

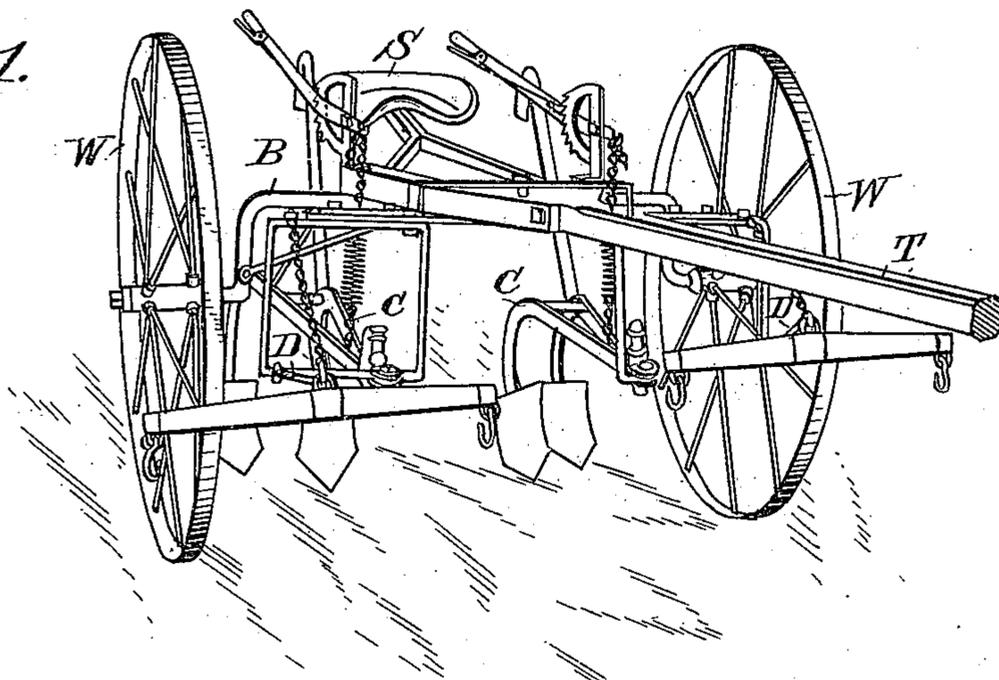
(No Model.)

J. P. BLACK.  
CULTIVATOR.

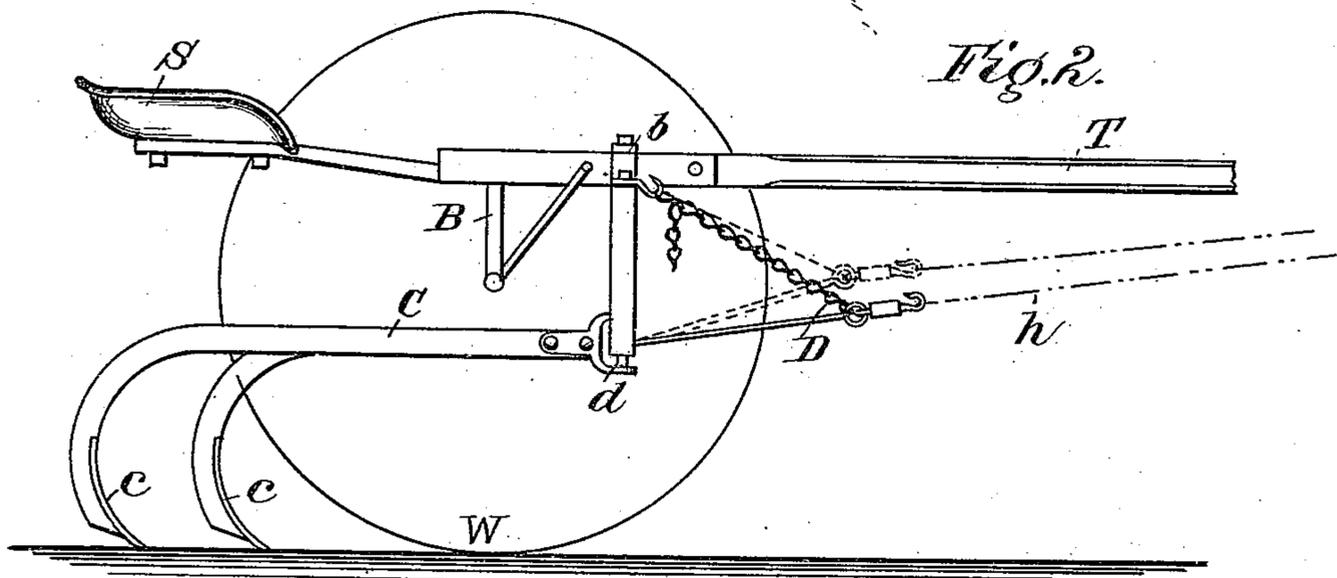
No. 355,915.

Patented Jan. 11, 1887.

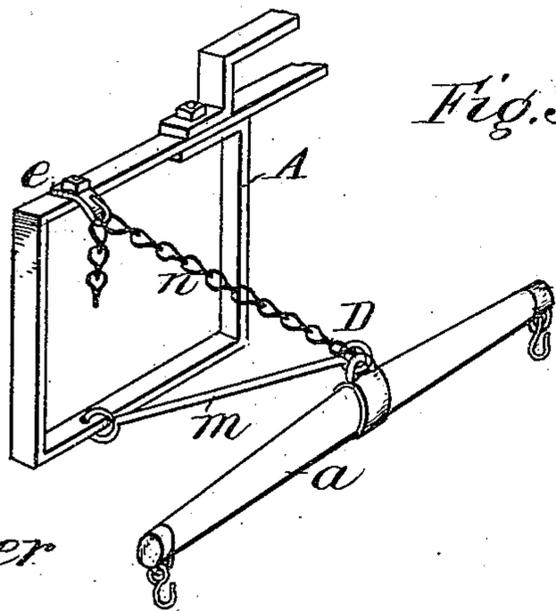
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Witnesses:*  
*Saml. B. Dover*  
*W. C. Brown*

*Inventor:*  
*Joseph P. Black.*  
*John Lane*  
*Att'y.*

# UNITED STATES PATENT OFFICE.

JOSEPH P. BLACK, OF ALTON, ILLINOIS, ASSIGNOR TO THE HAPGOOD PLOW COMPANY, OF SAME PLACE.

## CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 355,915, dated January 11, 1887.

Application filed September 22, 1886. Serial No. 214,225. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH P. BLACK, a citizen of the United States, residing at Alton, in the county of Madison and State of Illinois, have invented a new and useful Improvement in Cultivators, of which the following is a specification.

This invention relates to straddle-row cultivators, and has the object to improve the draft arrangement.

The invention consists in certain improved construction, arrangement, and adaptation of parts, as hereinafter shown.

Referring to the drawings, in which like letters refer to like parts in all the figures, Figure 1 is a perspective view of my improved cultivator, and Fig. 2 is a side elevation of same. Fig. 3 is a detail view enlarged, showing the parts in which my improvements are embodied.

My improvement may be applied to the ordinary cultivator having a frame consisting of the axle B, wheels W, tongue T, seat S, and two gangs of plows C, all of ordinary construction, as shown.

A represents the drop-evener, consisting of two end frames and a central frame pivotally connected to the tongue by the bolt *b* in such a manner as to hold said drop-evener rigidly upright while permitting its ends to vibrate and sway forward and back. Said end frames are provided with a top rail and a bottom rail, as will be understood by the drawings.

C represents the plows provided with the ordinary coupling, *d*, attached to the bottom rail of said end frame, as shown in the drawings.

D represents the two-way or Y hitch, consisting of the single-tree *a*, provided with the rod-link *m*, connected to the bottom rail of said end frame, and the chain *n*, connected to the top rail of said end frame by means of the bracket-hook *e*, as shown in Fig. 3. The said chain is adjustable upon said hook, by which it may be made shorter or longer and the single-tree elevated, as shown by the dotted lines in Fig. 2. The said rod-link is a stiff rod provided with an eye-ring at each end, as shown.

In operation the draft is applied to the single-tree in the usual manner through the tug or trace *h*, and the Y-hitch and the plows are both carried forward and back with the swaying of the said drop-evener. The draft is transmitted direct to the plows through the

rod *m* and said bottom rail, and the chain *n* transmits more or less draft to the said top rail, according to the adjustment of the chain in elevating the single-tree above the straight-line draft. (Shown in Fig. 2.) When the operator is riding seated in the seat S the weight of the operator tends to tip the machine backward and elevate the end of the tongue, to obviate which the chain *n* is shortened by moving the hook *e* to another link in the chain, elevating the single-tree, as shown in dotted lines in Fig. 2, when the draft will divide at the single-tree and be transmitted to the machine *via* the two-way—a part through the rod *m* and a part through the chain *n*—which will hold the machine level-working and the tongue not liable to elevate or the machine to tip backward. Then when the operator is walking and the weight not upon the machine, the chain is adjusted to greater length, dropping the single-tree to its original position, when said chain acts only to prevent the single-tree from falling below the line of draft, and the stiff rod-link *m* prevents the single-tree from falling back against the wheel.

My invention is particularly adapted for the combined walking and riding cultivator, in which the weight of the operator in his seat needs counteracting.

It will be observed that the relative position of the single-trees with the drop-evener and plows will remain the same in all positions of swaying of said drop-evener.

I am aware that drop-eveners have been used before my invention, and I do not broadly claim such; and I am aware that links, rods, and chains have been used to connect the single-tree with the machine above to hold said single-tree from falling below the line of draft, and such I do not broadly claim.

Having thus set forth my invention, I claim—

In a cultivator, the combination of the drop-evener pivotally connected to the tongue, the plows pivotally connected to the said drop-evener, with the Y-hitch, consisting of the single-tree *a*, with the stiff rod *m*, and the chain *n*, with the hook *e*, all constructed, arranged, and adapted to operate substantially as and for the purpose set forth.

JOSEPH P. BLACK.

Witnesses:

CHAS. S. PHILIPS,  
A. F. ROBERTS.