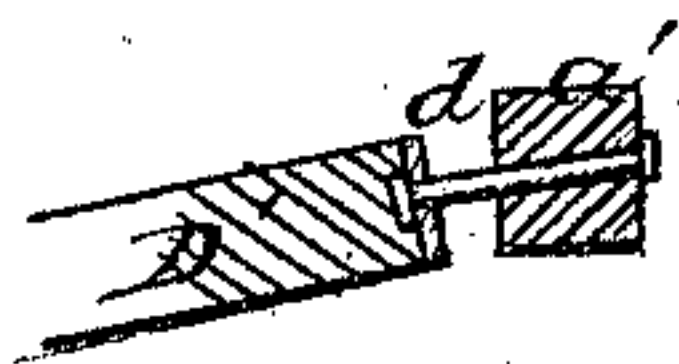
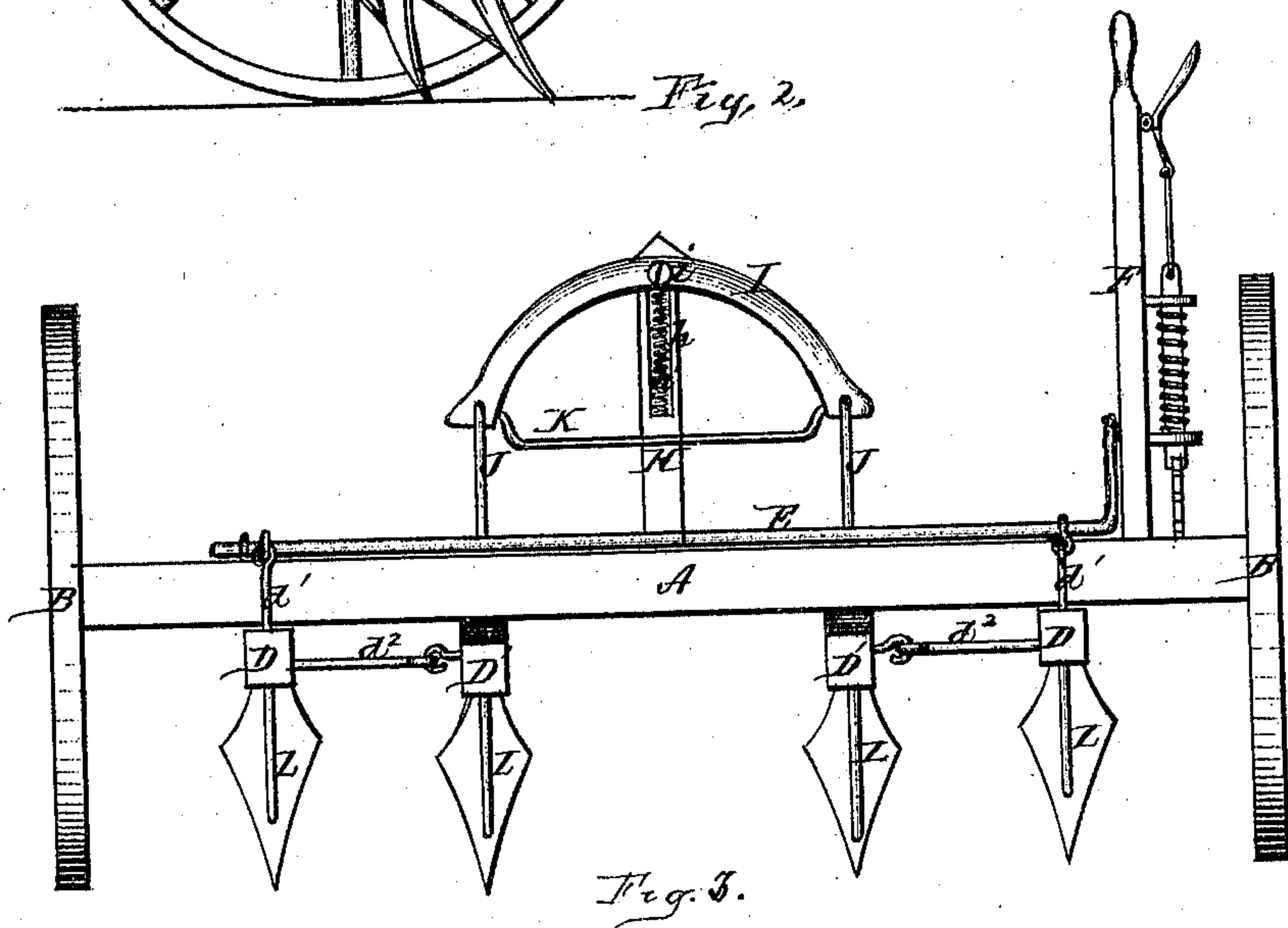
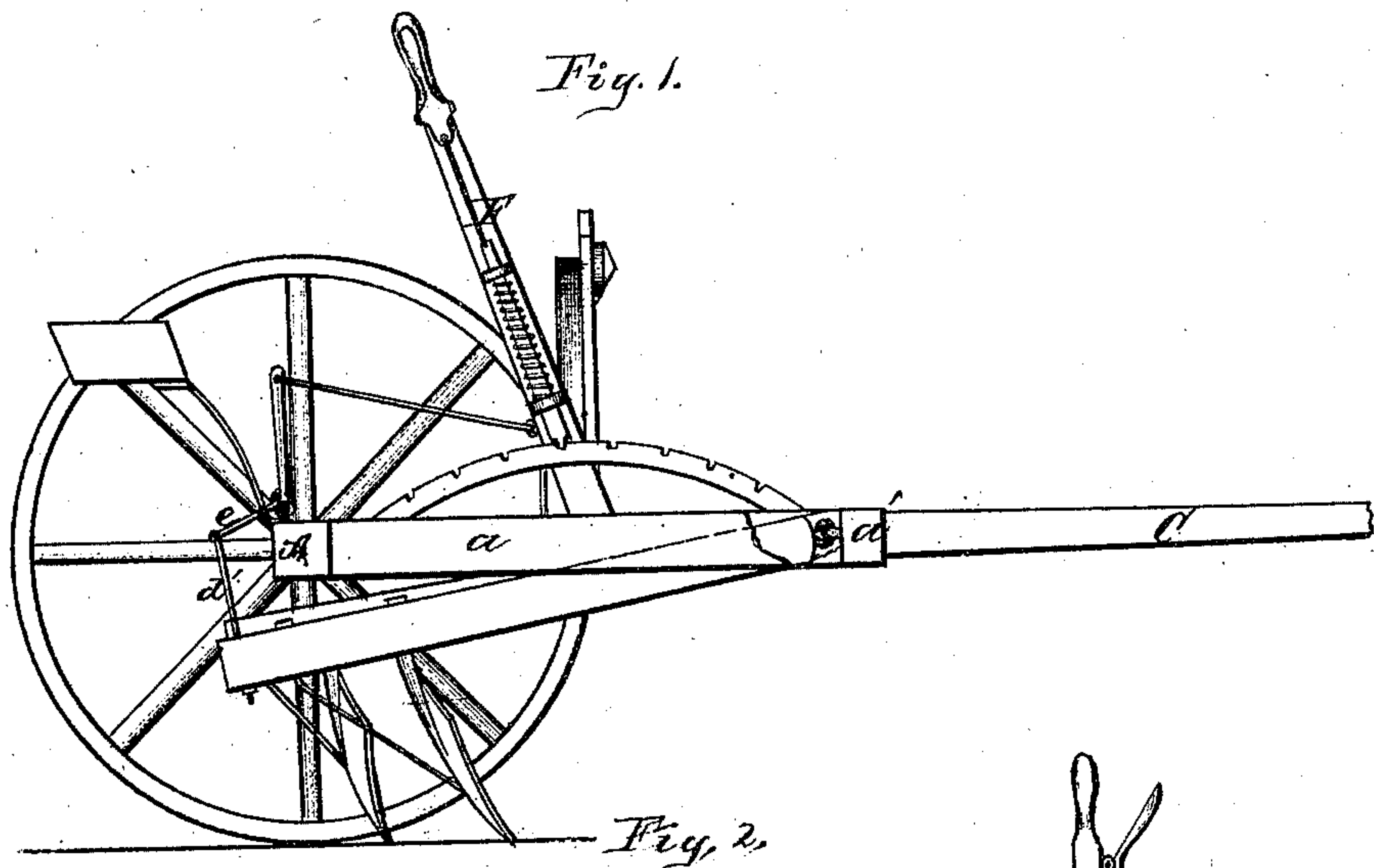


J. Ferguson,

Cultivator.

No. 97,377.

Patented Nov. 30. 1869.



Witnesses:
Charles F. Brown.
Ernest Thomas

Inventor:
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H. W. Beadle atty.

United States Patent Office.

JAMES FERGUSON, OF HUNTLEY GROVE, ILLINOIS.

Letters Patent No. 97,377, dated November 30, 1869.

IMPROVEMENT IN CULTIVATORS.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, JAMES FERGUSON, of Huntley Grove, in the county of McHenry, and State of Illinois, have invented a new and useful Improvement in Cultivators; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention relates to an improved cultivator, and consists mainly in certain devices for operating the inside shovels of the cultivator.

In the drawings—

Figure 1 represents a side elevation of my invention;

Figure 2, a rear elevation; and

Figure 3, a view of swivel-joint.

To enable others skilled in the art to make and use my invention, I will now proceed to describe fully its construction and operation.

A represents the axle of cultivator, upon which turn the wheels B B.

a a represent the side beams, and *a'*, the front beam of the cultivator.

These, with the axle A and pole C, form a rigid frame, to which the various subordinate parts are attached.

D D D' D' represent the shovel-beams.

The beams D D are hinged, at their front ends, to the beam *a'*.

The beams D' D' are also attached to the beam *a'*, but they are connected by a swivel-joint, *d*, instead of a hinge.

The rear ends of the beams D are connected by a rod, *d'*, to the arms *e* of the rock-shaft E.

This shaft is operated, by means of the hand-lever F, in the usual manner.

The beams D' are not connected in any way to the rock-shaft E, but are attached, instead, to the beams D, by a loose joint, *d''*.

H represents a vertical standard, rising from the rear end of the pole, which is provided with a slot, *h*, as shown.

I represents a bow-shaped bar or rod, which is provided with a projecting pin, *i*, which passes through the slot *h*.

This pin is provided with a head, so that it is securely fastened in the slot.

h' represents a spiral spring, located within the slot upon which rests the pin *i* of the bar I.

J J represent rods, connecting the ends of the bar I with the beams D', as shown, these rods being at-

tached to the beams at a point inside of their centre, as shown.

This connection is not a rigid one, but is such as to permit the beams to have proper play.

K represents a rod, connecting the ends of the bar I, which is provided for the purpose of permitting the device to be operated by the feet of the rider.

The construction of my shovels L is also peculiar. They are shaped like a diamond, the lower half being the longest, however.

By this form of tooth the ground can be stirred to a great depth, without injuring the plants.

The depth of the plows is regulated by means of the hand-lever F.

The operation of my machine is as follows:

When it is desired to swing the inside shovels away from the corn for any purpose, the bar I is depressed, and both of the inside shovels are, consequently, thrust out from the corn, this effect being produced by depressing the inner side of the beams, through the medium of the connecting-rods.

This operation forces the beams to turn upon their joints, and the shovels are necessarily moved in an outward direction.

By depressing either end of the rod, the shovels are moved simultaneously to the side depressed.

By the simple construction and arrangement here-in described, an operator can use the machine among crooked corn, without fear of injury to the crop.

Having thus fully described my invention,

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

1. The beams D', when provided with joints *d d''* at front and rear, as described, for the purpose set forth.

2. The standard H, bar I, and spring *h'*, when constructed substantially as described, for the purpose set forth.

3. The standard H, bar I, and spring *h'*, when combined with the beams D', substantially as and for the purpose set forth.

4. The machine described, consisting of the frame A *a a'*, wheels B B, pole C, beams D D', shovels L, rock-shaft E, hand-lever F, standard H, bar I, spring *h'*, the whole being combined and arranged as described.

This specification signed and witnessed, this 31st day of July, 1869.

JAMES FERGUSON.

Witnesses:

B. G. ROBERTS,

ABRAHAM VANHORN.