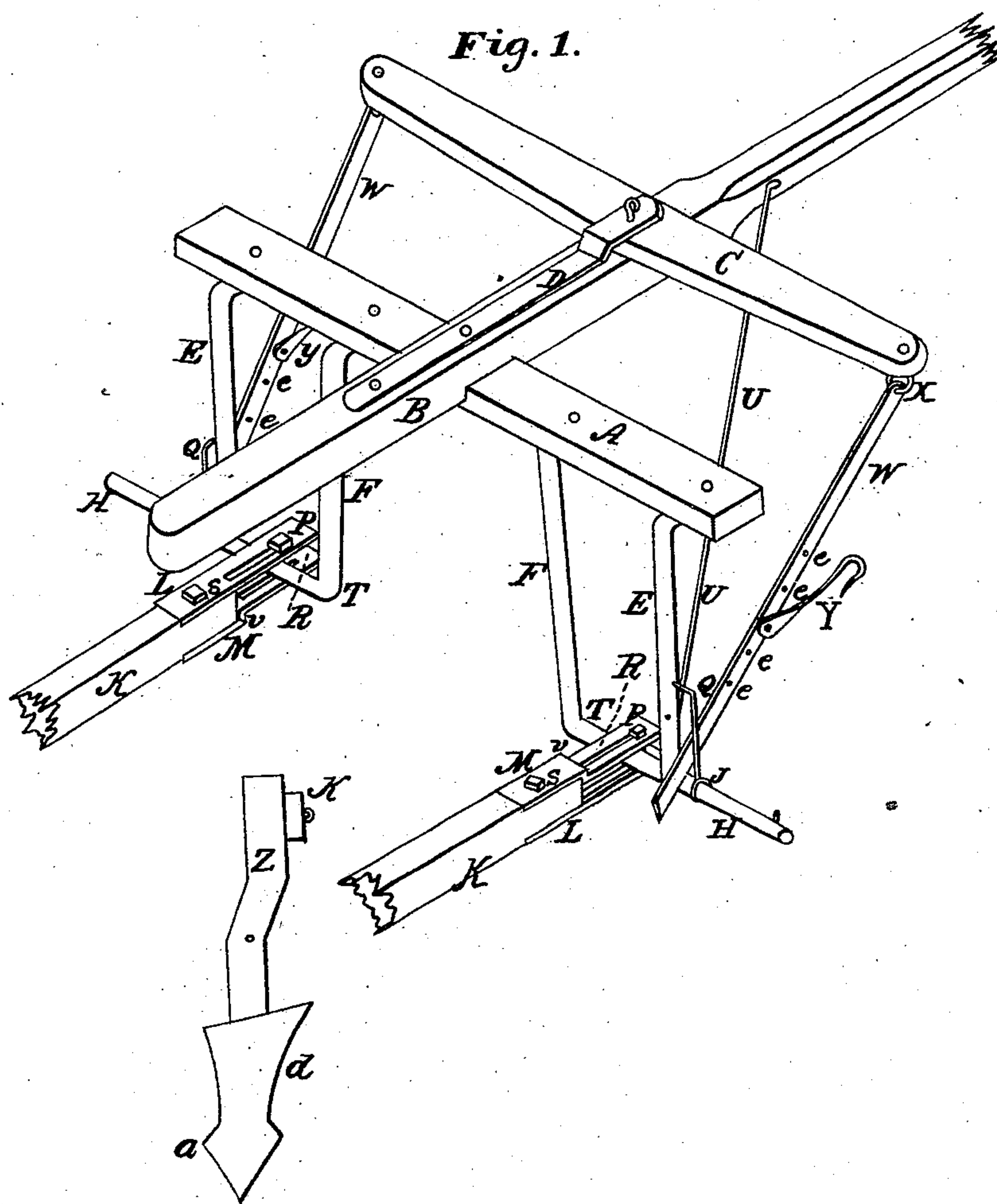


I. A. PALMER.  
Wheel Cultivator.

No. 85,471.

Patented Dec. 29, 1868.



Witnesses:

*W. B. Richards*  
*J. B. Marsh*

Inventor:

*Ira A. Palmer*



IRA A. PALMER, OF MONMOUTH, ILLINOIS.

Letters Patent No. 85,471, dated December 29, 1868.

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, IRA A. PALMER, of the city of Monmouth, in the county of Warren, and State of Illinois, 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 same, reference being had to the accompanying drawings, making a portion of this specification, in which—

Figure 1 is a perspective view.

Figure 2 is a front view of one of the shovels and shanks and cross-section of beam.

Similar letters of reference indicate corresponding parts.

This invention relates to improvements in cultivators; and

It consists in peculiar construction of the joint or coupling for connecting the plows with the frame; also, in the arrangement of the evener or draught-equalizer; and, further, in the shape or construction of the shovels.

To enable others to understand the construction and operation of my invention, I will proceed to describe it with reference to the drawings.

A represents the body of the axle, and is supported on the upright rods E and F, the rod F being curved outward at the lower end and forming both the coupling and the wheel-spindles H.

U represents braces, only one of which is seen in the drawing, and serves to connect the rods E and F from near the spindles to the tongue forward of the double-tree.

B represents the tongue or draught-pole, on which are seen the usual double-tree C and stay-iron D.

W represents bars connected by eyes to the ends of the double-tree, and extending back and resting on the spindle H, between the guard Q and rod E.

Y represents hooks for attaching the single-tree with the draught-animal.

*e e* represent a series of holes in the bars W, by which the line of draught from the horse's shoulder to the points of the plow-beams may be preserved and regulated, to suit varying heights of horses and different kinds of ground, at the same time the usual play of the double-tree is not interfered with.

L M represent the beam-plates, with slots R.

These plates L M embrace the journal-spindle T, and are adjusted thereto by the bolt P, allowing perfectly free lateral and vertical movement of the plows on the spindle T.

One of the plates M is crooked, as seen at *v*, so that by placing it on the under side of the beam, as on the left plow, the point of the beam will be lowered, and as on the right plow, the beam will be raised.

*d* is a front view of the shape of my shovels, with the upper part extended, and having a curve similar to the mould-board of an ordinary plow, so that it may carry a great portion of the soil raised, in one certain direction, and may be placed on the plows to throw the dirt to or from the plants.

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

1. The shovel *d*, constructed as described and for the purpose set forth.

2. The slotted beam-plates L and M, one of them being crooked, and bolt P and spindle T, arranged substantially as described and for the purpose set forth.

3. The arrangement of double-tree C, bar W, with holes *e e e*, and hook Y, combined with the frame A, E, F, and tongue B, substantially as described and for the purpose set forth.

IRA A. PALMER.

Witnesses:

W. B. RICHARDS,  
R. H. HENRY.