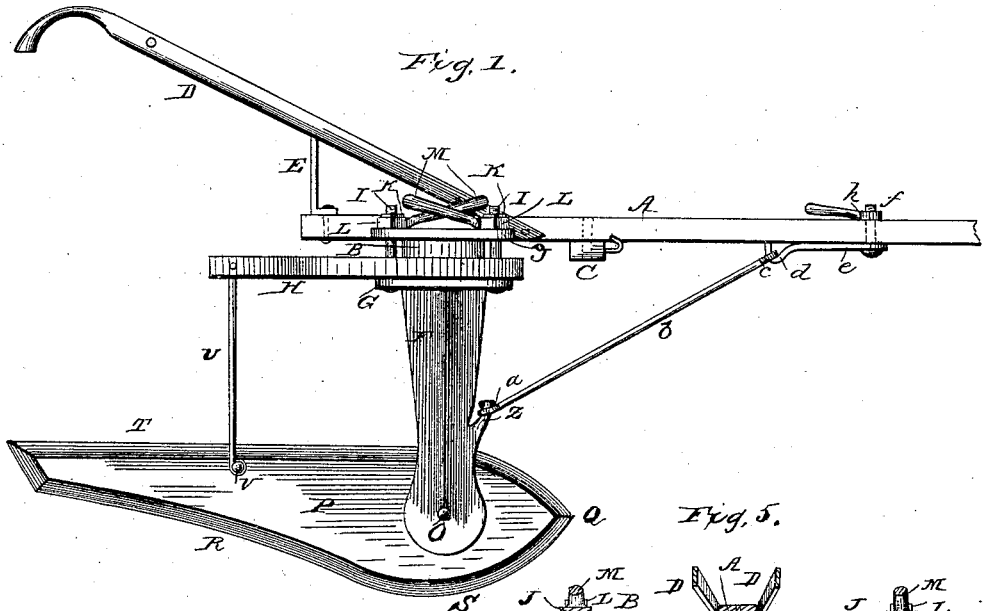

Fig. 5.

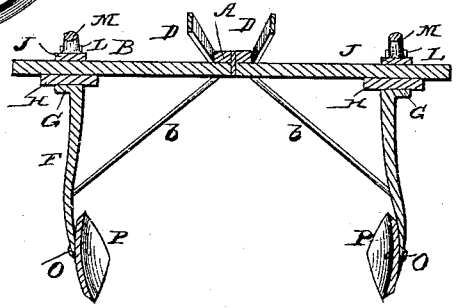

Fig. 4.

Fig. 6.

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

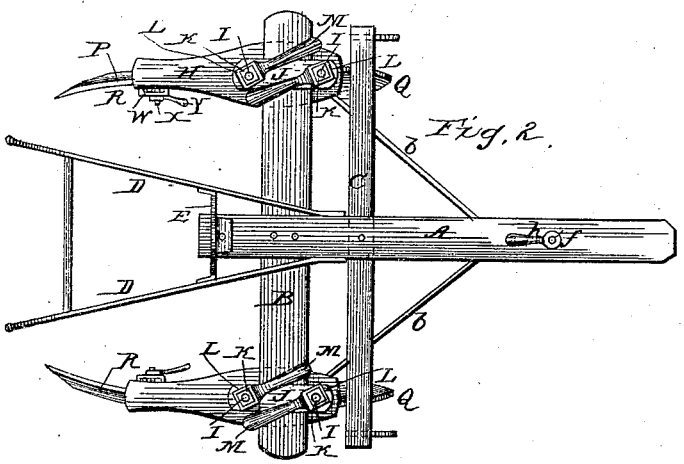


Fig. 3.

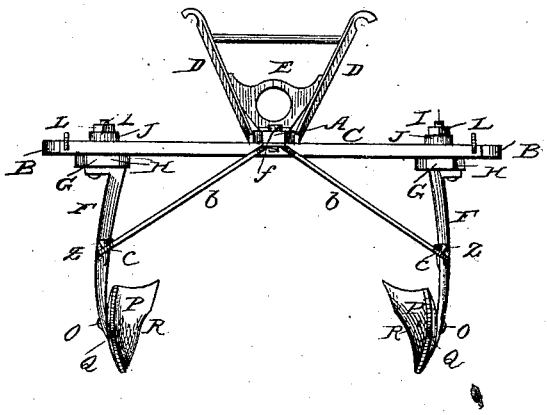
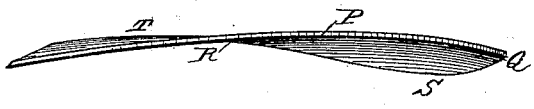


Fig. 7.



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UNITED STATES PATENT OFFICE.

JOHN S. GETCHELL AND GEORGE N. GETCHELL, OF HOULTON, MAINE.

HOE-CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 265,668, dated October 10, 1882.

Application filed June 13, 1882. (No model.)

To all whom it may concern:

Be it known that we, JOHN S. GETCHELL and GEORGE NYE GETCHELL, of Houlton, in the county of Aroostook and State of Maine, have invented certain new and useful Improvements in Hoe-Cultivators; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to hoes or cultivators adapted to be operated by horse or other power, and has for its object to provide a simple, durable, and efficient machine. To this end it consists in certain improvements in the construction and operation of the same.

In the drawings, Figure 1 is a side view of the device; Fig. 2, a top view; Fig. 3, a front end view; Fig. 4, a longitudinal vertical sectional view; Fig. 5, a vertical sectional view on the line *x x*, Fig. 4; Fig. 6, a detail view, in perspective, of the wrench and nut; and Fig. 7, a detail view of one of the hoes.

Referring by letter to the drawings, A designates the central beam; B, a transverse beam secured near the rear end of the same; C, a double-tree pivoted to the central beam, and D D the guide-handles braced by a connecting-plate, E, on beam A.

F F are two standards, adapted to be secured, one on each end, to beam B, and capable of longitudinal adjustment on the same. This is accomplished by means of a top plate, G, on each standard, supporting a rearwardly-extended platform or strip, H, and threaded bolts I I passing up through parts G and H, one on each side of the end of beam B, and also through a top clamping-plate, J, resting on the latter, securing-nuts K K being adjusted over their upper ends. The nuts K K are set in rectangular boxes or sockets L on the end of handles M, the former, L, being provided with a central smooth opening, N, for the passage of the bolt I. Thus by turning the handles M the screws are loosened or tightened, as desired, and the standards may then be adjusted on beam B to suit the size of the row.

To the bottom of the standards are pivoted, by means of pins or bolts O, the hoes P P, one to each standard. These hoes each consist of a rearwardly-extended plate having a pointed or substantially <-shaped front edge, Q, and an upwardly and rearwardly curved lower edge, R, so that the pivotal point is at its largest part. The hoes are slightly bowed outwardly, as shown, and their lower front edge, S, curved inwardly, while their upper rear edge, T, is in like manner curved, by which shape the earth is plowed or thrown up around the hills or rows and remains loose, and is not banked tightly up, as very frequently occurs.

U U are rods pivoted to the hoes near their rear ends by pins or bolts V V, and extending upwardly through clamps W W on the side of strips H H, which are each operated by a bolt, X, and adjusting-nut Y. By moving the rods U U in the clamps the rear ends of the hoes may be adjusted vertically.

The standards F F are preferably curved outwardly, as shown, and have on their front edges a headed lug, Z, forming a hook, over which the rear ends, *a*, of the forwardly and upwardly extended convergent rods, *b b*, are placed, their upper ends, *c*, being adjusted over the hooked end *d* of a plate, *e*, secured and longitudinally adjustable on the under side of beam A by means of a bolt, *f*, passing through a slot, *g*, in the plate and through the beam, and having a tightening-nut, *h*, on its top end. The end or point of hook *d* enters a groove, *i*, in the under side of beam A, to prevent the ends *c* from slipping over the hook.

The operation and advantages of our invention will be readily understood. The hoes plow up the earth and throw it lightly over against the hills to cover and protect the roots of the young plants. It is readily adjusted and easily operated.

We claim and desire to secure by Letters Patent—

1. The combination, with the beam having the longitudinal groove in its under side, of the longitudinally-slotted plate secured to the beam by a nut and bolt, and having a hooked end working in said slot, as set forth.

2. The combination, with the central beam and rear transverse beam, of the standards having a lug on the front edge and a top plate, rearwardly-extended platforms or strips hav-

ing a clamping device, clamping-plates with bolts and nuts, the hoes pivoted to the standards and provided with rear upwardly extended rods, and forward convergent brace-rods, substantially as set forth.

3. The combination, with the cross beam B, of the standards having a top plate, and the hoes pivoted at their lower ends, the rearwardly-extending platforms secured and clamped between said top plate and the under side of the beams, vertically-adjustable rods U U, top clamping-plates, J J, and securing nuts and bolts, as set forth.

4. The combination, with the central longitudinal beam having a groove in its under surface, and provided with a longitudinally-adjustable plate having a hooked end moving therein, of the rear cross-beam, the standards adjustable on the latter by means of clamping-plates, and provided with headed lugs on their front edges, and the brace-rods secured thereon and extending up over the end of the plate on the central beam, as set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

JOHN S. GETCHELL.
GEORGE NYE GETCHELL.

Witnesses:
JAMES FRANK HOLLAND,
A. LOVEJOY, 2d.