

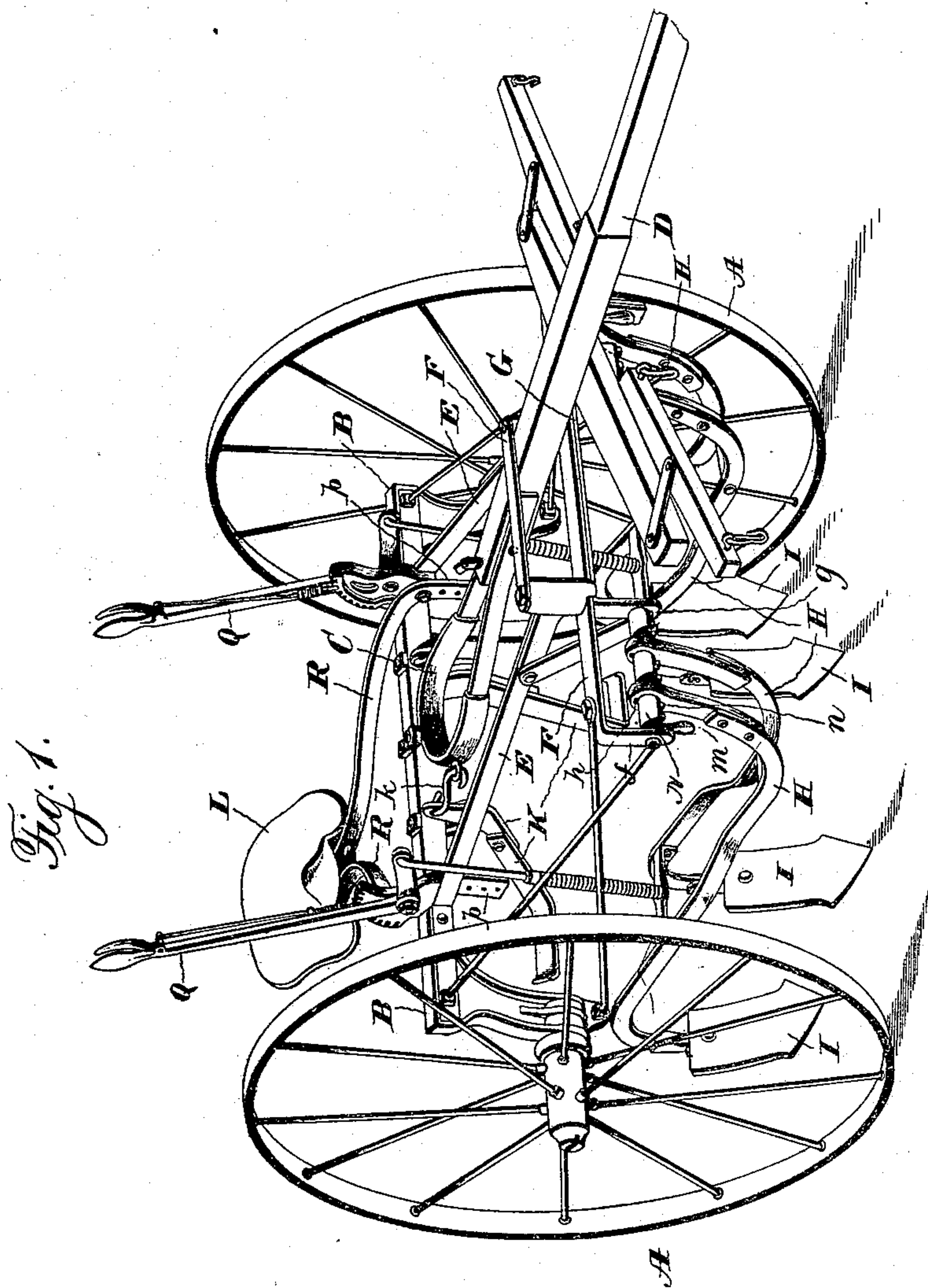
(No Model.)

2 Sheets—Sheet 1.

J. EDWARDS.  
CULTIVATOR.

No. 543,379.

Patented July 23, 1895.



Witnesses:  
Jas. E. Hutchinson.  
Henry C. Hazard.

Inventor.  
James Edwards, by  
Prindle & Russell, his Attys.

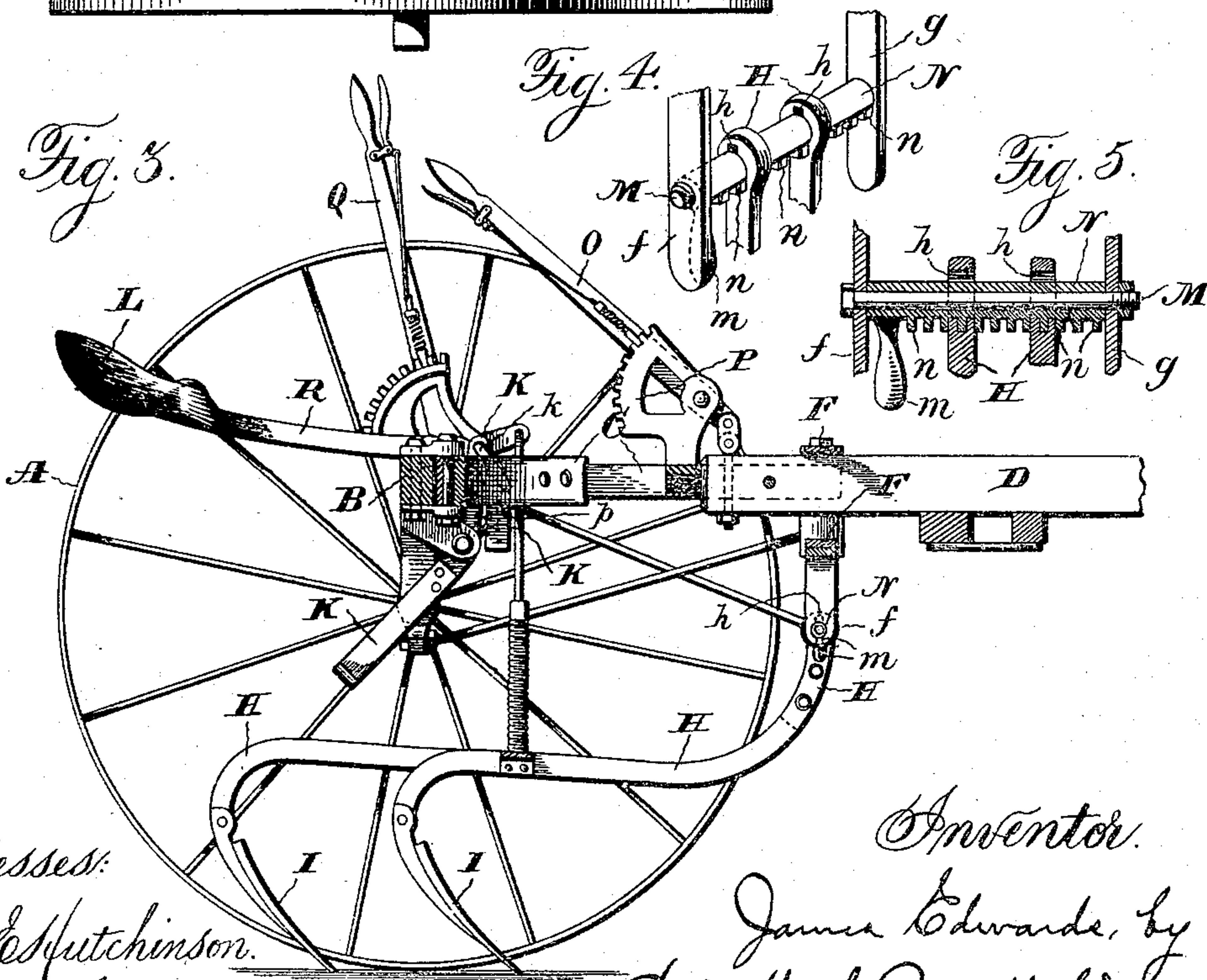
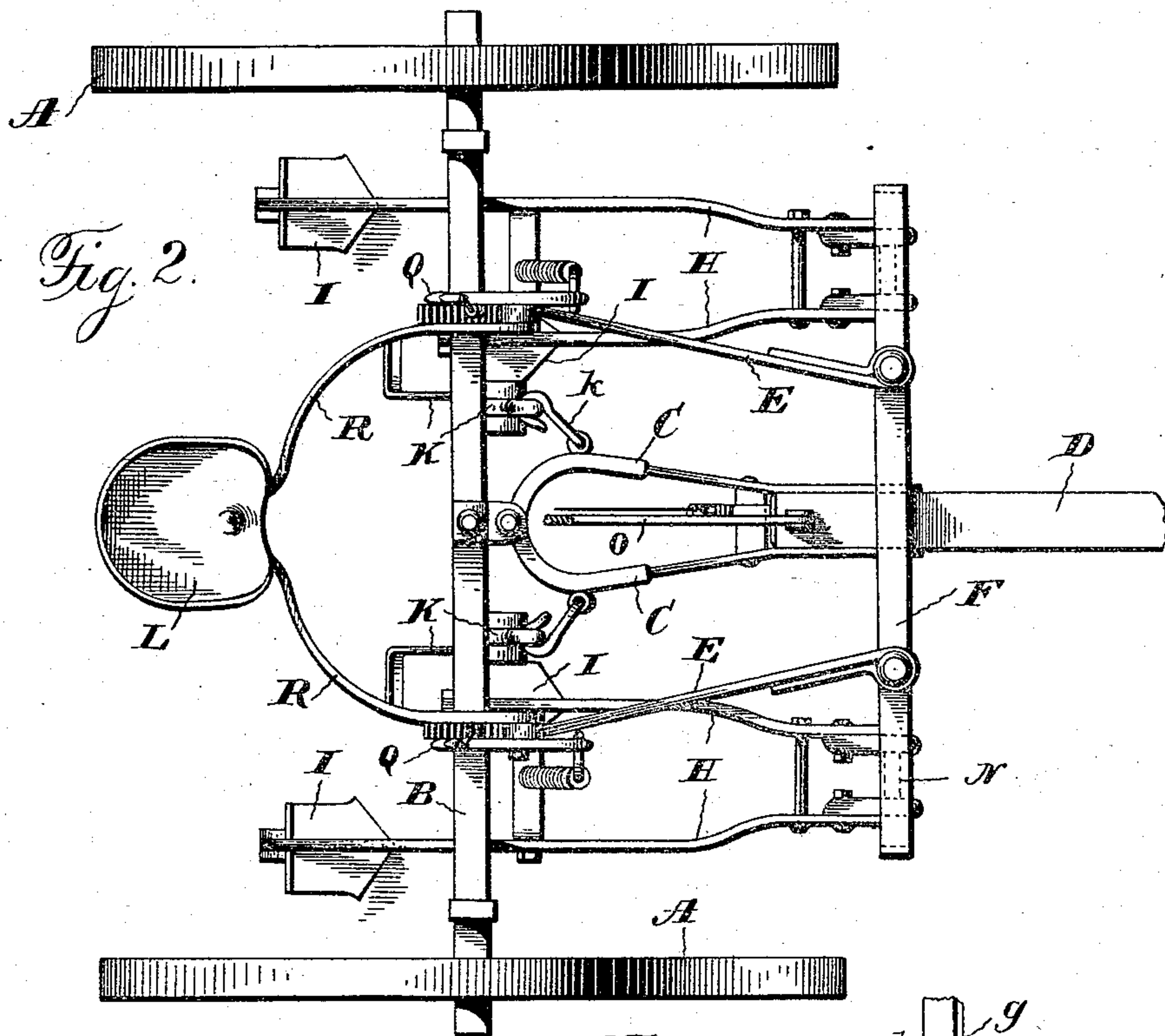
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# UNITED STATES PATENT OFFICE.

JAMES EDWARDS, OF PERU, ILLINOIS, ASSIGNOR TO THE PERU PLOW AND WHEEL COMPANY, OF SAME PLACE.

## CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 543,379, dated July 23, 1895.

Application filed November 27, 1894. Serial No. 530,148. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES EDWARDS, of Peru, in the county of La Salle, and in the 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 thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a cultivator constructed in accordance with my invention; Fig. 2, a plan view thereof; Fig. 3, a longitudinal section of the same; Fig. 4, a detail perspective view of the adjustable coupling, and Fig. 5 a vertical section through the same.

Letters of like name and kind refer to like parts in each of the figures.

The object of my invention is to increase the efficiency and ease of manipulation of cultivators, and to this end said invention consists in the features of construction hereinafter specified.

The class of cultivators to which I have applied my improvements is the riding straddle-row cultivator, and the one shown in the drawings, is, as usual, provided with two carrying-wheels A and A that are journaled upon the opposite ends of an arched axle B. At the transverse center of the latter I pivotally connect an open frame C that consists of a curved or loop-like bar or bars between whose front ends the rear end of the tongue or pole D is placed and to which it is fastened. The tongue may, if desired, be directly pivoted to the axle, but I prefer to use the construction described.

Upon each side of the tongue-frame C, in the same horizontal plane, there is a bar E that is rigidly attached at its rear end to the axle B and thence extends forward, converging slightly toward the other bar E, and connecting the front ends of said bars E and E are two parallel rods or bars F and F, one of which is above and the other below the tongue or pole D. The lower bar F projects horizontally outward beyond the point of its connection with each bar E and has a downward extension *f*, which latter, with a like extension *g* from a shorter bar G that is secured to the under side of said bar F, provides means for the attachment, in the manner to appear, of

the beams or bars H and H of plows or shovels I and I at each side of the machine.

Pivoted to suitable brackets that are attached to the axle B are two levers K and K, each of which is located in the space between the tongue-frame C and a bar E, and at its upper end is connected by a link *k* with the side of said tongue-frame. The lower end of each of said levers is extended horizontally to receive the foot of the operator, and is situated so as to be in ready reach from the seat L.

With the cultivator constructed as thus far described, should it be desirable to change its direction when in use, so as, for instance, to carry the shovels to a corn-hill out of line, a slight forward pressure by the foot upon the proper lever K will, owing to the pivotal connection between the axle and tongue, swing the axle in a horizontal direction, so that it will stand at an incline relative to said tongue, and hence result in guiding the shovels or plows in the desired direction. A pressure with the other foot upon the other lever K will restore the position of the axle, so that the tongue will again be at a right angle thereto. The guiding of the machine is thus done by the feet, so that the hands are left free for driving or manipulating other parts of the cultivator, and, besides their functions as levers, said levers K and K form rests for the feet.

Each gang of shovels is attached to the appropriate depending portions *f* and *g* of bars F and G, respectively, so as to enable the shovels to be adjusted in or out with reference to the row of corn. The means I employ for this purpose will now be described.

Journaled upon a long bolt M, that extends horizontally between each pair of the extensions *f* and *g* is a tube or sleeve N, that has a number of radial lugs *n* and *n* arranged in a straight line, and upon each sleeve is journaled the front ends of the cultivator-beams H and H. Each of said ends has a radial slot *h* of such size as to pass over the lugs *n* and *n* when the latter align with it, and within said end is a cavity *h'* that communicates with such slot *h*, into which a lug *n* can pass when the tube N is rotated, and thus hold or lock the beams H and H against sidewise movement.



Normally, the sleeve is kept in such position by a weighted handle or arm *m* that the lugs *n* and *n* and slots *h* and *h* are out of alignment, so as to prevent sidewise movement of the bars *H* and *H*; but when it is desired to change the position of the bars horizontally the sleeve *N* is revolved to place said sleeves and notches in alignment, and then the beams *H* and *H* are slid along to the desired position and there locked by turning or permitting the turning of the sleeve to destroy the alignment of lugs and notches. Lateral adjustment of the shovels is thus extremely easy and simple, there being no nuts or bolts to be removed and replaced.

For varying the depth to which the shovels work, and to enable them to work when going up or down hill, the tongue *D* is pivotally connected upon a horizontal bolt between the front ends of the frame *C*, in rear of the bars *F* and *F*, and to the rear end of said tongue is connected a hand-lever *O* that is within convenient reach from the driver's seat and is pivoted to a segment *P*, which is attached to the frame *C*, said segment being toothed for co-operation in the customary way with a locking-pawl carried by the lever for holding said lever in the position to which it may be placed. To prevent obscuring of other parts the lever and segment are omitted from Fig. 1.

By means of the lever *O*, in view of the pivotal connection between the tongue and frame, said tongue and frame may be placed in such relative positions as to cause the shovels to go deeper or shallower into the earth and be made to work the earth when going up and down hill.

For raising and lowering the shovels, by rocking the beams on their pivotal connection with the sleeves *N*, each gang is connected to a hand-lever *Q* that is pivoted upon the axle *B* in convenient reach from the driver's seat *L*.

The seat *L* is mounted upon the rear ends of two forwardly-extending bars *R* and *R* that, near their front ends, rest upon the axle *B*, and each of said ends is carried downwardly at *p* and connected by a bolt to the adjacent bar *E*. Each end *p* has a vertical series of holes to enable the height of the seat to be adjusted, either for the purpose of lifting the operator entirely above the corn, or to lower him so that his feet may reach the ground to enable him to kick clods of dirt from the corn as he rides along.

While preferring the precise construction and arrangement of parts shown, I wish it understood that I do not limit myself thereto, as changes can be made which will involve no departure from the scope of my invention.

Having thus described my invention, what I claim is—

1. As an improvement in cultivators, the combination of the axle, the tongue or pole pivoted to swing horizontally and vertically, the foot lever connected to each side thereof, to swing the same horizontally, and the hand

lever to move said tongue, or pole vertically, substantially as and for the purpose specified.

2. As an improvement in cultivators, the combination of the axle, the tongue or pole pivotally connected therewith, and a downwardly extending foot lever, having a horizontal pivot, at each side of, and connected to said tongue or pole, substantially as and for the purpose shown.

3. As an improvement in cultivators, the combination of a shovel supporting frame, a tongue or pole pivotally connected therewith, and a downwardly extending foot lever at each side of, and connected with the tongue or pole, and having a horizontal pivot, substantially as and for the purpose set forth.

4. As an improvement in cultivators, the combination of the axle, the tongue or pole pivoted thereto at its rear end, the horizontally pivoted, downwardly extending foot lever, at each side of said tongue or pole, and a link connecting the upper end of each lever with the pole, substantially as and for the purpose described.

5. As an improvement in cultivators, the combination of an axle, the pole or tongue pivotally connected therewith, levers connected with opposite sides of said tongue, the two forwardly extending bars attached to the axle upon opposite sides of the tongue, bars above and below the tongue which connect the front ends of said forwardly extending bars, and suitably connected gangs of plows, substantially as and for the purpose specified.

6. The combination of a support, a plow beam, having an opening or eye, and the rotary part passing through said eye and connected to the support, that has a lug adapted to be placed in and out of alignment with a slot in the beam, substantially as and for the purpose shown.

7. The combination of a support, a plow beam having an opening or eye, a rotary part passing through said eye and connected to the support, that has a lug adapted to be placed into and out of alignment with a slot in the beam, and means to normally keep said lug and slot out of alignment, substantially as and for the purpose set forth.

8. The combination of a suitable support, as bars, a bolt extending between said bars, a sleeve journaled on said bolt and having radial lugs, a plow beam mounted on the sleeve and having a radial slot for the passage of the lugs when the same aligns therewith, and a handle attached to said sleeve for rocking the same to place lugs and slot into and out of alignment, substantially as and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand this 2d day of November, 1894.

JAMES EDWARDS.

Witnesses:

EDWARD B. HOAGLAND,  
CHAS. H. ROBINSON.