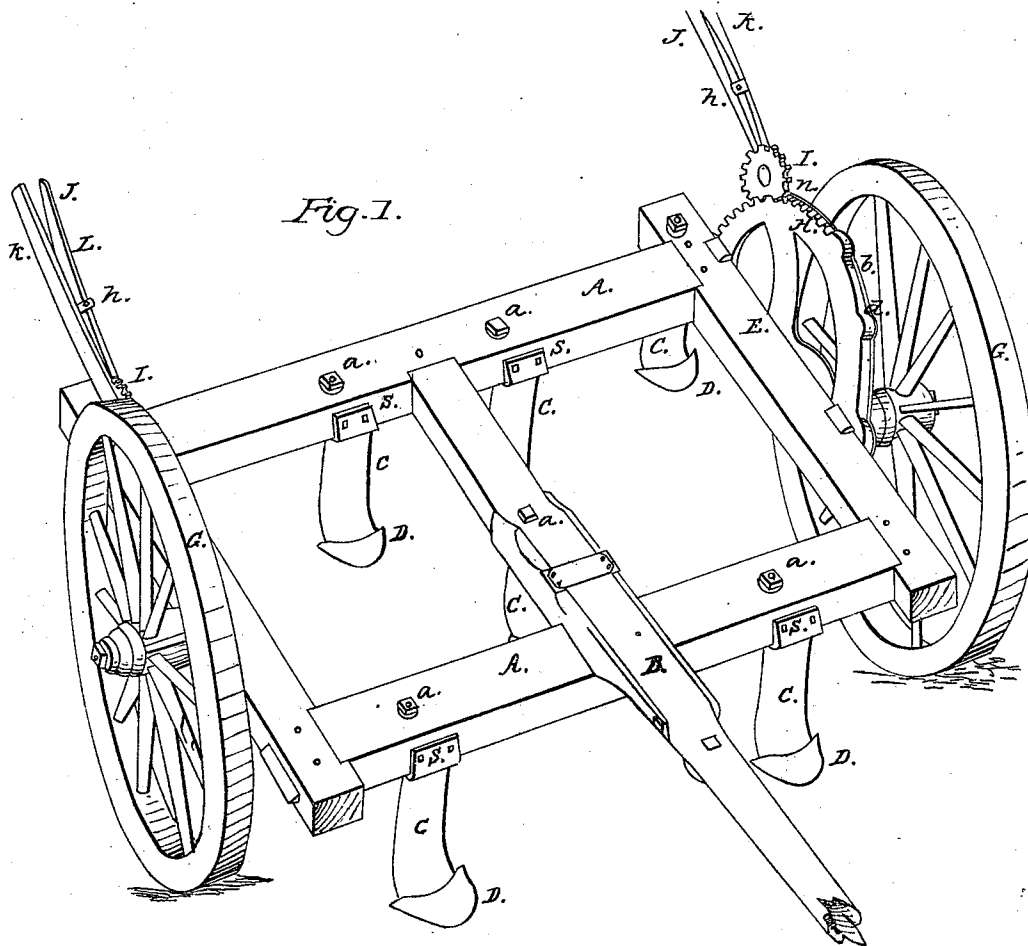


F. P. ROOT.
Wheel Cultivator.

No. 9,003.

Patented June 8, 1852.

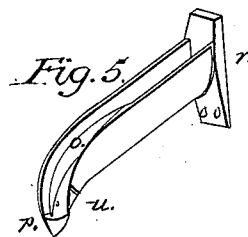
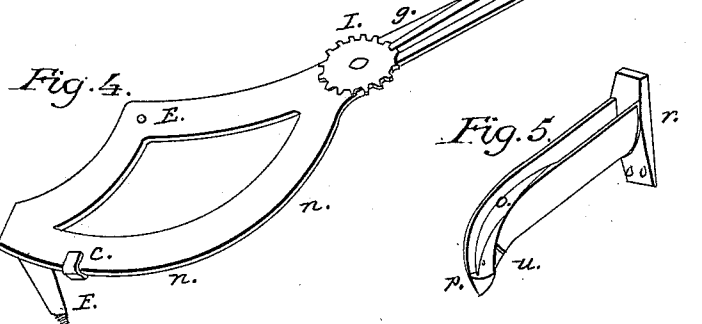
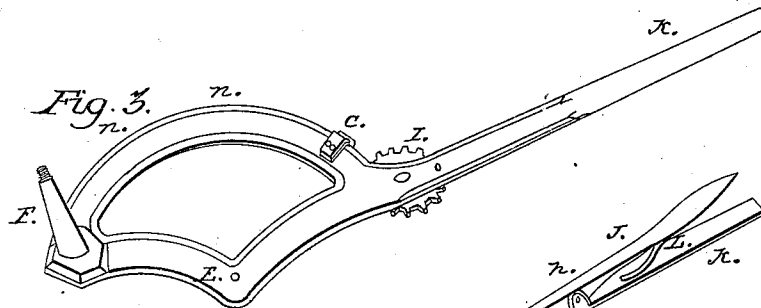
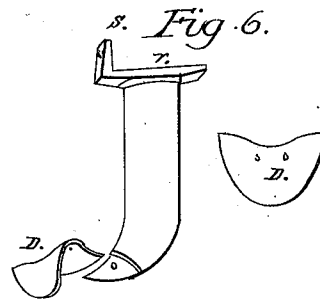
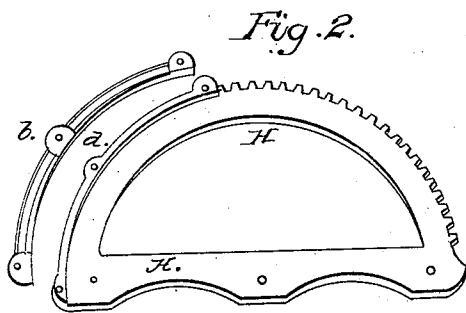


F. P. ROOT.
Wheel Cultivator.

2 Sheets—Sheet 2.

No. 9,003.

Patented June 8, 1852.



UNITED STATES PATENT OFFICE.

F. P. ROOT, OF SWEDEN, NEW YORK.

IMPROVEMENT IN WHEEL-CULTIVATORS.

Specification forming part of Letters Patent No. 9,003, dated June 8, 1852.

To all whom it may concern:

Be it known that I, FREDERICK P. ROOT, of the town of Sweden, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Wheeled Cultivators; and I do hereby declare the following to be a full and clear description thereof, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an isometrical perspective of the machine. Fig. 2 is a view of one of the fixed semicircular plates, over the cogged portion whereof the pinion of the segment-shaped lever travels. Fig. 3 is a perspective view of one of the pivoted segment-shaped levers with its axle. Fig. 4 is a similar view, showing the opposite or interior face of the pivoted lever. Fig. 5 is a perspective view of one of the hollow teeth. Fig. 6 is a similar view, showing the steel toe-piece detached.

The same letters denote corresponding parts on all the figures.

A is the frame, and B the tongue or draft-pole thereof.

C are the cultivator-teeth, made hollow, bolted to the frame A by bolts *a*, and furnished each with a steel toe-piece or share, D, and horizontal cap plate *r*, and upright flange *s*, by which said teeth may be further secured. In the center of the hollow of each tooth there is a rib, *o*, (see Fig. 5,) for the purpose of increasing the strength of the tooth. As these parts are more or less common to all cultivators, a more particular description thereof is not deemed necessary.

My improvements do not relate to the use of cranks on which the wheels are hung, nor to the use of a crank-motion for raising and lowering the frame containing the teeth; but my improvements especially relate to mounting the wheels upon axles, when said axles project from pivoted segment-shaped levers; also, in the particular manner of confining the segment portion of the pivoted levers; likewise, in attaching to the frame vertical segment-plates, cogged on a portion of their circumference to receive the action of pinions fixed to the levers.

The segment-shaped levers are pivoted at

E (see Figs. 3 and 4) to the side beams of the frame, and forming at their pivoted ends about one-third of the circle, whose semi-diameter is equal to that of the fixed semicircular plate H; and from the ends of these levers project horizontally the axles F, on which the carrying-wheels G G are mounted and secured in the usual manner. Adjacent to the segment portion of the levers, and bolted to the frame, there are vertical semicircular plates H H, having a portion of their circumference cogged, as seen in Fig. 2, over which travels with the movement of the lever a pinion, I, attached to said lever by a pin, on which it turns.

J is a spring-catch, attached by a pin, *h*, to the handle *k* of the pivoted lever, the lower end whereof fits between the teeth of the pinion, as at *g*, and thus forms a lock thereto, and the upper end is furnished with a spring, L, (see Fig. 4,) for retaining the catch in lock with the pinion I.

The uncogged circumference of each semicircular plate H has a flange, *d*, which, in addition to the cap-plate *b*, (seen in Fig. 2,) bolted thereto, forms a case to receive and confine the circumference of the segmental portion *n* of each lever, thus effectually securing and supporting the segmental portion of the lever and allowing it to turn therein.

In grasping the handle *k* of the pivoted lever with the hand and bearing the upper portion of the spring-catch J close thereto the pinion I will be free to turn, and by raising or lowering the lever (turning on its pivot-bolt) the pinion I will travel over the cogged circumference of the fixed plate H, and the frame A will in the same manner and proportion be elevated or depressed, and retained thus by locking the pinion I with the spring-catch J. In this manner both the levers are operated, and the frame with the cultivator-teeth adjusted to and held at any required position.

Instead of the flange and cap of the plate H, hooks *c* may be attached to the circumference of the segment portion of the lever for embracing the uncogged circumference of the semicircular plate H to hold the pivoted lever to said plate.

Having thus explained my improvements in wheeled cultivators, I will here state that I am

fully aware that there are other modes of raising and lowering the frame containing the teeth of cultivators in use, particularly that patented to David B. Rogers, January 16, 1849, which consists mainly of a combination of a crank axle-tree extending across the center of the frame, on the ends or cranks whereof are mounted the sustaining-wheels. While I acknowledge the similarity of the lifting action of the cranks of the axle-tree to that of the pivoted segment-levers used by me, and which I disclaim, yet I am not aware that Mr. Rogers is entitled to claim all means for effecting the same result, and I conceive that my improve-

ments differ in material points from his, and which form the subject of my claim, as follows:

Mounting the carrying-wheels upon axles F only when said axles F are made to project from pivoted segment-shaped levers at each side of the frame, in the manner and for the purpose specified.

In testimony whereof I have hereunto signed my name before two subscribing witnesses.

F. P. ROOT.

Witnesses:

D. J. AVERY,
N. K. WRIGHT.