J. RICHARDSON.

FALLOW CULTIVATOR.

No. 189,266. Patented April 3, 1877

Fig 1

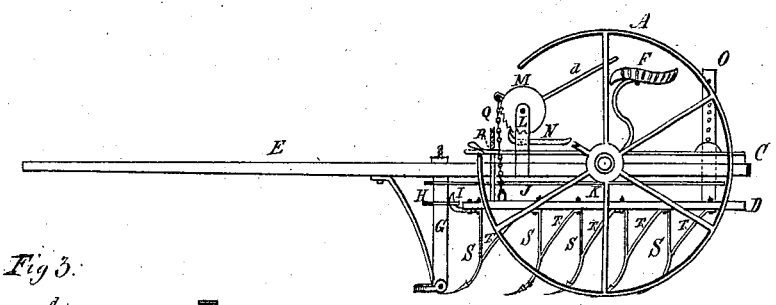

Fig 3.

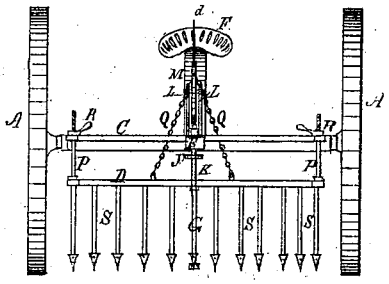

Fig. 2.

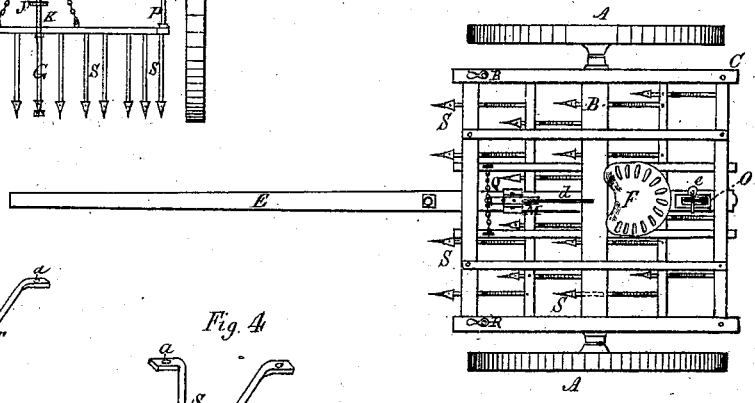

Fig. 6

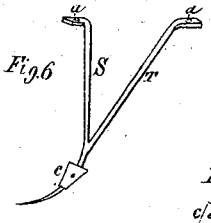

Fig. 4

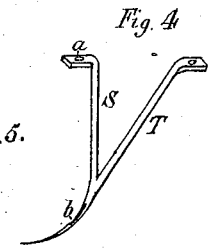

Fig. 5.

Witnesses

H. G. Stone

W. K. Crockett.

Inventor

John Richardson.

By Wm Bruce.

His Attys

UNITED STATES PATENT OFFICE.

JOHN RICHARDSON, OF ANCASTER TOWNSHIP, WENTWORTH COUNTY, ONTARIO, CANADA.

IMPROVEMENT IN FALLOW-CULTIVATORS.

Specification forming part of Letters Patent No. **189,266**, dated April 3, 1877; application filed August 11, 1876.

To all whom it may concern:

Be it known that I, JOHN RICHARDSON, of the township of Ancaster, in the county of Wentworth, in the Province of Ontario, Dominion of Canada, have invented certain new and useful Improvements in Fallow-Cultivators; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same.

This invention relates to certain improvements in cultivators; and it consists, first, in the combination, with the truck or main frame of a cultivator, of a lower independent frame, secured to the rear of the main frame or truck by an adjustable rod or bar, and at the front by screw rods and nuts for adjusting the height of the frame, and a chain and elevating-wheel for raising said frame, as more fully hereinafter set forth; second, in the combination, with the draft-bar of the cultivator, and with the center bar, and adjustable at the rear, of a longitudinal central bar for preventing the frame from drawing obliquely, as more fully hereinafter set forth; and, third, in the combination, with the draft-bar, of a link and hook attached to the lower independent frame and longitudinal bar secured to the adjustable bar at the rear, for the purpose of adjusting and regulating the position of the lower frame, as more fully hereinafter set forth and shown.

By reference to the annexed drawings, forming part of this specification, Figure 1 represents a side view of my cultivator. Fig. 2 is a plan view of the same. Fig. 3 is a front-end view. Fig. 4 represents a view of a tooth without a cutter. Fig. 5 represents a cutter detached. Fig. 6 represents a tooth with a cutter attached.

A A are the two wheels of the machine; B, the axle; C, the upper frame, affixed firmly to the axle. It is composed of light strips of wood, but strongly jointed together. D is the lower frame, similar in construction to the upper one. It is movable vertically, and can be adjusted to any required height. E is the tongue; F, the driver's seat; G, the draft-rod, attached to the tongue and braced strongly to it. H is a link surrounding the draft-rod, and also hooked to the hook I, which is fastened to the lower frame D. J is the flat rod attached to or surrounding the draft-rod, center-bolt, and rear adjustable bar, for the purpose of preventing the cultivator from drawing obliquely on turning, as would be the case in its absence. K is the center-bolt, which is placed at or near the center of the machine. It passes through the flat bar J, and holds it firm in the center. L is the frame attached to the tongue for supporting the circular-shaped ratchet-wheel M, which has notches cut on one side, as shown, and is provided with a lever, *d*, for turning it.

A pawl, N, is arranged for its point to mesh into the notches of the ratchet-wheel, which pawl is operated by the driver's foot.

Q is a chain connecting the ratchet-wheel M and lower frame D, as shown more clearly in Fig. 3. O is an upright adjusting-bar attached to the lower frame D, and made to pass up through the top frame C. It is perforated with holes, so that the rear end of the lower frame can be held at any height by a pin, *e*, inserted in one of the holes in the said bar O. P P are two front rods passing from the lower frame through the top one. Their upper ends are threaded, and hand-nuts R R screwed thereon, for the purpose of adjusting the lower frame to the desired height. S is one of the teeth of my cultivator; T, the brace attached thereto, with bent ends, and a hole, *a*, through each to fasten them to the lower frame D. *b*, Fig. 4, shows the notch cut in the tooth, into which the cutter *c*, Fig. 5, is inserted and secured by a rivet.

The teeth used for gravelly ground and tearing up couch-grass are made similar to Fig. 4, only there is no notch, as at *b*, cut therein. They are perfectly plain, and terminate in a sharp point, as shown.

The cutters *c* are sharp on their outer edges, and are for loosening the ground and cutting through the roots of weeds and grass below the surface of the ground.

My cultivator, as at present constructed, cuts four and a half feet wide; but in cultivating hard ground, if the machine draws too heavy on the horses, some of the outside teeth can be easily removed from each side, which will allow it to draw lighter. If only the outer

teeth are removed it will cut four feet, and the number of teeth on the outside can be removed to enable the cultivator to cut any desired width, and also the center row of teeth can be removed, so that corn, &c., when low, can be cultivated on both sides of each row at the same time.

I construct the wheels four feet three inches in diameter, which causes the machine to run more easily than others, and they are also made two inches thick, which prevents them from sinking in the ground.

The principal advantage of my cultivator is the adjustability of the teeth and their shape to suit soft, medium, or hard ground, as also the extreme lightness of its draft.

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

1. In combination with the frame D, adjustably secured to the rear of the cultivator by the rod O and pin *e*, the rods P and nuts R, for adjusting the height of said frame, and the chain Q and wheel M, and its pawl for elevating said frame, substantially as herein set forth.

2. In combination with the draft-bar G, the center-bolt, and rear adjustable bar O, the bar J, for preventing the frame from drawing obliquely, substantially as set forth.

3. The combination of the draft-bar G, bolted to the tongue, the link H and hook I, attached to the frame D, and the bar J, secured to the rod O, as and for the purposes set forth.

Dated at Hamilton, Ontario, this 28th day of July, A. D. 1876.

JOHN RICHARDSON.

Signed in presence of—

WM. BRUCE,

H. G. STONE.