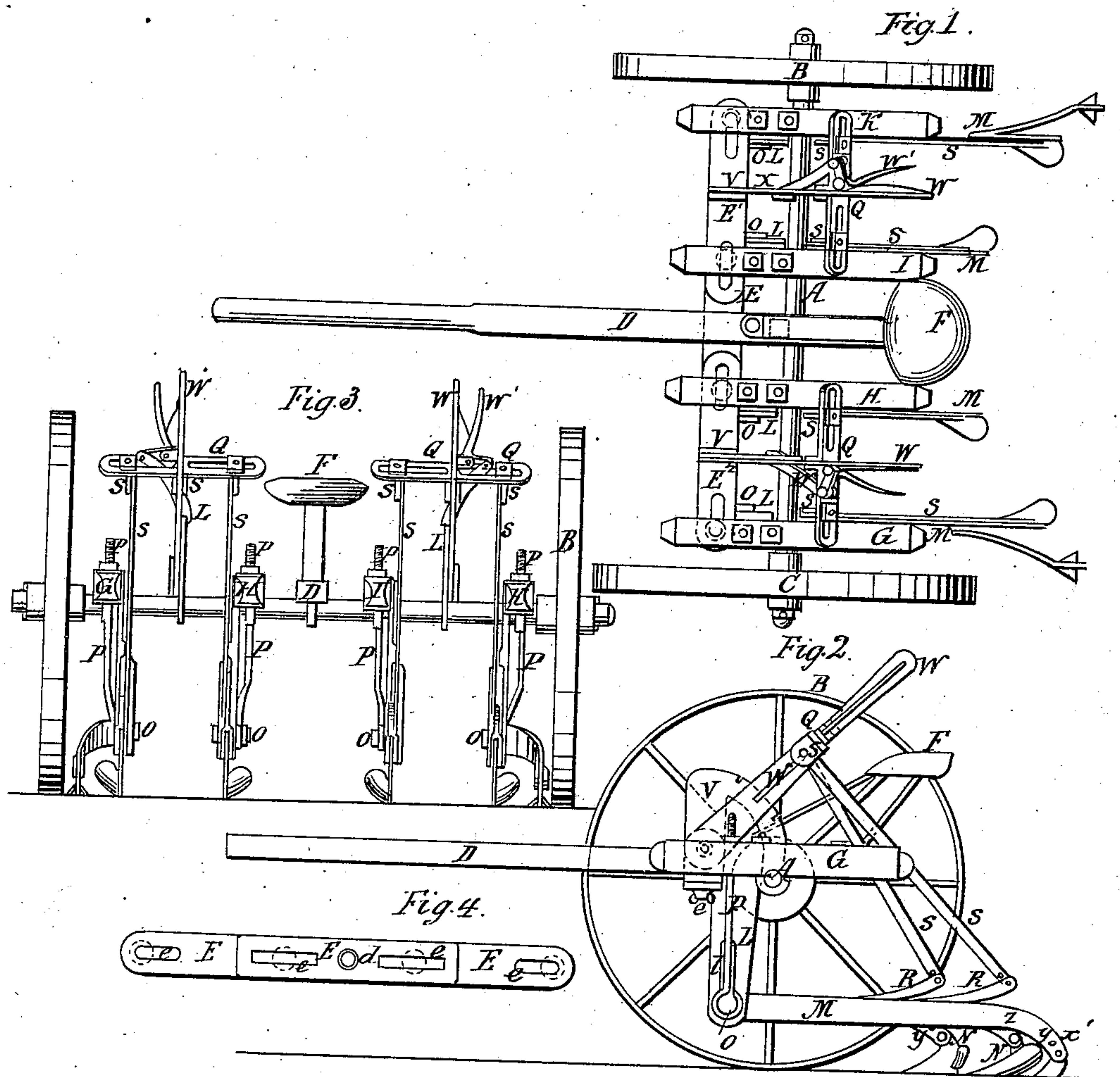


E. PHIFER.  
Wheel-Cultivator.

No. 64,563

Patented May 7. 1867.



Witnesses:  
Morris Pool  
J. N. Meister

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by his Attys  
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# United States Patent Office.

EDWARD PHIFER, OF TRENTON, NEW JERSEY.

Letters Patent No. 64,563, dated May 7, 1867.

## CULTIVATOR.

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, EDWARD PHIFER, of Trenton, in the county of Mercer, and State of New Jersey, have invented certain new and useful Improvements in Cultivators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which make part of this specification, and in which—

Figure 1 is a plan or top view.

Figure 2, a side elevation, and

Figure 3 a rear elevation of my improved cultivator.

Figure 4 is a view of the slotted adjusting plates which combine the tongue and frame-pieces.

Two wheels, B C, revolve loosely on an axle, A, upon which a tongue, D, is secured by a loop embracing the axle loosely enough to permit the tongue to be moved laterally thereon. A driver's seat, F, is mounted upon the rear end of the tongue, which projects a short distance behind the axle. The frame is composed of four short beams, G H I K, arranged on the axle in pairs, on each side of and parallel to the tongue. These frame-pieces are of a length less than the diameter of the driving-wheels, and are provided near their centre with loops or staples *i*, which embrace the axles loosely enough to permit them to slide thereon, to adjust the beams laterally, and may be provided with screws and nuts to tighten the loops on the axle. The front ends of these beams are connected with each other and with the tongue by metallic strips or braces, E E<sup>1</sup> E<sup>2</sup>, having slots, *e*, at each end. The central brace E is bolted fast to the under side of the tongue at D, its slotted ends coinciding with and overlapping the inner slotted ends of the outer braces E<sup>1</sup> E<sup>2</sup>, which are secured to the under side of their respective beams by set-screws *e'*, passing through these slots, and the outer ends of the braces E<sup>1</sup> E<sup>2</sup> are also screwed to the outer braces by set-screws passing through their ends in like manner. By this means the frame-pieces can be adjusted nearer to or farther from each other, or from the tongue, as required. A down-hanger, L, is secured to the front of each frame-piece, and is forked at its lower end to receive the front end of a drag-bar, M, which is pivoted to a horizontal pin, O, which plays in a vertical slot, *i*, in the down-hanger, being raised or lowered by a rod, P, passing through the frame timber, and provided with a screw and nut, *p*, or equivalent device for holding it in any desired position. By this means the front end of the drag-bars can be raised or lowered at will. The rear end R of each drag-bar is connected by a pivoted link-rod, S, to a lug, *s*, which is secured by a set-screw to a slotted cross-bar, Q. The cross-bar is secured to a hand-lever, W, which is pivoted to lugs and the plates E<sup>1</sup> E<sup>2</sup>, so as to play vertically and parallel to a sector-plate or rack, V. These sectors are secured to the axle at their rear ends by loops, while their front ends are secured to their respective front plates E<sup>1</sup> E<sup>2</sup>. The sectors are provided with notches to hold the lever W in different positions as desired. A catch-lever, W', passes through a slot in the lever, and has a lip or projection, *v*, on its inner side, which serves both as a guide for the lever, to keep it parallel to the sector, and as a detent to hold it in position. These catches are operated by elbow-levers W', pivoted to the lifting-lever, and held in position by a spring on the hand-lever. By this means the driver can raise or lower the ploughs and hold them in any desired position. Each of the stocks M is curved downward, and forked at its rear ends so as to form a slot in which the plough-shank is pivoted by a pin, *y*, passing horizontally through the plough and stock so as to allow the plough to play vertically. Another pin, *y*, is passed through the plough-shank to hold the tooth firmly to its work, but this pin *y* is made of wood in order that when an obstruction is encountered the pin will break and allow the tooth to yield by swinging on its pivot *x*, and thus avoid injury to the plough-tooth.

By my invention I can adjust the frame beams which sustain the ploughs laterally on the axle either singly or in pairs. The front ends of the drag-bars can be raised or lowered in the down-hangers to vary the line of draught at the angle of the drag-bars to the ground, while the ploughs can be raised or lowered and held in any desired position by the hand-lever and spring detent, and at the same time I secure a light, short frame. The tongue can also be adjusted laterally if desired.

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

1. A cultivator-frame, composed of a series of timbers shorter than the diameter of the wheels, and arranged parallel to the tongue, substantially as described.

2. The combination, substantially in the manner described, of a tongue laterally adjustable on the axle,



with a series of frame timbers of a length less than the diameter of the wheels, arranged parallel to the tongue, and adjustable laterally on the main axle.

3. The combination, substantially in the manner described, of the tongue and short parallel frame timbers, with a series of slotted adjusting plates attached to the front of the frame timbers and secured to the tongue.

4. The combination, substantially in the manner described, of the parallel frame-pieces arranged for adjustment in pairs, with the slotted down-hangers, front lifting-rods, and drag-bars, for the purpose of adjusting the front ends of the drag-bars.

5. The combination of the frame-pieces, down-hangers, drag-bars, lifting-rods, hand levers, and sector rack, when arranged substantially as described, for the purpose of enabling the driver to control each pair of ploughs by a single lever.

6. The arrangement of the sector rack, hand-lever, and spring detent as described, whereby the catch acts both as a detent for the lever and as a guide to keep it parallel with the sector rack.

In testimony whereof I have hereunto subscribed my name.

EDWARD PHIFER.

Witnesses:

DAVID BEISLER,  
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