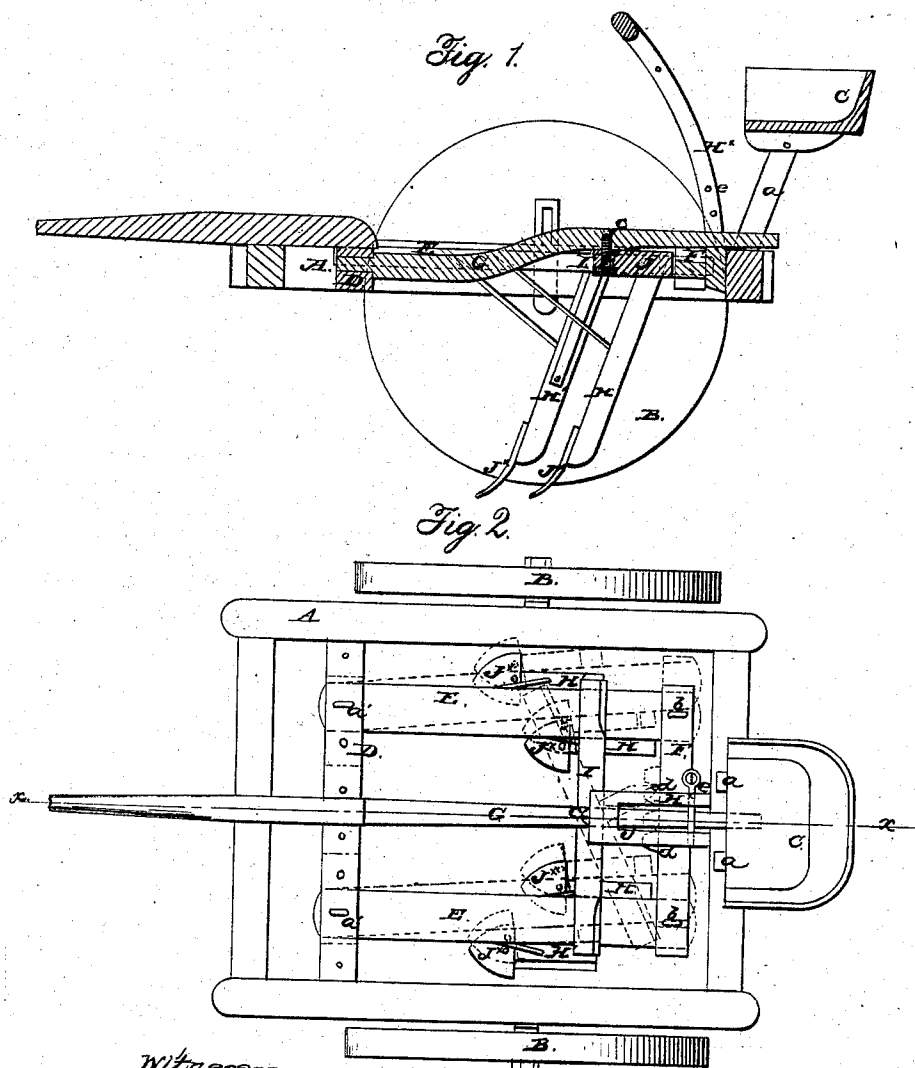


A. M. BLACK.  
Wheel-Cultivator.

No. 36,889.

Patented Nov. 11, 1862.



Witnesses.  
J. W. Coombs  
J. W. Reed

Inventor.  
A. M. Black  
by M. M. F.  
Atty.

# UNITED STATES PATENT OFFICE.

A. M. BLACK, OF AUBURN, ILLINOIS.

## IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. 36,889, dated November 11, 1862.

*To all whom it may concern:*

Be it known that I, A. M. BLACK, of Auburn, in the county of Sangamon 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 of the same, reference being had to the accompanying drawings, making a 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 is a plan or top view of the same.

Similar letters of reference indicate corresponding parts in the two figures.

This invention relates to a new and improved cultivator of that class in which the shovels and plows have a rising-and-falling as well as a lateral movement.

The object of the invention is to obtain a cultivator of the class specified which will be exceedingly simple in construction, not liable to get out of repair or become deranged by use, and one which may be operated with the greatest facility by the driver on his seat.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a rectangular frame, which is mounted on two wheels, B B, and has a driver's seat, C, supported by two inclined bars, *a a*, on its back part. A draft-pole of usual construction is attached to the front part of the frame A.

D is a rock-shaft, which is fitted transversely in the front part of the frame A, and has two bars, E E, fitted in or to it and secured by pins *a' a'*. The bars E E are parallel with each other, and they are connected at their back ends by a bar, F, said bar F being attached to the bars E E by pins *b*, the bars E E being fitted in slots or mortises in the ends of the bar F.

G is an arm or lever, the front end of which is permanently secured in the rock-shaft D. This arm or lever extends backward beyond the cross-bar F of the bars E E, and passes through a curved guide, H<sup>x</sup>, which is secured to the back part of the frame A.

I is a lever which is secured to the arm G by a fulcrum-pin, *c*. This lever has an arm, J, projecting centrally from it at right angles, and the outer end of this arm is fitted between cleats or projections *d d*, attached to the cross-bar F. The ends of the lever I project over on the bars E E, and are designed to be

within a convenient distance of the feet of the driver on the seat C.

To each bar E there are attached two inclined standards, H H', having each a shovel or plow, J<sup>x</sup>, secured to its lower end. The standards H are secured to the inner sides of the bar E, while the standards H' are secured to the outer sides of said bars. By this arrangement the two back shovels or plows, J<sup>x</sup>, are brought nearer together than the two foremost ones, as shown clearly in Fig. 2. As the machine is drawn along the two back plows, J<sup>x</sup> J<sup>x</sup>, work by the side of the plants, while the two forward plows work in the spaces between the rows of plants, and the plows are adjusted laterally in order to follow or conform to the sinuosities of the rows by operating the lever I, which is done by the driver with his feet, the arm J of the lever I actuating the cross-bar F of the bars E in consequence of fitting between the cleats or projections *d d* of the cross-bar. The shovels or plows are elevated by raising the arm G, and the upward movement of said arm is limited by a bolt, *e*, which passes transversely through the guide H<sup>x</sup>. The shovels or plows, by means of this rising-and-falling movement or play of the arm G, are allowed to rise and fall to conform to the irregularities of the earth over which they pass.

The lever I, when not actuated to move the shovels or plows laterally, serves as a brace for the feet of the driver, and the arrangement of said lever with the bars E E F and rock-shaft D, as shown, places the shovels or plows under the complete control of the driver.

The bars E E may be adjusted nearer together or farther apart by placing the pins *a' b* in different holes in the shaft D and bar F.

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

The rock-shaft D with the plow bars or beams E E attached to it, as shown, and connected at their back ends by the cross-bar F, in combination with the arm G and the lever I, the latter being provided with the arm J, fitted between cleats or projections *d d* on bar F, all arranged substantially as and for the purpose herein set forth.

A. M. BLACK.

Witnesses:

JAMES BABCOCK,  
DAVID MYERS.