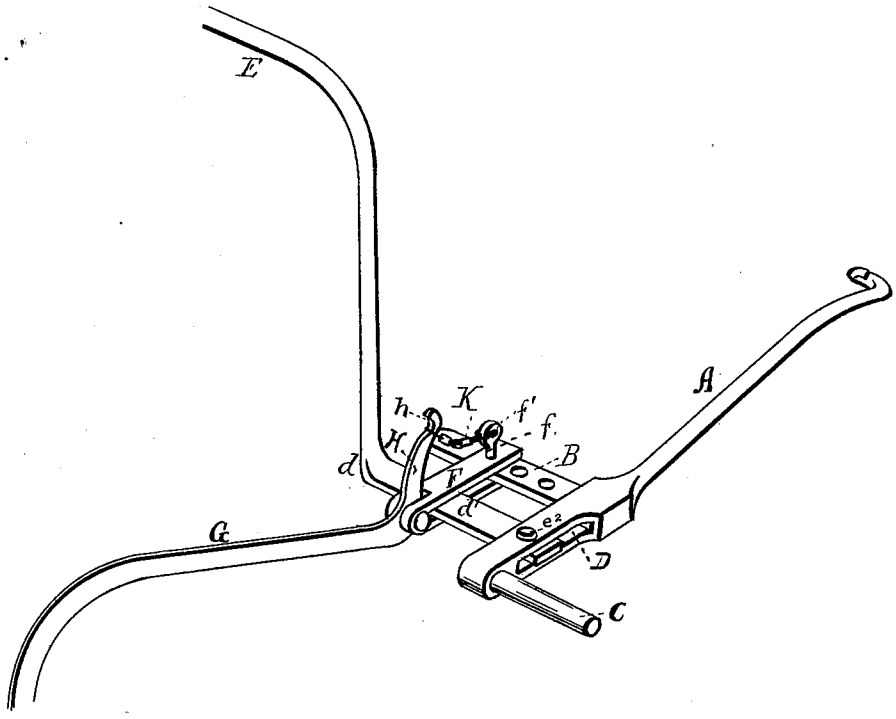
W. P. BROWN.

Cultivator.

No. 220,571. Patented Oct. 14, 1879.



WITNESSES

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WILLIAM P. BROWN, OF ZANESVILLE, OHIO.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **220,571**, dated October 14, 1879; application filed May 3, 1879.

To all whom it may concern:

Be it known that I, WILLIAM P. BROWN, of Zanesville, in the county of Muskingum and State of Ohio, have invented certain new and useful Improvements in Cultivators; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making a part of this specification, and to the letters and figures of reference marked thereon.

The figure of the drawing is a representation of a perspective of my cultivator.

Identical parts in the drawing are designated and referred to by the same letters.

This invention has relation to cultivators, and consists in the improvement in the construction of the same hereinafter fully described, and particularly pointed out in the claims.

A represents the draw-bar, in the hook of which the single-tree is attached. B is an arm formed with or rigidly attached to the draw-bar, and extending horizontally inward from the same, and perforated with a series of holes to receive the clevis-bolt.

Upon the rear end of the draw-bar the spindle C of the carriage-wheel is formed or attached.

About midway between the arm B and spindle C a horizontal slot, D, is formed in the draw-bar.

The arched axle E is angled at *d*, and the flattened part *d'*, which is intended to be somewhat longer than the arm B, enters the slot D, and is retained there by the bolt e^2, thus providing for a horizontal movement of the draw-bar and axle independent of each other.

I do not wish to confine myself to slot form of joint, as the axle may be attached to the upper or lower side of the draw-bar.

F is a clevis, which embraces the flattened part of the axle, and is attached to the arm B by the bolt *f*. This bolt is secured to the lower plate of the clevis by being threaded, and is provided with the eye *f'*.

The position of the cultivator can be regulated by changing this bolt into any of the series of holes in the arm B.

G is the beam of the cultivator, which may be constructed in the common way for carrying two or more blades. H is an arm, formed upon or rigidly attached at or near the front end of the cultivator-beam, and extending upwardly, and upon its end is provided with a hook, *h*. K is a chain, attached to the eye of the bolt *f*, with one of a series of its links engaging the hook *h*.

The foregoing-described devices are duplicated in the construction of my improved cultivator.

The operation of my improvement is as follows: The cultivators being heavier than the draw-bars and in rear of the wheels, they retain the proper position of the cultivator, as shown, and their weight tends to cause them to enter the ground; but in case the chain is properly shortened the draft of the animal is fulcrumed upon the wheel and tends to lift the cultivator out of the ground; and in case it be properly arranged, by lengthening the chain the weight thrown upon the wheels by means of any rising tendency caused by an obstruction or loose raised ground will depress the wheels and tend to preserve a uniform depth to the cultivators in hard and soft ground, and weight thrown upon the handles of the cultivator would have a like effect of depressing the wheels.

By means of the axle and draw-bar having the carriage-wheel attached to it, and being constructed as described, so as to allow independent horizontal motions, any slight deviation from the proper course by the draft-animal will not deflect the cultivators, and will enable the operator to more easily make the turns at ends of rows and cultivate the rows nearer the fence.

Having thus described my improvement, what I claim, and desire to secure by Letters Patent, is—

1. In a tongueless cultivator, the draft-bar A, provided with the arm B and the spindle C, in combination with the wheel of a cultivator and the clevis F, as and for the purposes substantially as set forth.

2. In a tongueless cultivator, the draw-bar A, provided with the slot D, or its equivalent,

in combination with the axle E, provided with the horizontal portion e^1, and the clevis F, as and for the purposes set forth.

3. In a cultivator, the cultivator-beam G, provided with the arm H, in combination with the clevis F, the axle *d*, and the arm B, as and for the purposes substantially as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM P. BROWN.

Witnesses:
ALLEN MILLER,
S. R. HOOVER.