

E. D. & O. B. REYNOLDS.  
Wheel-Cultivators.

No. 150,616.

Patented May 5, 1874.

Fig 1.

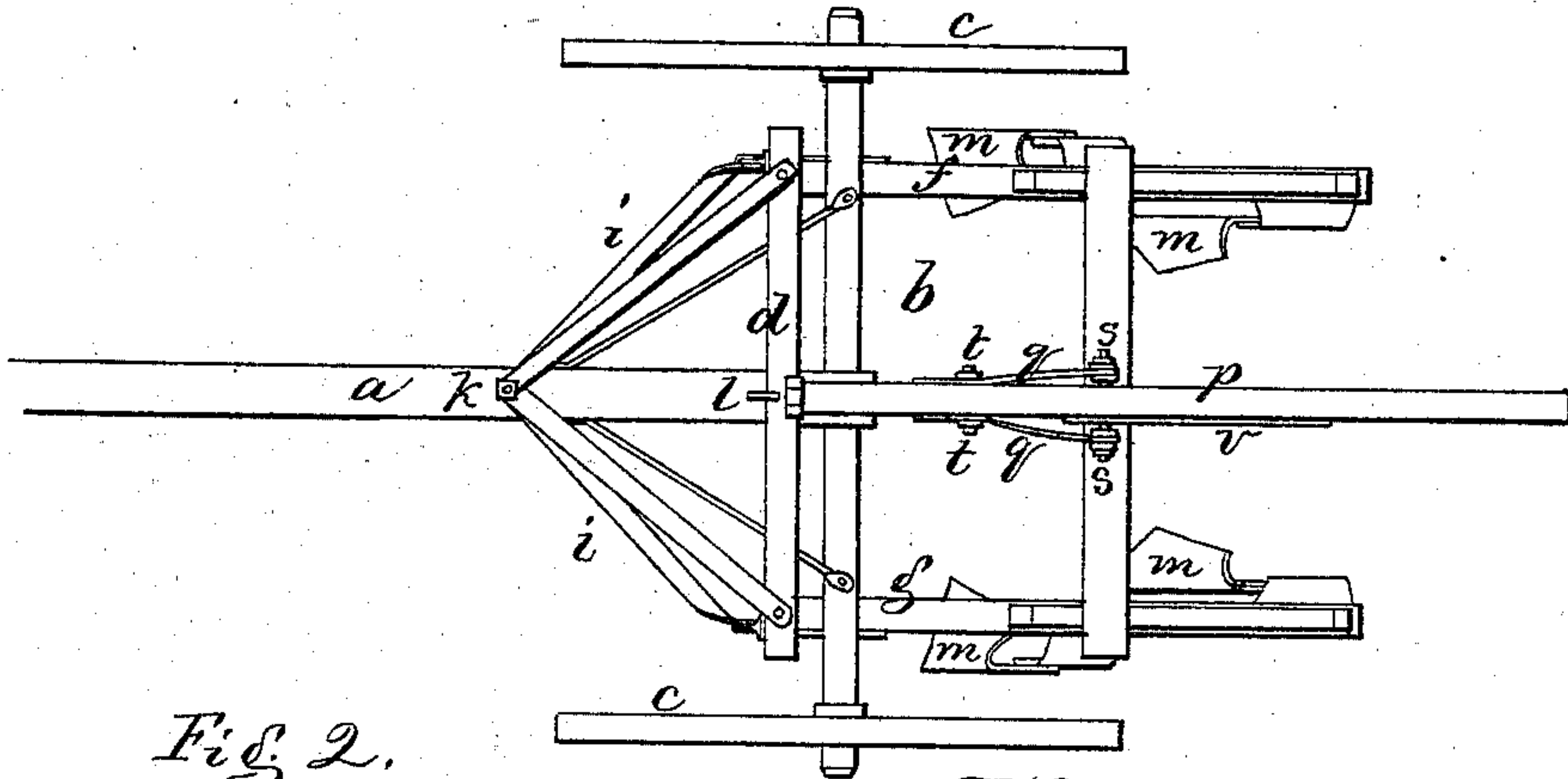


Fig 2.

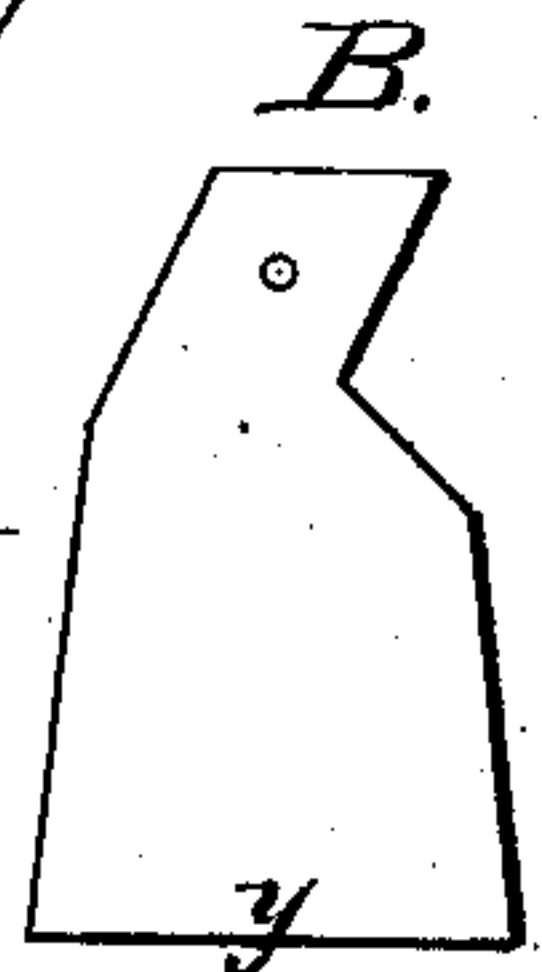
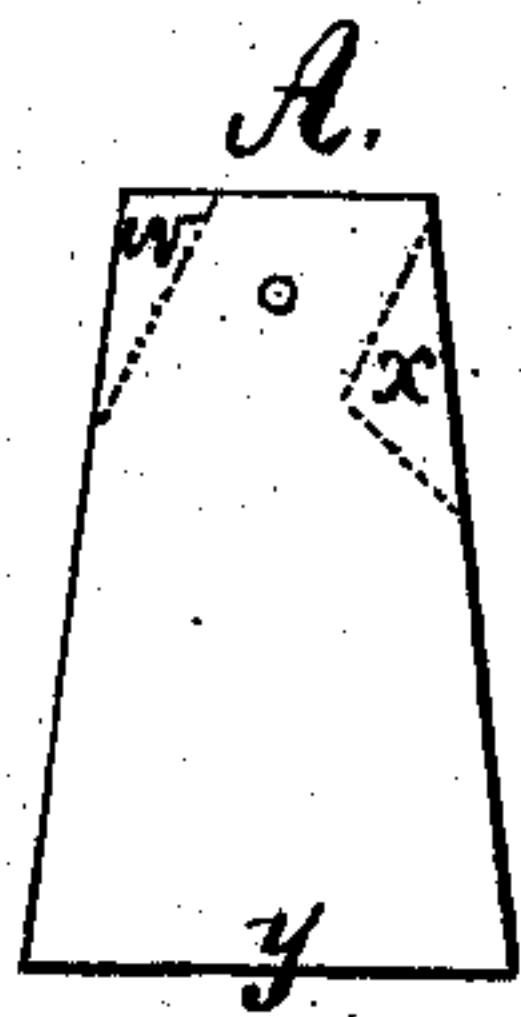
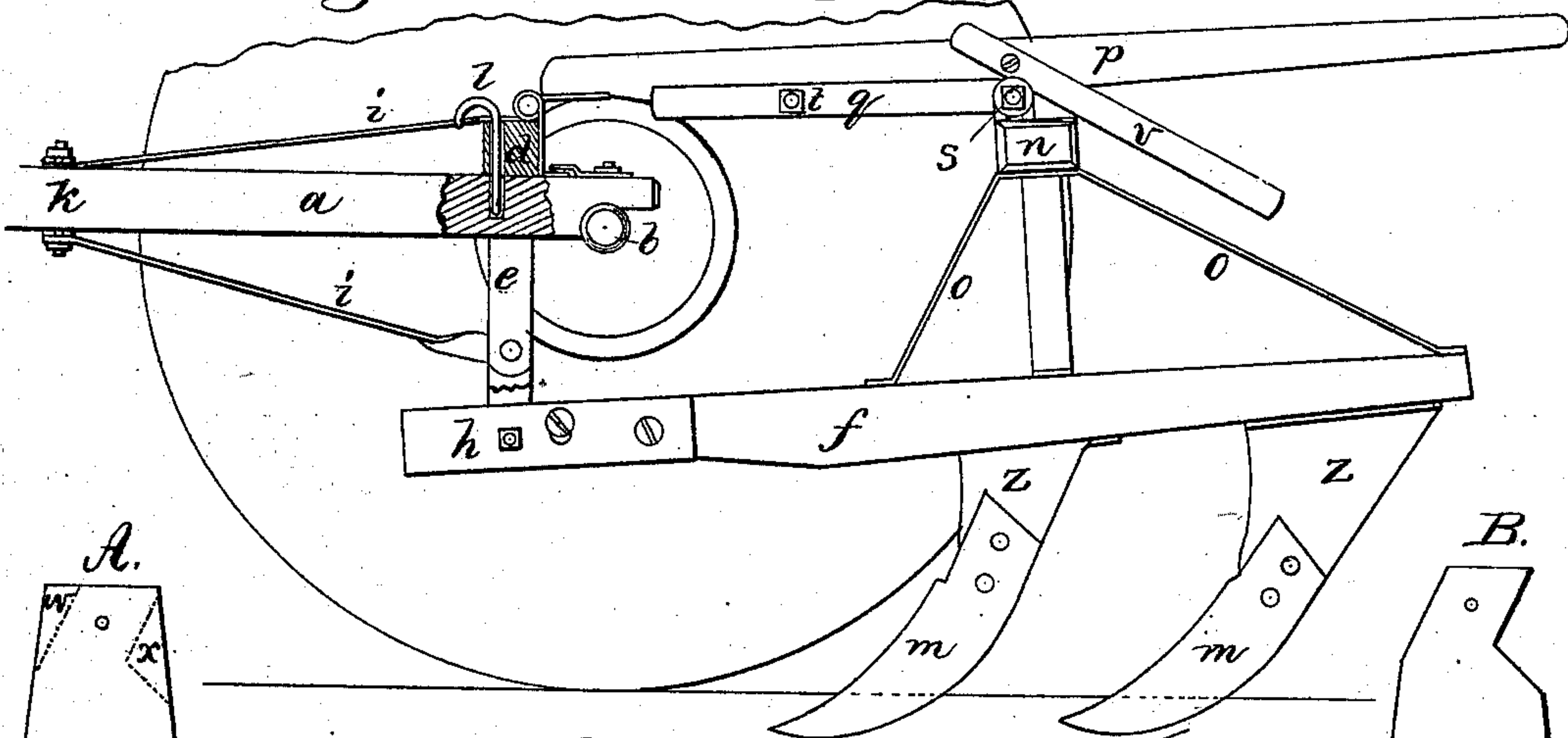
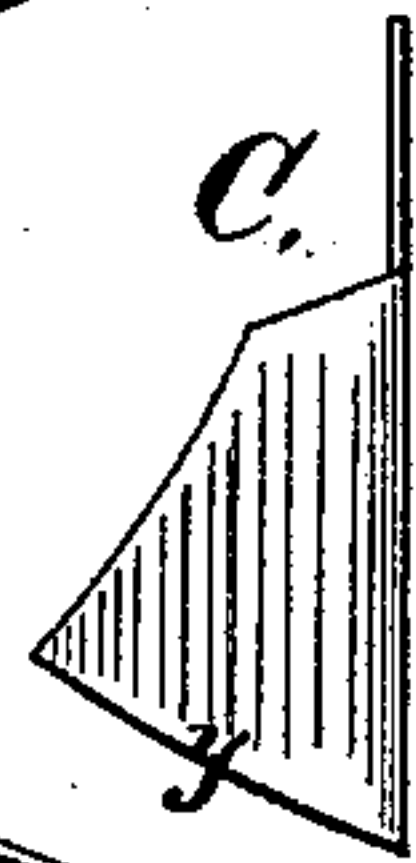
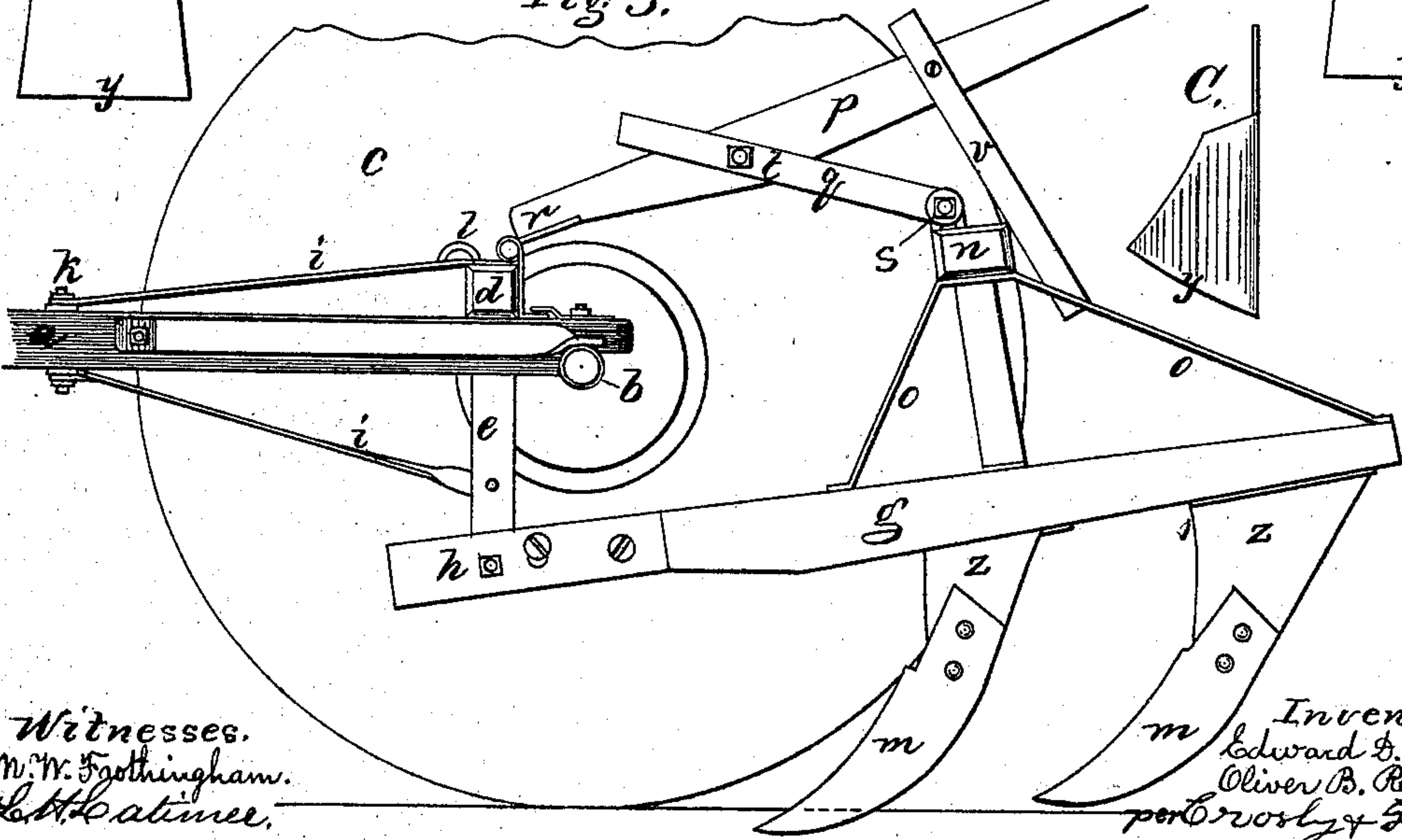


Fig 3.



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# UNITED STATES PATENT OFFICE.

EDMUND D. REYNOLDS AND OLIVER B. REYNOLDS, OF NORTH BRIDGE-WATER, MASSACHUSETTS.

## IMPROVEMENT IN WHEEL-CULTIVATORS.

Specification forming part of Letters Patent No. **150,616**, dated May 5, 1874; application filed February 14, 1874.

*To all whom it may concern:*

Be it known that we, EDMUND D. REYNOLDS and OLIVER B. REYNOLDS, both of North Bridgewater, in the county of Plymouth and State of Massachusetts, have invented Improvements in Wheel-Cultivators; and we do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of our invention sufficient to enable those skilled in the art to practice it.

The invention relates particularly to the method of hanging and adjusting a frame that carries the plow or cultivator shares with reference to a wheel, axle, and pole frame, with which the plow-frame is connected.

In our construction the pole is rigidly fixed to the axle, (upon which are two wheels,) and also has a cross-bar, made both to be locked rigidly and jointed loosely to it; and to the ends of vertical arms depending from the opposite ends of the bar beams are jointed, the two beams being connected by a rigid cross-bar, the bar and beams constituting the plow-frame. By a lever and link connection the frame is jointed to the pole and axle frame or wheel-frame; and when the lever is brought to a horizontal position, the links are brought into line with it, and the plow-frame and carriage-frame are fixedly connected, (as to vertical movement,) so that the depth of action of the shares depends upon the position of the wheels, while, if the lever is slightly raised, the plow-frame becomes loosely hung to the carriage-frame, so that the shares are self-adjusting as to depth. The cross-bar, to the depending arms of which the plow-beams are jointed, is connected to the pole by angular braces jointed to the pole, (upon which braces the bar can swing;) and by a suitable bolt-pin passing through the bar into the pole, the bar and the plow-frame are locked as to lateral movement relatively to the pole, while, by withdrawing said bolt, the plow-frame can swing loosely relatively to the wheel-frame, like the body of a wagon relatively to the front wheels and shafts or pole.

Our invention consists, primarily, in the combination, with the rigid pole and axle frame, of the plow-frame, so arranged as to be capa-

ble of being either rigidly fixed or loosely connected to the wheel or pole and axle frame, as to vertical movements and as to lateral movements.

The drawing represents a construction embodying our invention.

Figure 1 shows a plan of the machine. Fig. 2 is a sectional elevation of it. Fig. 3 is a side elevation.

*a* denotes the pole; *b*, the axle; *cc*, the wheels; *d*, the cross-bar, having depending arms *e e*, to which the plow-beams *f g* are jointed, as seen at *h*, the bar *d* being permanently connected to the pole by the angular braces *i*, jointed to the pole at *k*, and being also connected to the pole by a bolt, *l*, withdrawal of which enables the bar and the plow-frame connected to it to swing laterally upon the joint *k*. Each plow-beam carries one or more shares, *m*, and the two beams are connected by a cross-bar, *n*, through braces *o*; and to this bar a hand-lever, *p*, is connected by links *q*, said lever being hinged to the bar *d*, as shown at *r*, and the links *q* (jointed to the bar *n* at *s*) being jointed to the lever about midway between the two bars *d n*, as seen at *t*.

When the lever is down against the bar *n*, the lever and links are brought into line, and the plow-frame, composed of the two bars and the two beams, is locked to the pole and axle or wheel frame, as to capability of relative vertical movement, while, by slightly raising the lever *p*, the links are thrown out of line, and the plow-frame rises and falls freely with reference to the pole and axle or wheel frame.

In hard or stiff soils, the plow-frame is preferably locked by depressing the lever to the bar, and the weight of the wheels, axle, and pole then tend to sink the shares, while, upon lighter and pulverized soils, the lever is raised, and the shares readily and properly gage their own depth of action.

In going to and from the field, the plow-frame may be held up entirely above the ground by a prop, *v*.

In cultivating between hills of corn, or other crops where the plants are in perfect line, the plow-frame is preferably locked to the pole by the bolt *l*; but when the plants or hills are any way irregularly lined, the bolt *l* is preferably



withdrawn, and then the plowman, following behind, can swing the frame laterally with the utmost ease by applying his hand to the lever *p*, so as to cultivate to the best advantage with reference to all the hills or plants.

The share that we prefer to use is formed as a sort of shovel, the blade of which is formed of a flat sheet of steel, cut and bent into proper shape. To make this blade, we first cut the flat steel to the shape seen at A, and then cut out the corner-pieces *w x*, as seen at B. Then, heating the blank so cut and trimmed, we bend and forge it into the shape seen in the drawings and at C, and grind the edge *y*, the share thus formed being bolted to the standards *z*, by which it is fastened to the beams.

We claim—

1. In combination with the pole and axle, made relatively immovable, the plow-frame pivoted on the pole forward of the axle, and

having capability of lateral swing movement, and also adapted to be locked forward of the axle, in a fixed position laterally with reference to the pole, by means of a locking pin or bolt, substantially as shown and described.

2. In combination with the plow-frame made to swing vertically with reference to the pole and axle, the links *q* and lever *p*, substantially as described, for connecting the top of the plow-frame to the pole and raising said frame, and for locking the frame (vertically) with reference to the pole and axle.

3. The shovel-plow or plow-blade C, formed, as described, from a flat sheet, of the form shown at B.

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