I. BARBER, Jr.

Wheel-Cultivator.

No. 45,687 Patented Jan. 3, 1865.

Fig. 1

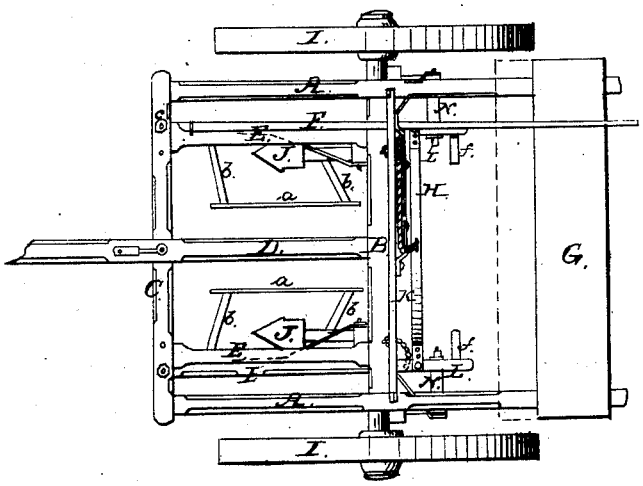


Fig. 2.

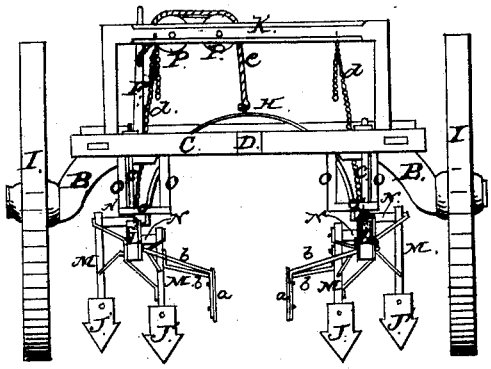
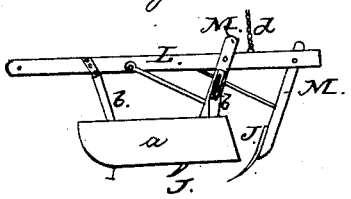


Fig. 3.



WITNESSES:
W. E. Mann
L. L. Coburn

INVENTOR:
Ira Barber Jr

UNITED STATES PATENT OFFICE.

IRA BARBER, JR., OF LA PORTE, INDIANA.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **45,687**, dated January 3, 1865.

To all whom it may concern:

Be it known that I, IRA BARBER, Jr., of La Porte, in the county of La Porte and State of Indiana, have invented a new and useful Improvement in Cultivators; 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 and the letters and figures marked thereon, which form part of this specification.

In said drawings, Figure 1 represents a plan or top view of my invention; Fig. 2, a front elevation of the same; and Fig. 3 is a detached side view of the plow-beams with its attachments.

The same letters of reference in the different figures indicate corresponding parts of my invention.

My invention relates to that class of cultivators which are mounted upon wheels and stride the rows to be cultivated; and it consists, first, in a novel mode of regulating and adjusting the plows, so as to run at any desired depth in the soil; second, in a novel arrangement of an adjustable seat, whereby the machine may be properly balanced, so as to remove the downward strain from the horses' necks; third, in a novel device for connecting the front ends of the plow-beams to the main frame of the machine, so as to give them a free vertical and lateral adjustability; and, fourth, in a novel device for protecting the corn, when small, from being buried or covered by the earth thrown up by the cultivator-plows when in operation.

To enable those skilled in the art to understand, construct, and use my invention, I will proceed to describe the same with particularity, reference being made to the aforesaid drawings.

A A represent two longitudinal beams at the sides of the machine, and forming part of the main frame thereof, which rest upon the cross-beam B, which lies upon or forms part of the axle supporting the wheels I.

C is the front cross-beam, to which the draft-pole D is attached, running back into the cross-beam B, as shown.

E E are longitudinal beams, mortised at each end into the cross-beams B and C, and serve to strengthen the frame.

F represents a lever having a pivoted connection at its front end with the beam E, as shown, giving the lever a vertical motion about said pivoted connection.

G represents the adjustable seat, arranged upon the rear ends of beams A A, so that the weight of the driver will act upon the said beams as levers, the cross-beam B being the fulcrum, and this tends to raise the front of the machine and the draft-pole, thereby relieving the necks of the horses from the downward pressure induced by the action of the cultivator in the soil. By having the seat adjustable backward and forward the desired effect may be attained, whatever the weight of the driver may be.

H represents a metallic bow connecting the rear parts of the plow-beams, and is provided with holes at the ends, whereby the rear ends of said plow-beams may be adjusted at any required distance apart. To this bow H is attached the cord E, which, passing over the pulleys P P, is attached to the lever F, so that by bearing down the rear end of the said lever the rear ends of the plow-beams are raised up to any height required.

J J′ represent the plows, and M the standards whereto they are attached, which are fastened to the plow-beams L L by the arms N, which carry the plows each side of the beams, so as to give them the proper position with respect to each other.

O O′ are frames extending down from the cross-bar C to form a support in O′ for the vertical pivots *c*, which are also supported in bearings in said cross-bar. The lower ends of these pivots are forked, as shown, so as to admit the front ends of the plow-beams L, which are fastened therein by pins passing through holes in said forks and plow-beams, so as to allow the rear ends of the beams to be raised freely. The pivots *c* having a free motion within their bearings, it is evident that the said beams also have a free lateral motion about said pivots.

K represents a vertical frame supporting the pulleys P P, and are also provided with hooks, to which the chains *d* are fastened. These chains *d* are attached to the plow-beams L, and thus the same may be raised and adjusted to any desired position by means of said chains *d* and hooks, so that the operator, seated upon the seat G, may by simply placing his feet upon the stirrups *f f* upon the rear ends of the plow-beams move them from one side to the other,

to adapt the plows to the rows by pressing downward and laterally, and the chains *d*, fastened as shown, will at the same time effectually prevent the plows from being forced too deep into the soil by said operation. There are different bearings in the cross-beam C and frame O′ for the pivots *c*, so that the plow-beams may be adjusted at different distances apart, if desired. In a like manner the position of the front ends of the plow-beams may be varied in the fork of the pivots *c*, raising or lowering them, as may be thought best.

a represents a shield or protector, attached to the plow-beams, as shown, by the arms *b b*, in such a manner as to be raised or lowered by means of the slots and holes in the ends whereby they are attached to the beam L and standard M. The object of these shields is to protect the corn, when small, from being injured or broken down or covered up by the earth thrown in toward the same by the inner plows. By means of the adjustability of said shields they may be raised up as the corn increases in size, so as to let more and more soil be thrown in around it, according to the varying requirement of the corn at different stages of its growth.

Having now described the construction and operation of my improvement in cultivators, I will specify what I claim as new therein and desire to secure by Letters Patent—

1. The pivots *c*, provided with the pronged or forked ends, and arranged as shown in relation to the frame C and frame O′, in combination with the plow-beams L, operating as and for the purposes herein shown and set forth.

2. Suspending the rear ends of the plow-beams L by the chains *d*, in combination with the pivoted front ends of said beams, for the purpose of enabling the operator to give the shovels the lateral motion, substantially as and for the purposes herein specified.

IRA BARBER, JR.

Witnesses:
H. H. MARST,
C. F. WALTHER.