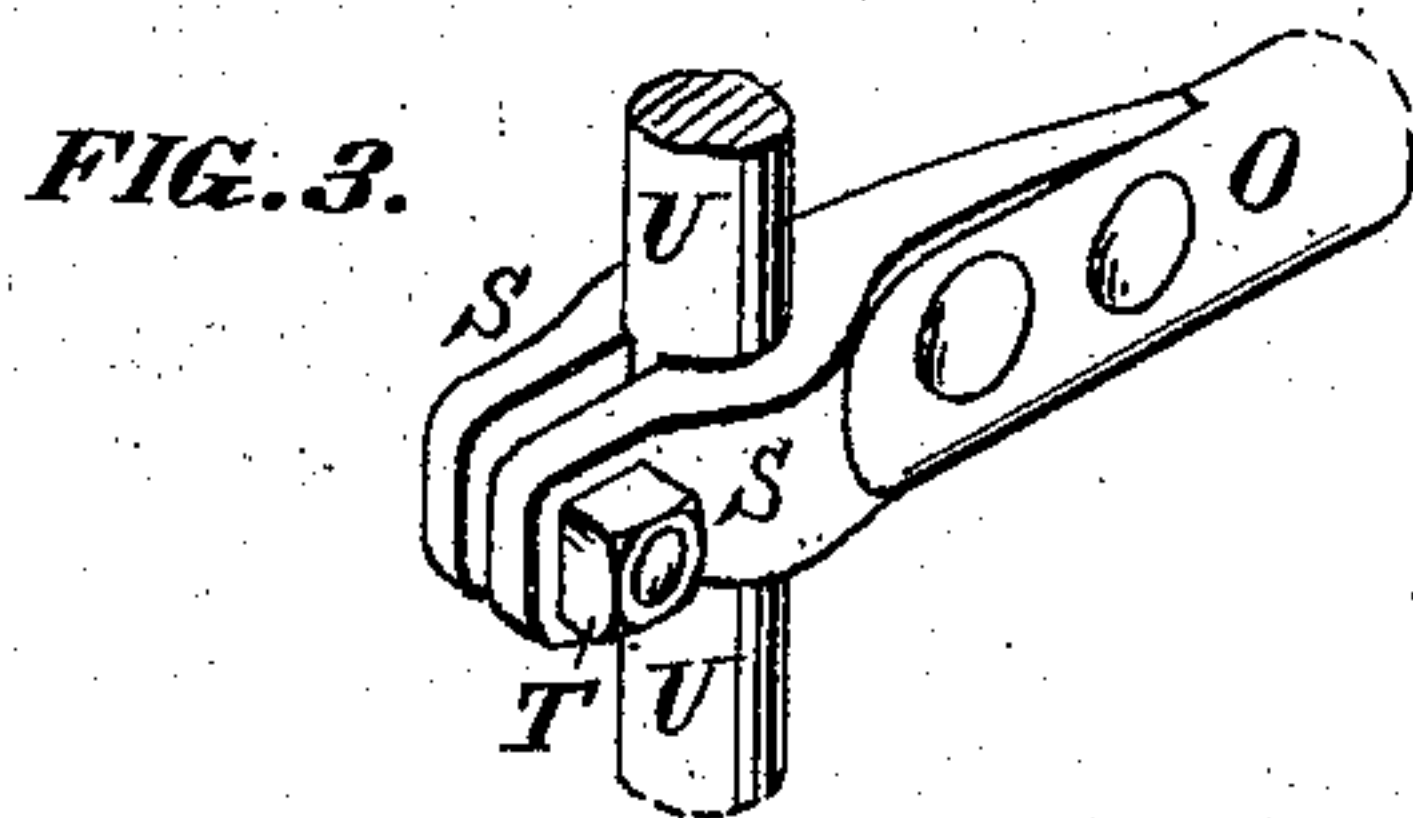
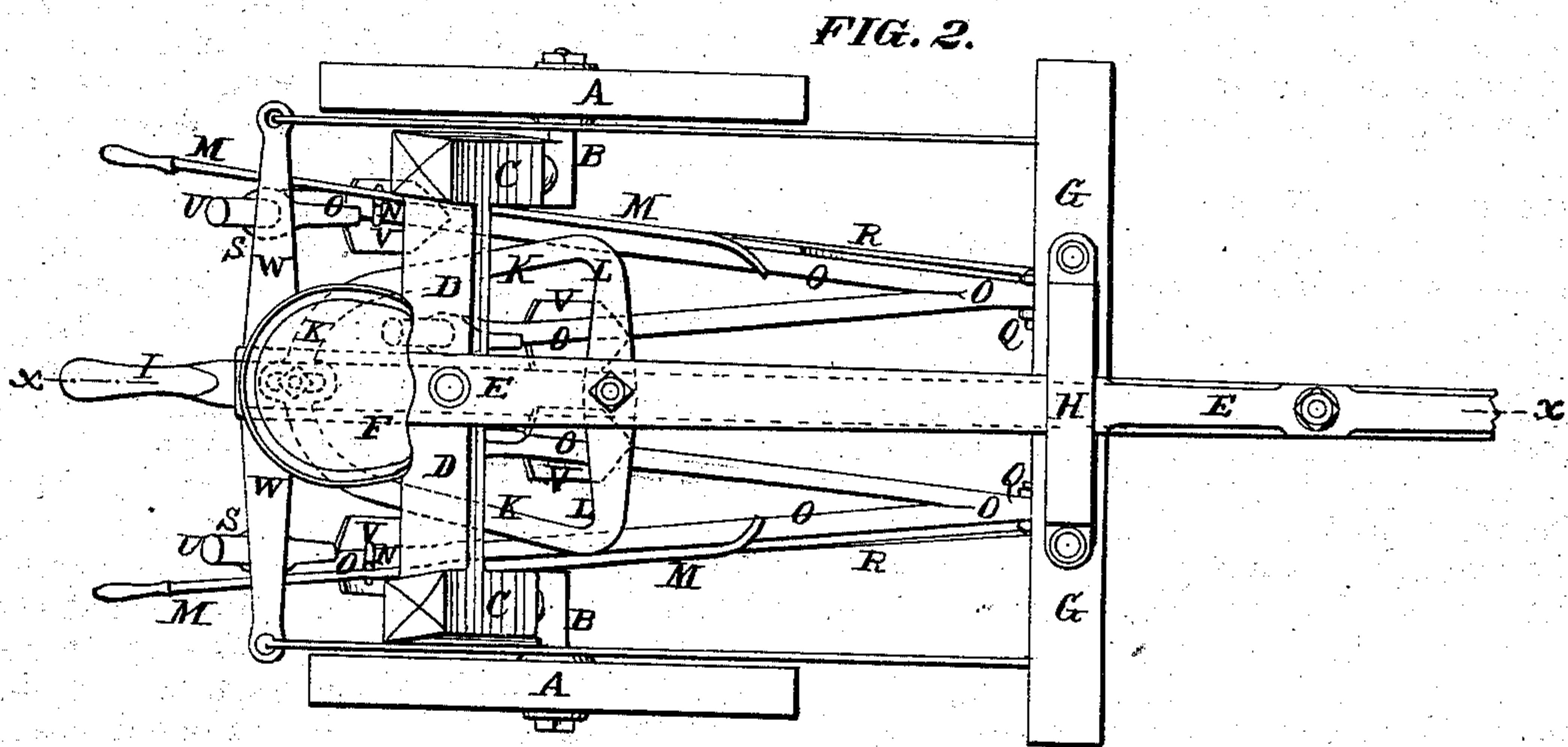
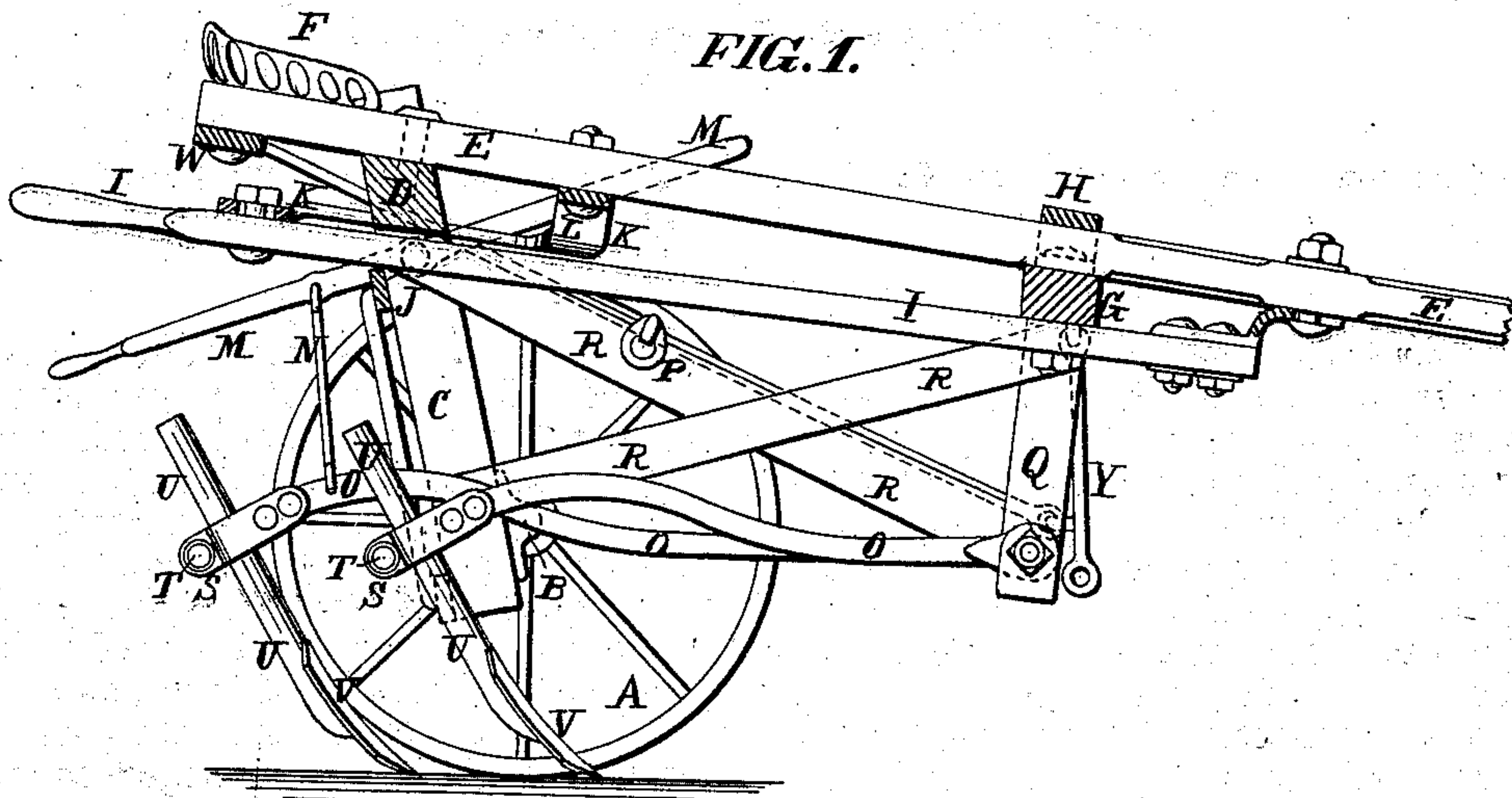


E. I. ENO.
Cultivators.

No. 155,717.

Patented Oct. 6, 1874.



ATTEST:

Robert Burns.
Henry Farmer.

INVENTOR:

Edward J. Eno.
By Knight & Bro.
Atty.

UNITED STATES PATENT OFFICE.

EDWARD I. ENO, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **155,717**, dated October 6, 1874; application filed July 14, 1874.

To all whom it may concern:

Be it known that I, EDWARD I. ENO, of St. Louis, St. Louis county, Missouri, have invented a certain Improvement in Cultivators, of which the following is a specification:

The first part of my improvement relates to the manner of guiding the machine. This is done by means of a lever that is fulcrumed to the front bar of the frame, and whose end has pivotal connection to the tongue. The lever runs back, so as to be operated by the hand of a person walking at the rear of the machine. To the lever is connected a triangular frame, arranged so as to be operated by the feet of a person riding, so as to move the lever.

The second part of my improvement consists in the combination, with the plow-beams, of a two-ended lever, one end of which is in position to be forced down by the foot of a rider to raise the plows from the ground, the other end of the lever being arranged to be raised by the hand of a person walking in the rear for a similar purpose.

The third part of my improvement relates to the manner of securing the plow-uprights to the beams. These uprights are round, and pass through between the jaws of a screw-clip, rigidly attached to the rear end of the beam, the arrangement allowing the plows to be raised or lowered in the clips, and also to be turned so as to incline the plow to the right or left.

Figure 1 is a longitudinal section taken at *a a*, Fig. 2. Fig. 2 is a top view. Fig. 3 shows in perspective plow-standard attachment.

A A are the wheels, turning on spindles B secured to the uprights C. These uprights are connected together at their upper ends by a cross-bar, D, to whose middle is pivoted the tongue E. Upon the rear end of the tongue is the seat F. The tongue lies upon the front cross-bar G of the frame, and is held down by a strap, H, which passes over the tongue and allows it freedom of side movement. I is a lever whose front end is connected to the tongue by a pivot, and which is fulcrumed to the cross-bar G. This lever extends backward beneath the cross-bar D, and lies upon a guide-bar, J, and is for the purpose of inclining the frame in relation to

the tongue, so as to guide the former in the ground. K is a frame, whose front bar is pivoted to the tongue, and whose rear end is slotted to receive a stud upon the top of the lever I, so that the lever and frame are forced to move together. This frame K is to furnish means for moving the lever by the foot, the feet of the rider being placed in the corners L of the frame. M M are two two-ended levers fulcrumed to the uprights C, and whose rear ends are arranged conveniently for the hands of the operator when walking in the rear, while the front ends of the levers are arranged to be depressed by the feet of a person riding to raise the plows from the ground. This is done by means of a link, N, by which the rear end of the lever is connected to the rear end of the plow-beam O. P is a hook to engage the front end of the lever M to hold it down, and keep the plows suspended from the ground. The fore ends of the beams O are connected by bolts to the lower ends of bracket-bars Q, which extend downward from the bar G. The bar G and bracket-bars Q are connected by cross-brace work R to the cross-bar D and uprights C C. Each of the plow-beams O has, at the rear end, jaws S S, forming together a socket, through which passes the cylindrical upright U of the plow or mold board V, and the jaws are drawn together by a screw, T, to clip the upright U to any adjustment.

It will be seen that by loosening the screw T the plows may be adjusted vertically or inclined to the right or left.

The draft arrangement is substantially similar to that shown in the patent of J. B. Turner, dated March 12, 1861, to which reference is made for description, the double-tree W being pivoted to the bar D, and its ends connected to arms Y, depending from the front bar G, to which the single-trees are hung.

It will be observed that as the point of draft, the double-tree pivot, and also the tongue-pivot, are nearly over the plows, the frame admits of turning upon the tongue-pivot with ease, so that it may very readily be guided by one hand applied to the lever I.

I claim—

1. The combination of the bars D and G,

tongue E, lever I, and lever-frame K, all constructed and operating substantially as set forth.

2. The combination of the double-ended lever M, link N, and hook P with the plow-beam and axle, all substantially as and for the purpose set forth.

3. The combination of the plow-beams O, clip S S T, and round upright U, all substantially as set forth.

EDWARD I. ENO.

Witnesses:

SAML. KNIGHT,
ROBERT BURNS.