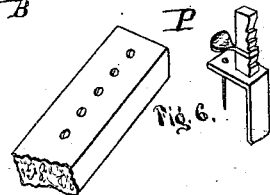
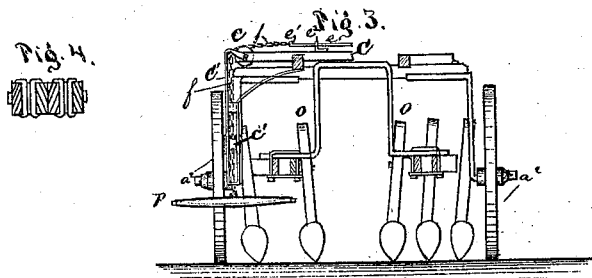
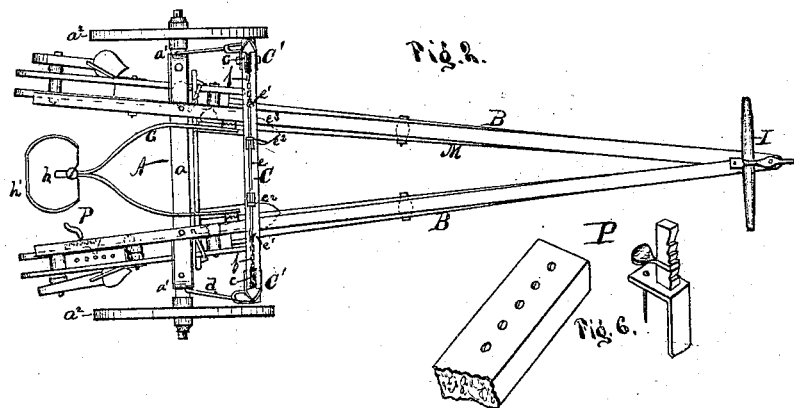
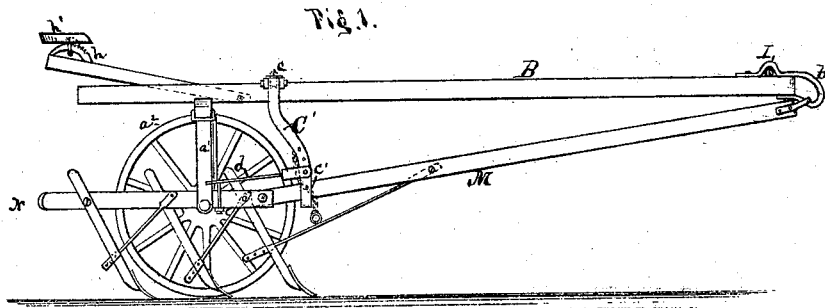


*Gerber & Brown,*

*Wheel Cultivator,*

*No. 113,511.*

*Patented Apr. 11, 1871.*



Witnesses:  
*S. J. Hayes*  
*H. H. Pierson*

Inventors:  
*Gerber & Brown by*  
*H. W. Beadle, atty*

# UNITED STATES PATENT OFFICE.

JULIUS GERBER AND HORACE BROWN, OF ROCKFORD, ILLINOIS.

## IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **113,511**, dated April 11, 1871.

*To all whom it may concern:*

Be it known that we, JULIUS GERBER and HORACE BROWN, of Rockford, in the county of Winnebago and State of Illinois, have invented new and useful Improvements in Cultivators; and we do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

This invention relates to that class of wheel-cultivators which have hinged to the main frame, supported by the wheels, an auxiliary frame carrying the shovels; and consists in certain details of construction, which will be fully described hereinafter.

In the drawing, Figure 1 represents a side elevation of our improved machine; Fig. 2, a plan view of the same; Fig. 3, a transverse sectional elevation; and Figs. 4 and 5, views of detached parts.

To enable others skilled in the art to make and use our invention, we will now proceed to describe fully its construction and manner of operation.

A represents the axle of our cultivator, consisting of a beam, *a*, supported by the angle-irons *a*<sup>1</sup>, the lower ends of which latter form the journals of the wheels *a*<sup>2</sup> *a*<sup>3</sup>. B B represent the pole-beams, which are rigidly attached to the axle A near their rear ends, and, extending forward in converging lines, finally unite and receive the pole-iron *b*, as shown.

The beams B B and bent axle A together form the main frame, from which depends the auxiliary frame carrying the shovels.

C represents a cross-beam, resting upon the beams B B forward of the axle, which constitutes a base for the support of the draft-equalizing devices, which will now be described. C' C' represent arms extending downward at right angles from the beam C, which form supports for the pulleys *c*. *d* represents a stay-rod, which is attached at its front end to the pulley *c* by means of a clevis-iron or equivalent, as shown, and, extending rearward, is attached at its rear end to the angle of the axle. *e* represents a rod, provided with hooks *e*<sup>1</sup> at each end, which rest in stops *e*<sup>2</sup> upon the beam C, as shown. Upon it, at each end, are located springs *e*<sup>3</sup>, the inner ends of which

rest against the stops *e*<sup>2</sup>. Attached to the hook *e*<sup>1</sup> at either end is a chain, *f*, which, passing over the pulley *c* at the end of the beam C and the pulley *c*<sup>1</sup> in the arm C', is attached to the whiffletree F, as shown.

G G represent the beams which support the seat. Each beam is provided upon its outer side, at its front end, with a circular notched face, which engages with a correspondingly-formed face upon the inner side of the pole-beam, the two faces being united by means of a bolt, as shown. The beams are united at their rear ends, and provided with a curving serrated support, *h*, upon which the seat *h*<sup>1</sup> rests. The seat is also provided with one or more teeth, which are caused to engage with the teeth of the support beneath by means of a screw which passes through a suitable slot in the seat into the support below.

I represents the neck-yoke, which is attached to the pole-beams in any suitable manner.

The foregoing description relates to the main frame and its direct attachments. We will now proceed to describe the auxiliary frame and its devices.

M M represent the main beams of the auxiliary frame. They are united in front by any suitable fastening, and are hinged to the pole-beams forward of the neck-yoke, as shown. They are constructed of two pieces of narrow timber instead of one thick piece, and are separated by means of a washer placed between them upon the connecting-bolt, as shown.

N N represent beams constructed similarly to the beams M M and jointed to them, which carry the shovel-standards and shovels. They are united to the beams M M by means of a bolt, and are also provided with a system of notched faces, which engage with corresponding faces in the rear ends of the beams M M, in the manner hereinbefore described.

O represents a bent connecting-bar, by means of which the entire auxiliary frame is raised, when desired, by means of any suitable lifting devices. The shovel-standards may be attached in any suitable manner.

If desired, two washers having converging faces may be employed, by means of which the adjustment of the standards to or from the row is easily accomplished.

P represents a foot-rest, which is adjustable

not only as to its height, but as to its position longitudinally upon the beam. This is accomplished by means of a spur upon the right angle-iron, attached to the lower end of the standard, which may be placed in any one of the holes in the beam.

The manner of operating the various parts will now be described.

The beams that support the seat may be adjusted to raise or lower the seat by simply loosening the bolt which holds them at their forward ends, and by disengaging the notched faces from each other. The seat itself is easily adjusted upon the beams to pitch down or up, by loosening the screw and moving the seat into the desired position.

The draft is equalized by the device described. The greatest strain is borne by the stay-rod, which is attached low down upon the axle.

The auxiliary frame, being hinged forward of the neck-yoke, has a swing sufficiently long to make the relative movements of the front and rear shovels practically the same. By means of the jointed connection the shovel-frame proper may be so adjusted as to move in line parallel with the surface of the ground, and consequently all the standards may be set in the same vertical position. Ordinarily the standards must be adjusted at different heights to accord with the incline of the frame.

The specific construction of the beam itself of two narrow strips instead of one thick piece gives greater strength and less weight, and also permits an additional shovel to be used, if desired.

The foot-rest is easily adjusted vertically or longitudinally. Its large bearing-surface gives it ample support.

The standards may be adjusted to turn the shovels to or from the row by moving the thick sides of the washers to the front or rear, as may be desired.

The machine as a whole possesses lightness with great strength. It is effective in its working, and overcomes certain serious defects incidental to the ordinary forms.

If desired, a harrow-frame, with harrow or cultivator teeth, may be attached to the shovel-frame proper, the shovels being removed for that purpose. By this means the cultivator can be used in cases where the usual shovels are deemed impracticable.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent of the United States, is—

1. The seat *h'*, constructed specifically as described, in combination with the curving serrated support *h*, as set forth.

2. The combination of the auxiliary frame with the main frame, when the former is hinged to the latter forward of the neck-yoke, as described.

3. The adjustable foot-rest *P*, when constructed as described, and combined with the supporting-beam, as set forth.

4. The jointed shovel-beam *M N*, provided with means of adjusting and securing the relative position of the parts *M N* without interfering with the free movement of the auxiliary frame relatively to the main frame, as described.

5. The combination of the seat *h'*, adjustable as described, with the adjustable seat-arms attached to the main frame, as set forth.

6. The bar *C*, provided with pulleys *c c*, rigid pendants *C'*, with pulleys *c' c'*, and stay-rod *d*, in combination with the rod *e* and chain *f*, as described.

This specification signed and witnessed this 19th day of July, 1870.

JULIUS GERBER.  
HORACE BROWN.

Witnesses:

G. W. FORD,  
D. LAMONT.