D. STANCHFIELD.
CULTIVATORS.

No. 194,009. Patented Aug. 7, 1877.

Fig. 1.

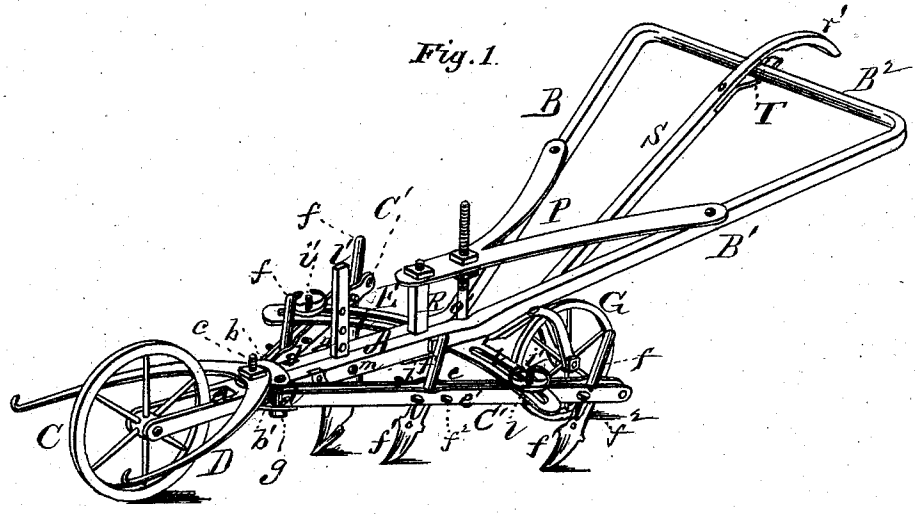
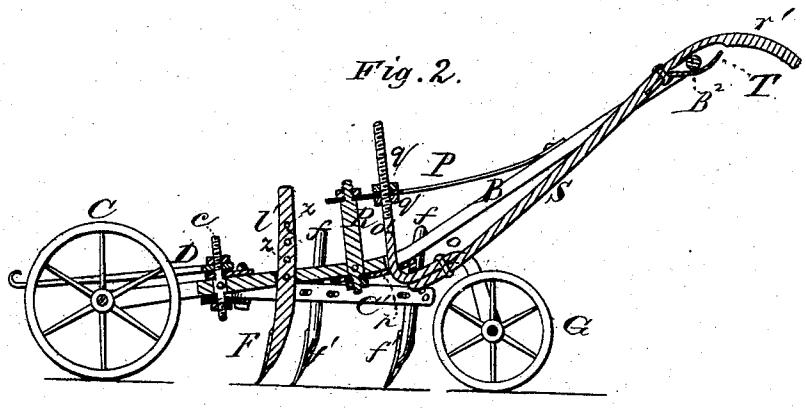


Fig. 2.



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DANIEL STANCHFIELD, OF DAVENPORT, IOWA.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **194,009**, dated August 7, 1877; application filed March 24, 1877.

To all whom it may concern:

Be it known that I, DANIEL STANCHFIELD, of Davenport, in the county of Scott and State of Iowa, have invented a new and valuable Improvement in Cultivators; 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 annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings in a representation of perspective view of my invention, and Fig. 2 is a longitudinal central section of the same.

This invention has relation to improvements in cultivators.

The object of my invention is to lighten the draft by supporting the front and rear ends of the cultivator-frame on wheels, to regulate the penetration of the cultivating-shovels into the ground by making the rear wheel adjustable; to provide for the ready guidance by converting the rear wheel into steering device; and, finally, to improve the cultivator generally.

The nature of my invention will be fully understood from the following description:

In the annexed drawings, the letter A indicates the main beam of my improved cultivator; B B^1, the handles; and B^2, the cross-bar connecting the rear ends thereof, all of which are formed of a single piece of metal, by bending its middle portion in triangular form to shape out the handles and cross-bar, and bolting or otherwise securing the two ends together to form the beam. The front end of the beam is furcated at *a* to afford bearings for a traveler-wheel, C. *b b'* represent hinge-plates of angular form, secured to the beam, the one above and the other below, by means of strong bolt, *c*, that also carries a V-shaped metallic single-tree, D. Plates *b b'* afford means of attachment for the laterally-adjustable beams C' of the side cultivating-shovels. Beams C' are formed by bending a sufficiently-lengthy piece of bar-iron back upon itself, thus forming a loop or eye, *d*, at one end and two branches, *e e'*, which are clamped upon the interposed standards *f* of the cultivating-shovels f^1 by means of thumb-screws f^2 passing through screw-threaded perforations in the branches of the beam in front and rear of the standards, as shown in Fig. 1. Beams C' are pivoted to the beam A by means of bolts *g*, extending through the plates *b b'* aforesaid, and the eyes or loops *d* of the said beams C', and they are adjusted for spacing the furrows at a greater or less distance apart by means of a suitable curved metallic plate, E, bolted to the under side of the beam A near its rear end, and provided with curved slots *i*, through which extend screw-threaded pins *i'*, that are rigidly secured to the beams C', and provided with thumb-nuts *l*, which, being set up, forcibly clamp the said beams and the plate E against each other, as shown in Fig. 1. One of the branches of the side beams has a semicircular seat, *j*, formed in it, to receive one-half of the standard of the cultivating-shovels f^1. This allows the said standard to turn in its bearings in adjusting the shovels, but serves as a very effectual clamp when the thumb-screws f^2 are properly applied. Beam A has in its branches, in rear of hinge-plates *b b'*, a rectangular seat for the standard *l'* of the middle cultivating shovel F, that projects up vertically through said seat, and is adjustably secured in place by means of transverse bolt *m* and a nut, *n*, applied upon its end. The standard *l'* has a number of spaced perforations, *z*, by means of which the penetration of the shovel F into the ground may be regulated. G represents a caster-wheel having an angular shank, *o*, and a spindle, *o'*, the latter extending vertically upward through an off-set, *p*, at the rear edge of plate E, between the branches of beam A up to and through a brace, P, connecting the handles B B^1 to a metallic post, R, on the said beam A. The upper portion of spindle *o'* is screw-threaded, and has two adjusting-nuts, *q q'*, applied, the one above and the other below brace P, by means of which the spindle and caster-wheel are adjusted to raise or lower the rear end of the cultivator and lessen or increase the penetratien of the cultivator-shovels into the soil. This wheel is turned on its spindle to steer the cultivator to the right or left, as may be required, by a lever, S, secured at its lower end to the shank *o*, and extending upward and backward over the cross-bar B^2 of handles B B^1, to form a handle, *r'*. This lever is held against bar B^2 by a suitable spring, T, that also causes it to

engages in a notch of the said bar, when the caster-wheel will "track" with the traveler-wheel C, and the implement will proceed in a straight line.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the main beam A of a cultivator having the angular operating-handle B B^1 B^2, of the vertically-adjustable caster-wheel G, the lever S, extending from said caster-wheel beyond the cross-bar of the handle and the spring T, binding the latter on the cross-bar, substantially as specified.

2. The combination, with a cultivator having a front traveler-wheel, C, of a vertically-adjustable and horizontally-vibratory steering-wheel, G, substantially as specified.

3. The combination, with a cultivator having a front transporting-wheel, C, and the triangularly-extended beam having a notched cross-bar, B^2, of the vertically-adjustable and vibrating wheel G, its operating-lever S, and a spring binding the said lever against the said bar, substantially as specified.

4. The combination, with the beam A having a triangular operating-handle, B B^1 B^2, and the laterally-adjustable beams C′ pivoted to said beam A, of the curved plate E, having slots *i* and perforated offset *p*, the threaded bolts f^2 secured to said beams C′, the clamp-nuts *q q′*, the shank *o′* of the caster-wheel G, the operating-lever S, and spring T, substantially as specified.

5. The plow-beam A and handle B B^1 B^2, formed of a single piece of metal, substantially as specified.

6. The combination, with the main beam of a cultivator having a front transporting-wheel, C, of the single-tree D, pivoted to said beam, and having its lever-arms extending to the front at each side of said wheel, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

DANIEL STANCHFIELD.

Witnesses:
H. M. MARTIN,
G. L. BROWN.