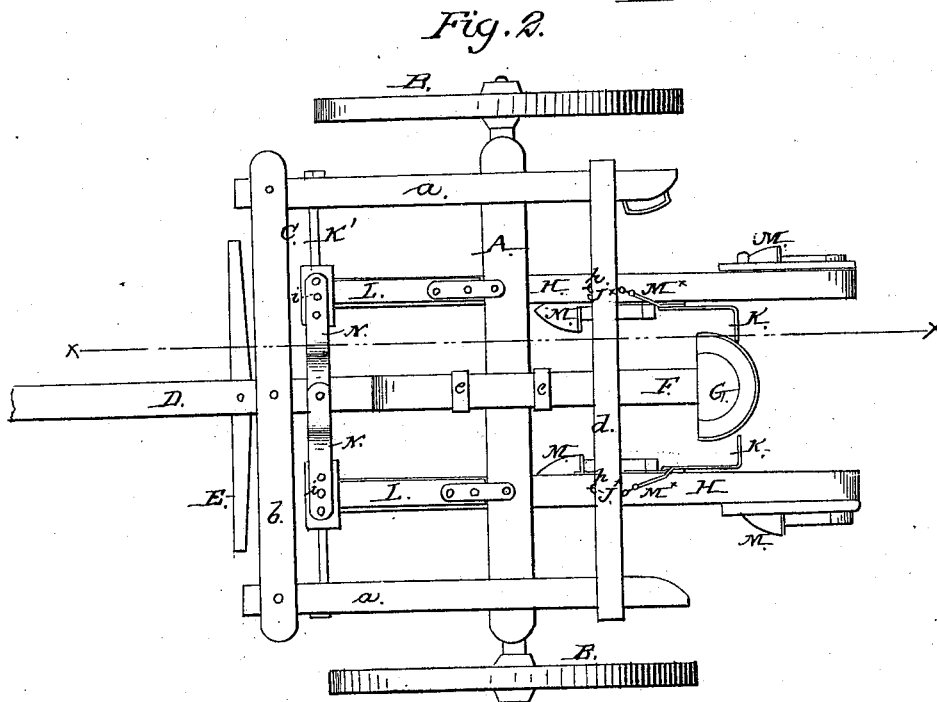
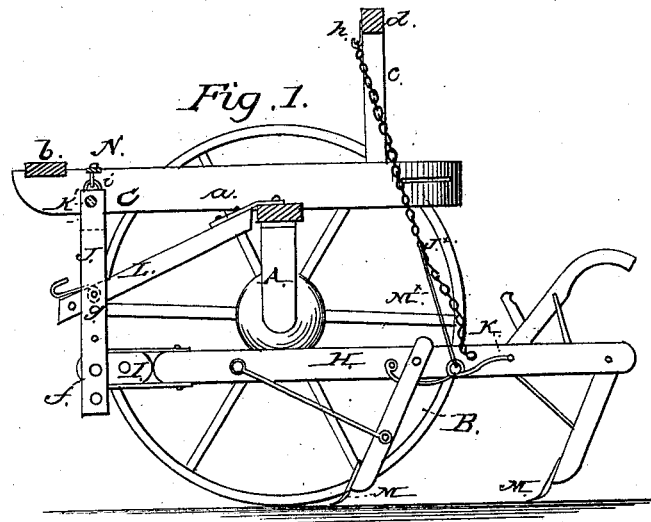


A. S. MARKHAM.

Wheel-Cultivator.

No. 52,429.

Patented Feb. 6, 1866.



*Witnesses:*

*Wm. Freeman  
Wm. B. Livingston*

*Inventor:*

*A. S. Markham  
By *Johnson & Co.*  
Attys*

# UNITED STATES PATENT OFFICE.

A. S. MARKHAM, OF BUSHNELL, ILLINOIS.

## IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. 52,429, dated February 6, 1866.

*To all whom it may concern:*

Be it known that I, A. S. MARKHAM, of Bushnell, in the county of McDonough and State of Illinois, have invented a new and Improved Cultivator; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side sectional view of my invention, taken in the line *xx*, Fig. 2; Fig. 2, a plan or top view of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved cultivator of that class designed for cultivating crops grown in hills or drills, and in a novel arrangement of parts, hereinafter fully shown and described, whereby the adjusting or moving of the plows is placed under the complete control of the operator, and the plows rendered capable of being operated with the greatest facility.

A represents an axle having a wheel, B, on each end of it; and C is a rectangular frame composed of two parallel bars, *a a*, secured on the axle at right angles, and connected at their front ends by a cross-bar, *b*.

The frame C has an upright, *c*, secured to each side of it, said uprights being connected at their upper ends by a cross-bar, *d*.

D is the draft-pole, attached to the center of the axle A, and provided with the usual double, tree E. At the rear part of the draft-pole there are attached metal loops *e e*, into which a bar, F, is fitted, said bar having the driver's seat G at its rear end. This arrangement admits of the seat being adjusted farther forward or backward, as occasion may require.

H H represent two plow-beams, the front ends of which are provided with universal joints L, and are connected by bolts or pins *f* to pendants J, the upper parts of which are secured in the front part of the frame C by means of a rod, K, the pendants being allowed to swing or turn on said rod, so that their lower parts may be adjusted farther forward or backward. These pendants are secured in position by means of pins or bolts *g*, passing

through them and through the front parts of the bars L L, the rear ends of which are secured to the axle, said bars having two or more holes made in them, as well as the pendants J, through any of which the pins or bolts *g* may pass, according to the position in which it may be desired to secure the pendants. By this arrangement the plows M, which are secured to the beams H H, may be adjusted farther forward or backward, as desired, and the plows, in consequence of the beams H H being attached to the pendants J by means of the universal joints L, rendered capable of being raised or lowered or moved laterally with the greatest facility.

The depth of the penetration of the plows into the earth is regulated by means of chains J\*, which are attached to the beams H H, and are fitted on hooks *h* in the cross-bar *d* of the uprights *c c*. By adjusting these chains—that is to say, hooking them up more or less—the depth of the penetration of the plows may be regulated, as desired.

To each plow-beam H there is attached a treadle, K, which may be operated by the driver from his seat L. These treadles are connected to the chains J\* by links M\*, and it will be seen that by depressing the treadles the plows may be raised up out of the ground at any time.

The upper ends of the pendants J are connected to plates N, which are attached to the draft-pole, said plates having a series of holes made in them, through any of which bolts *i* pass. By this means the pendants J, and consequently the plows, may be adjusted nearer together or farther apart on the rod K, and the hooks *h* may be adjusted nearer together or farther apart on the cross-bar *d*.

By adjusting the front ends of the beams H H near together, and the rear ends rather farther apart, the earth will be thrown toward the plants, and by adjusting said beams in an opposite position the earth will be thrown from the plants.

The device may be used as a gang-plow by attaching mold-board plows to the standards of the beams, and the beams are provided with handles, to enable the driver to operate the plows when he prefers walking behind the implement.

If desired, at any time, the bars L L may be detached and the animals attached, one to each beam H. By this means the animals will be relieved of downward draft on the neck.

By adjusting the seat as shown the feet of the driver, whether man or boy, can always be brought within convenient reach of the treadles K.

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

The securing of the pendants J on the rod K by means of bolts *i* passing through any of a series of holes in plates N N, attached to the draft-pole, substantially as shown and described.

A. S. MARKHAM.

Witnesses:

DAVID JOHNSON,  
J. T. SANDERS.