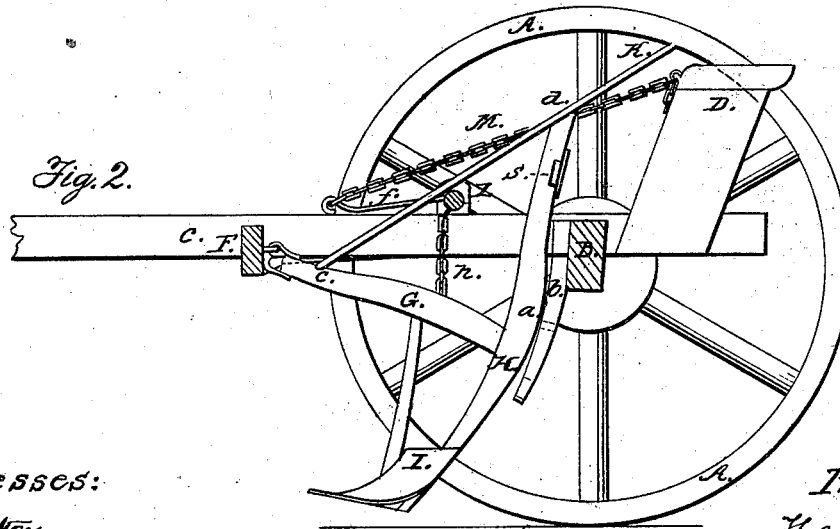
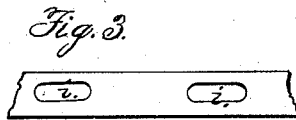
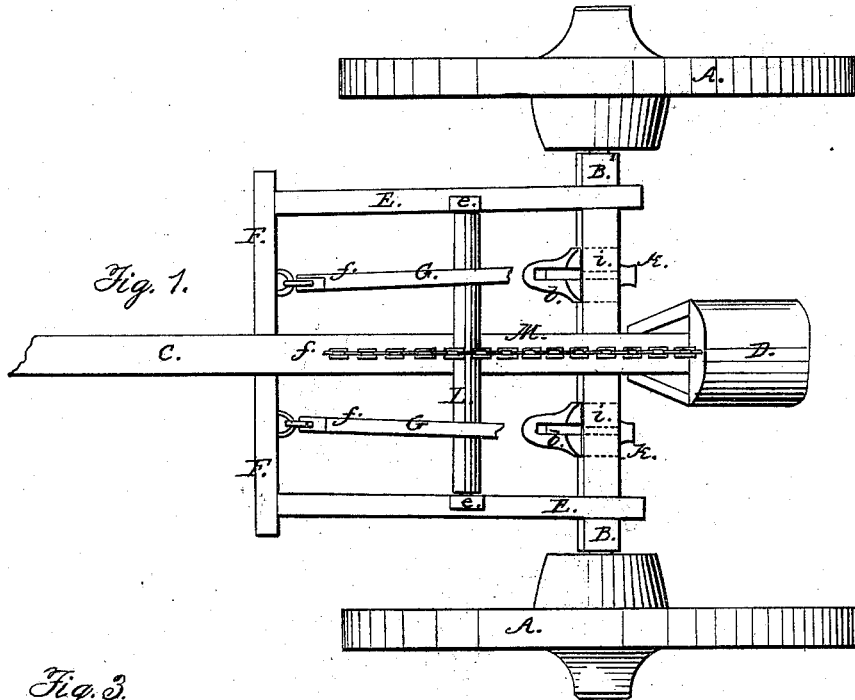


H. F. BYERLY.
Wheel-Cultivator.

No. 54,854,

Patented May 22, 1866.



Witnesses:
E. A. Winton
Chas. Herron

Inventor:
Henry F. Byerly
By
J. S. Jones & Co. atty.

UNITED STATES PATENT OFFICE.

H. F. BYERLY, OF CLINTON, ILLINOIS, ASSIGNOR TO HIMSELF AND ISRAEL CAMPBELL.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. 54,854, dated May 22, 1866.

To all whom it may concern:

Be it known that I, HENRY F. BYERLY, of Clinton, in the county of De Witt and State of Illinois, have invented certain new and useful Improvements in Cultivators; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 is a plan. Fig. 2 is a vertical section. Fig. 3 is a rear view of a part of the axle. Like letters refer to like parts in each figure.

The object of my invention is to construct a cultivator of the kind carried on wheels, with a view to simplicity of construction, durability, lightness of draft, and ease of operation.

A A are wheels, on which is mounted the axle B B. Said wheels are of a sufficient height to carry the axle above the tops of the young corn. To the center of the axle is attached the draft-pole C, which extends a sufficient distance in the rear thereof to allow the driver's seat D to be secured to it. Said seat may be arranged so as to be moved backward or forward, so that the cultivator may be balanced by a driver of any weight, so as to relieve the team from carrying any great weight on their necks.

E E are bars parallel with the pole, the rear ends of which are connected to the axle near the naves of the wheels. Said bars are connected at their front ends to the cross-bar F, which is secured to the pole and extends a sufficient distance on each side thereof to allow the whiffletrees to be attached thereto. Between the pole C and the bars E E are suspended the plows.

The front ends of the horizontal beams G G are attached to the cross-bar F by means of swivels, clevises, or any other means that will admit of a rotary motion of the beams. It may be so arranged that the swivels or clevises may be attached to the bar F at any point between the pole and the bars E E, so as to turn the plows either in or out. The rear ends of the said beams are attached to the standards or up-rights H, only one of which is shown in the drawings. To the lower ends of said standards are firmly secured the plows I, one of which is shown in Fig. 2. On the rear part of each of the standards H, above the point of connection

with the beams, are attached journals or pivots, one of which is shown at *a*, Fig. 2. Said journals play in perpendicular slots in the pendants *b b*, allowing the standards to reciprocate up and down. Said pendants are secured to the front of the axle by the bolts *k k*, which pass through horizontal slots or mortises therein. (Shown at *i i*, Figs. 1 and 2.) By means of said slots the distance between the pendants may be varied. Near the upper ends of the standards H are slots, (shown at *g*, Fig. 2,) in which are placed the ends of an adjustable bar, one end of which is shown on Fig. 2 at *s*. Said bar is somewhat smaller than the slots in which it is placed, and is retained in place by means of keys or pins which will admit of a rocking motion of the bar. This bar is furnished at intervals with key-holes, by which means the distance between the standards may be regulated. Thus by means of said bar, in combination with the pendants *b b*, the plows may be adjusted to any required distance apart, or they may be brought close together.

The handles K are attached to the horizontal beams at *e*, and to the upper ends of the standards at *d*, and by moving them to the right or to the left the line of the furrows may be changed at the will of the driver.

On the bars E E is placed the roller L, on the ends of which are journals which are placed in journal-boxes *e e* on said bars. To said roller, by means of hooks, the chains *h* are attached, which descend and are attached to the horizontal beams G G, by which means the depth of the furrows may be regulated by increasing or diminishing the distance between the roller and the beams. To the center of the roller L is attached the lever *f*, which, in its natural position, rests horizontally on the draft-pole, as shown in Fig. 2. To the end of said lever the chain M or its equivalent is attached, which extends back and is attached to a hook on the driver's seat. By means of said chain the driver may raise the lever *f*, and thus withdraw the plows from the ground when turning at the end of the rows, or whenever it is desired to do so in order to clear obstructions, &c.

This cultivator is equally adapted to the use of shovel or bar plows, and when bar-plows are used they may be arranged so as to throw

the earth either way by simply changing them from one standard to the other.

My cultivator is simple in its construction and very light on account of the small amount of material used in its construction, is more durable and less liable to get out of repair than those of more complicated machinery, is operated with the greatest facility, the driver being enabled to throw the earth wherever he desires by simply moving the handles to the right or to the left, and it may be constructed so cheaply as to be within the means of every farmer.

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

1. The sliding bolts *k k*, slots *i i*, and pendants *b b*, combined and operated substantially as and for the purpose specified.

2. The roller *L*, lever *f*, and chains *M* and *h*, combined and operated substantially as and for the purpose set forth.

HENRY F. BYERLY.

Witnesses:

JOSEPH J. KELLY,
THOMAS SNELL.