A. T. ODELL.

Wheel-Cultivator.

No. 5,195. Patented July 17, 1847.

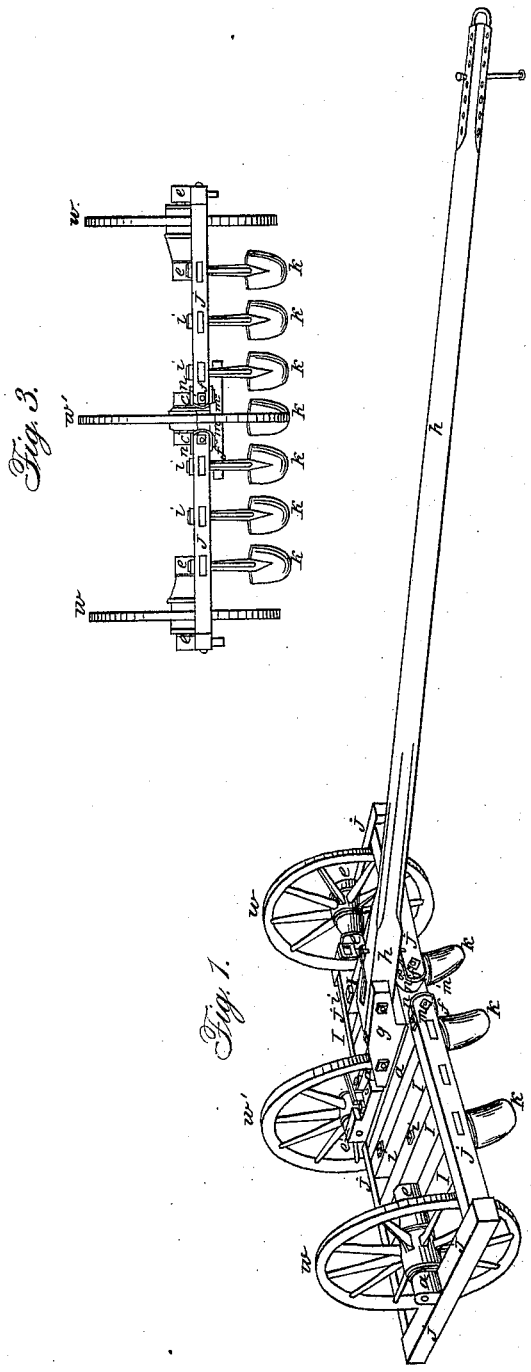

Fig. 1.

Fig. 3.

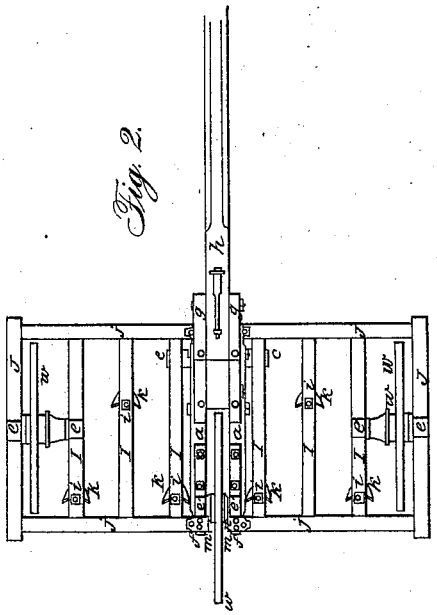

Fig. 2.

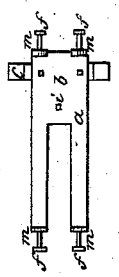

Fig. 4.

UNITED STATES PATENT OFFICE.

ALANSON T. ODELL, OF ROYALTON, NEW YORK.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **5,195**, dated July 17, 1847.

To all whom it may concern:

Be it known that I, ALANSON T. ODELL, of the town of Royalton, in the county of Niagara and State of New York, have invented a new and useful Machine for Cultivating Lands, called by me "Odell's Double-Jointed Three-Wheeled Cultivator," which is described as follows, reference being had to the annexed drawings of the same, making a part of this specification.

The nature of my invention and improvement consists in a certain combination of two double-jointed, hinged, and wheeled wing-frames, I *j*, containing side cultivators, *k*, with a central frame, *a b c*, attached to the rear end of the tongue *h*, containing a third wheel, *w'*, upon which it is supported, and a central cultivator, *k'*, so constructed, arranged, and operated that undulatory land may be cultivated effectually in uniform depths of furrows without straining or breaking the frames, the cultivators being made to accommodate themselves to the hills and hollows and other inequalities of the land by means of flexible central joints or hinges *m*, attached to the frame of the central cultivator.

Figure 1 is a perspective view of the machine. Fig. 2 is a top view. Fig. 3 is an end view. Fig. 4 is a top view of the central frame.

Each of the side a jointed wing-frame, I *j*, is of a rectangular form, and is composed of six timbers, mortised and tenoned together. Two of said timbers are connected by their inner ends to the joint-pins *m* of the central frame, *a*, and by their outer ends to a longitudinal timber running parallel with the center frame. The intermediate timbers run parallel with this timber and receive the shanks of the cultivators, and one of these timbers and said outside longitudinal timber contain the blocks *e*, which sustain the boxes of the axle of the wheel revolving between them.

a b c is the frame for containing the third wheel, the double joints, the central cultivator, and the tongue, *w'* being the central wheel; *m*, the joint-axles; *k'*, the central cultivator, and *g* hounds or jaws, and *h* the tongue secured between the hounds by a connecting-bolt. *e' e'* are the boxes of the axle of the central wheel. *f f* are nuts. The hounds are bolted to the timbers *a* and *c*.

I and *j* are two wing-frames, hinged to the axles *m m m m* by the boxes *n n n n*, on which they turn vertically, denominated "right" and "left" wings, their outer ends being supported on the axles of side wheels, *w w*, turning in boxes *e e e e*, secured to the frame. The radius of the outer wheels is less than the radius of the central wheel by the depth of the furrow it is intended to plow, the lowest part of the periphery of the central wheel being on the same horizontal line with the lower edge of the cultivators (when the machine stands level) and runs on the bottom of the furrow, while the outer wheels run on the surface of the land. The boxes *e*, in which the axles of the wheels turn, have tenons projecting down through corresponding mortises in the timbers of the frame, provided with holes and pins, by which the level of the frames containing the cultivators may be changed at pleasure to cause the cultivators to enter the soil to a greater or less depth, as required, the pins passing horizontally through the side timbers of the frame and said tenons.

The teeth or cultivators *k* are constructed of wrought-iron pointed with steel having shanks that extend up through the frame, and are secured thereto by nuts, being braced on the back to the frame by curved braces. Each wing should contain about three teeth, located in the manner represented at *i*, Fig. 2.

This machine, by means of the wheels and joints, will adapt itself to any uneven surface. For example, in using this machine and driving over a rise or knoll, in consequence of the arrangement of the joint and middle wheel the inside teeth are kept at the same depth as the outside teeth. In passing along a hollow the middle of the machine settles down, so that the land in the hollow is as well cultivated as that upon the higher ground. In consequence of the middle wheel being larger in diameter than the outer wheels the top of the machine will remain level while working on a horizontal surface, because the middle wheel follows in the furrow made by the middle tooth. The teeth are so constructed that in being used they are not liable to clog, the share or wide part of the tooth being so short that the dirt passes either round the sides or over the top of it, leaving but a small furrow after it. In consequence of the shank or upper part of the teeth being narrow a much larger stone, sod,

or other obstruction can pass through between them than there could if the teeth were wider at the to. Besides, there is little or no chance for dirt to lodge on the upper part of the teeth. In using or tending the machine it will be found very easy, and light work for the person using or tending it, in consequence of the peculiar and novel arrangement of the flexible joints. For example, if either wing meets with an obstruction it requires but little strength to raise the wing and remove such obstruction, leaving at the same time two wheels and several teeth on the ground, and making but a temporary balk or stoppage.

Should it become necessary at any time to back the machine, this can as readily be done as a wagon can be backed, in consequence of the middle wheel being located in the rear of the teeth.

This machine can be used with any ordinary team, and is designed to be used on the land after it has been once plowed.

The central wheel may be of smaller diameter than the side wheels, and may be arranged on a transverse line with the side wheels or placed before them with or without a cultivator before it, and having its axis jointed to the side frames.

The side frames may be strengthened by diagonal braces. The two side timbers next the center, to which the hinges might be attached, could be extended in front and braced by oblique braces, forming hounds, between which the tongue could also be placed, the latter being secured to the links connecting the hinges, said hinges being made in the usual manner of wrought-iron and fastened to the sides of the frames. If the side frames are thus made in the manner indicated, the central frame may be omitted, and the side frames connected by a link between the hinges equal in length to the axis of the central wheel.

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

1. The combination of the two double-jointed, hinged, and wheeled wing-frames I *j*, containing the side cultivators, *k*, with the central frame, *a b c*, containing the third wheel, *w'*, and central cultivator, *k'*, constructed, arranged, and operated in such manner that undulatory land may be cultivated in uniform depths of furrows without straining or breaking the frames, the cultivators being made to accommodate themselves to the hills and hollows and other inequalities of the land by means of the flexible central joints or hinges, *m n*, attached to the aforesaid central frame, *a b c*.

2. Combining a third wheel, *w'*, with the two side wheels *w w* in a jointed flexible or folding cultivator-frame, made in the manner above described, or other mode substantially the same.

A. T. ODELL.

Witnesses:
PHILIP FREEMAN,
THOS. M. WEBSTER.