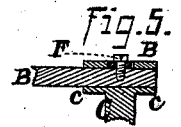
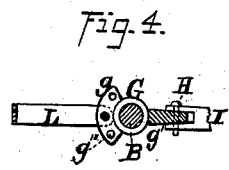
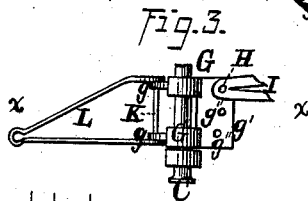
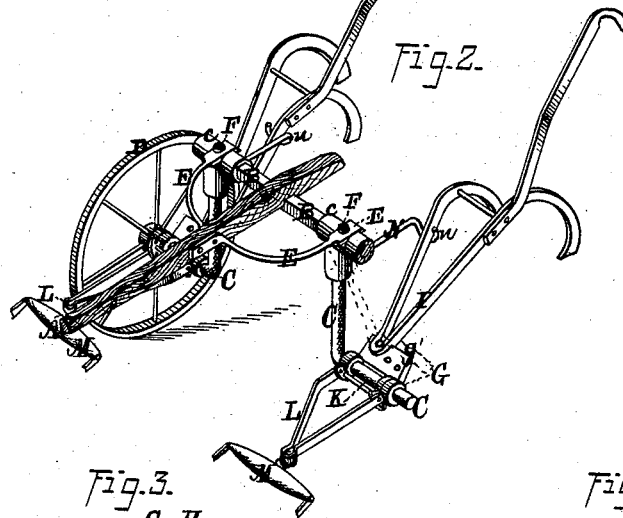
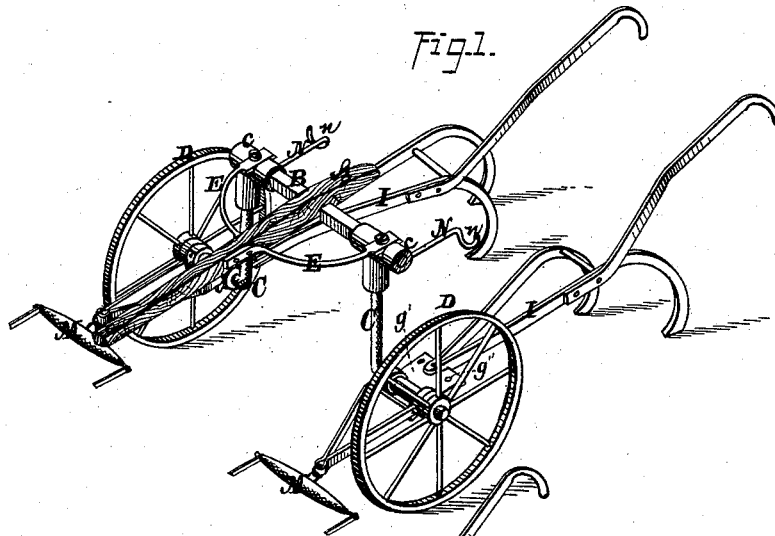


F. T. VERHAREN.  
Corn-Cultivator.

No. 209,527.

Patented Oct. 29, 1878.



WITNESSES=  
Jas. Hutchinson.  
Henry G. Hazard.

INVENTOR.  
F. T. Verharen, by  
Prindle & Louis Attie

# UNITED STATES PATENT OFFICE.

FRANK T. VERHAREN, OF VINTON, IOWA.

## IMPROVEMENT IN CORN-CULTIVATORS.

Specification forming part of Letters Patent No. **209,527**, dated October 29, 1878; application filed August 4, 1877.

*To all whom it may concern:*

Be it known that I, F. T. VERHAREN, of Vinton, in the county of Benton, and in the State of Iowa, have invented certain new and useful Improvements in Corn-Cultivators; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, making a part of this specification, in which—

Figure 1 is a perspective view of my improved device when in use. Fig. 2 is a like view of the same when arranged for passage to or from the field. Fig. 3 is a plan view of the devices employed for connecting the plow-beam and draft-bar with each other and the axle. Fig. 4 is a vertical section of the same upon line *x x* of Fig. 3; and Figs. 5 and 6 are respectively longitudinal and transverse sections of the connecting-joint between the axle-arms and frame.

Letters of like name and kind refer to like parts in each of the figures.

The design of my invention is to increase the efficiency and ease of operation of corn-cultivators; and to this end it consists, principally, in the means employed for connecting the axle-arms to or with the frame of the machine, substantially as and for the purpose hereinafter specified.

It consists, further, in the means employed for connecting the plow-beam and draft-bars with each other and with the axle-arm, and for rendering the former laterally and vertically adjustable, substantially as and for the purpose hereinafter shown.

It consists, finally, in the construction and combination of the various portions of the implement, substantially as and for the purpose hereinafter specified.

In the annexed drawing, A represents the pole of my device, which at or near its rear end is secured to or upon a metal bar, B, that has about two-thirds the usual length of an axle.

Journalled upon each end of the bar B is a sleeve, *c*, from which extends downward and then outward an axle-arm, C, that has journalled upon its outer end a ground-wheel, D, of usual form.

For reasons hereinafter given it is necessary that the sleeve *c* should have a certain degree

of motion upon the bar B, so as to permit the axle-arm C to swing in front and in rear of said bar. This result is secured by cutting a slot, *c'*, from front to rear within and through the upper side at the longitudinal center of the sleeve *c*, and securing within such slot one end of a bar, E, by means of a screw, F, which passes downward through said bar E and has its threaded end contained within the bar B. The bar E has such width as to cause it to loosely fill the slot *c'* laterally, while the latter has such length as to permit the sleeve *c* to have a certain degree of rotation before its ends impinge against the lower side of said bar E and arrest such motion. From the bar B each bar E extends forward and inward and is connected to or with the pole A, said bars thus operating as braces or hounds.

Journalled upon the horizontal portion of each axle-arm C is a sleeve, G, which at its front side, at its ends, is provided with two ears, *g*, that have the form in side elevation shown in Fig. 4, while at its rear side said sleeve has attached a plate, *g'*, which, as shown in plan view in Fig. 3, extends horizontally between its ends, and has a width from front to rear equal to about one-half its length. Within the plate *g'* is provided a number of vertical holes, *g''*, which receive a bolt, H, that passes through the end of a plow-beam, I, of ordinary construction, and operates to connect said parts together and to form a pivotal bearing for said plow-beam, upon which the same may move in a horizontal plane. By changing the bolt H from one hole *g''* to either of the others, laterally, the position of the plow-beam I with relation to the other plow-beam may be varied at will.

The ears *g* are each provided with a number of horizontal openings, *g'''*, which receive a bolt, K, that connects therewith the ends of a V-shaped draft-bar, L, and serves as a pivotal bearing, upon which said bar moves in a vertical plane.

To the forward end of the draft-bar L is connected a single-tree, M, which enables a horse to be attached to said bar. By changing the bolt K to higher or lower opening, *g'''*, within the ears *g*, the depth of the plow within the ground will be correspondingly varied.

By means of the connection between the axle-arm C and the frame of the implement a certain amount of motion in a line with the draft is allowed to each plow independent of the movement of the opposite plow, in consequence of which each horse is caused to perform only his own share of the work and cannot be compelled to draw the plow of the opposite horse.

In order that the plows may be prevented from dragging upon the ground while passing to or from the field a bar, N, is secured within and projects rearward from each axle-arm C, near its upper end, and at its rear end is provided with a laterally outward extending hook, *n*, upon which may be suspended the plow-beam, as shown in Fig. 5.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

1. As a means for connecting the axle-arm C with and giving to the same a certain degree of motion upon the frame-bar B, the sleeve *c*, provided with the slot *c'*, the brace-bar E, and the screw F, said parts being com-

bined to operate in the manner and for the purpose specified.

2. In combination with the axle-arm C and plow-beam I, the sleeve G, provided with the plate *g'*, having vertical openings *g''*, the ears *g*, provided with horizontal openings *g'''*, and the bolts H and K, substantially as and for the purpose set forth.

3. As an improvement in wheel-cultivators, the pole A, frame-bar B, axle-arm C, sleeves *c*, having the slots *c'*, ground-wheels D, brace-bars E, screws F, sleeves G, having the ears *g*, plates *g'*, and openings *g''* and *g'''*, plow-beam I, draw-bar L, bolts H and K, and hooked bar N *n*, all constructed and combined to operate in the manner and for the purpose substantially as specified.

In testimony that I claim the foregoing I have hereunto set my hand this 30th day of July, 1877.

FRANK T. VERHAREN.

Witnesses:

F. G. RAY,

W. A. MATTHEWS.