A. J. SPARKS.

Wheel Cultivator.

No. 40,959. Patented Dec. 15, 1863.

Fig. 1

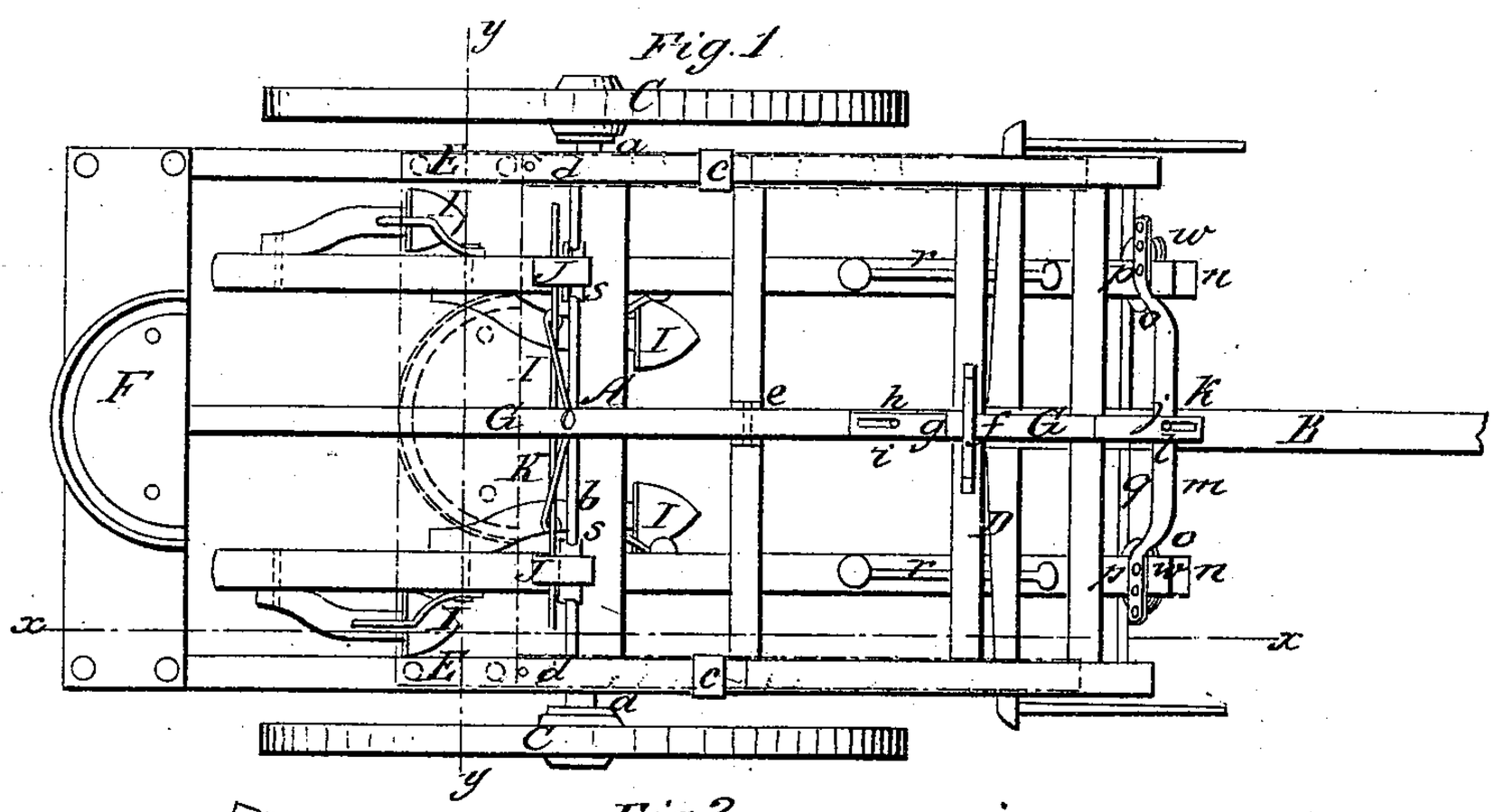


Fig. 2.

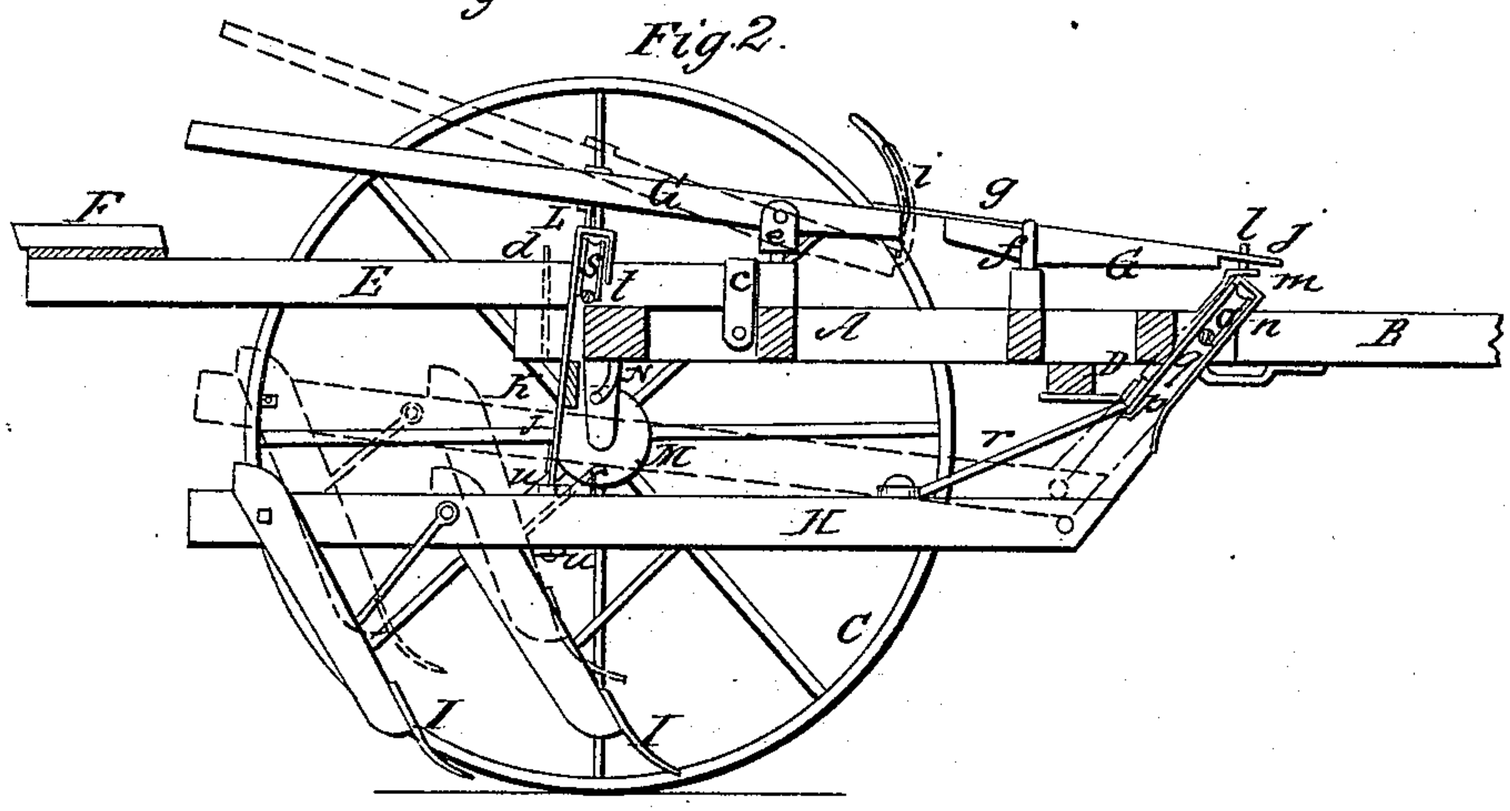
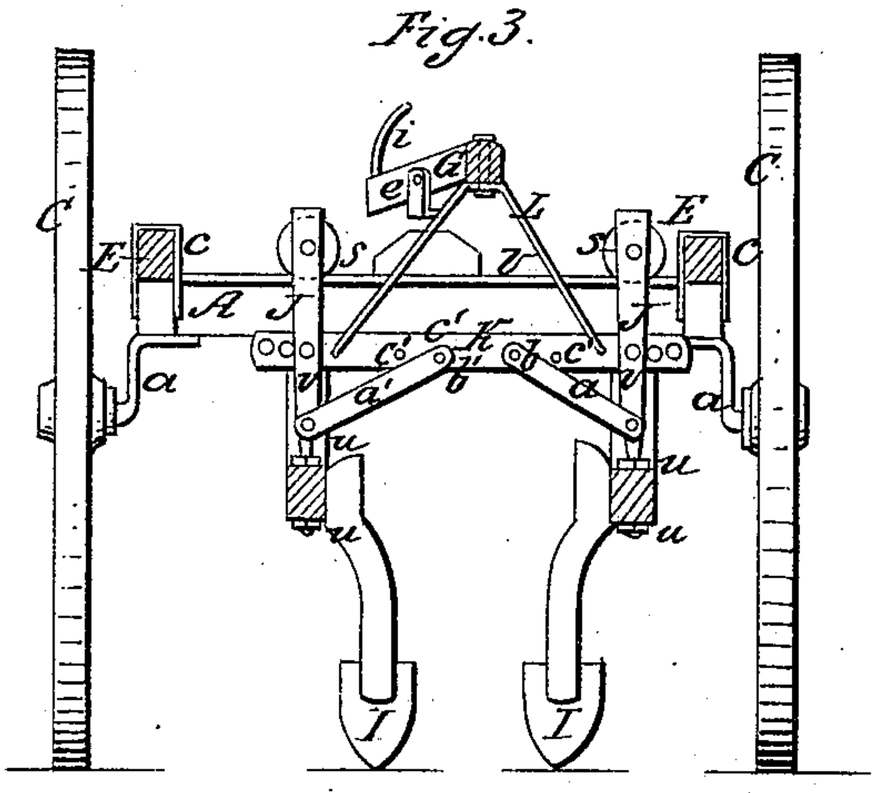


Fig. 3.



Witnesses.
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Geo. W. Reed.

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UNITED STATES PATENT OFFICE.

A. J. SPARKS, OF WYANET, ILLINOIS.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **40,959**, dated December 15, 1863.

To all whom it may concern:

Be it known that I, A. J. SPARKS, of Wyanet, in the county of Bureau and State of Illinois, have invented a new and Improved Corn-Plow; 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 part of this specification, in which—

Figure 1 is a plan or top view of my invention; Fig. 2, a side sectional view of the same, taken in the line *x x*, Fig. 1; Fig, 3, a transverse vertical section of the same, taken in the line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a rectangular frame, having a draft-pole, B, attached to its front end. This frame A is mounted on two wheels, C C, the axles *a a* of which are of bent form and are bolted to the back part of the frame, the front part of the latter being supported by the team.

D represents a double-tree, which is attached centrally by a bolt to the under side of the frame A, near its front end, a whiffletree being attached to each end of the double-tree.

E E represent two parallel bars, to the back ends of which the driver's seat F is attached. These bars E E are fitted in metal loops or guides *c c*, attached one to each side of the frame A and arranged in such a manner that the bars E E may slide freely through them, said bars resting on the frame A and retained on them at any point by pins *d*, or any other suitable catch or fastening. By this arrangement the driver's seat F may be adjusted more or less forward or back, according to the weight of the driver, and the machine may thereby be properly balanced at all times, and in case the driver prefers to walk behind the machine he may shove the seat F entirely forward, as shown in red in Fig. 1, so that it will be out of the way.

G G′ represent two levers connected by a joint. The lever G is connected by a swivel-fulcrum, *e*, to the frame A, which fulcrum admits of said lever being worked laterally and up and down. The lever G′ has also its fulcrum *f* on the frame A, but said fulcrum only admits of a lateral working or movement of the lever G′.

To the back end of the lever G′ there is attached a metal plate, *g*, having a slot, *h*, made in it longitudinally, through which a segment-rod, *i*, at the front end of the lever G passes. This rod *i* and slotted plate *g* form the joint which connects the two levers G G′.

To the front end of the lever G′ there is attached a plate, *j*, which has a slot, *k*, made longitudinally in it, and through this slot *k* a pin, *l*, on a bar, *m*, passes. This bar *m* is at right angles with the draft-pole B, and it is attached at its ends to metal plates or loops *n n*, which contain each a roller, *o*, and which plates or loops are secured to the upper ends of inclined bars *p*, which are supported by the rollers *o*, resting on a rod, *q*, which serves as a way or guide, said rod being fitted in the front part of the frame A.

To the lower ends of the inclined bars *p p* the plow-beams H are attached and braced by rods *r*. These beams have each two plows, I I, attached to them at opposite sides, and arranged in the usual or any proper way. The plow-beams H H are sustained by upright bars J, the upper ends of which have rollers *s* attached to them, which rest on a way or guide, *t*, on the back part of the frame A. The lower ends of the bars J are made of cylindrical form, have screw-threads cut on them, and pass through the beams H, and a nut, *u*, is placed on these screws, one above and below each beam. By turning the nuts *u* the beams H may be adjusted and the plows I made to penetrate the earth at a greater or less depth, as may be desired. The two upright bars J J are connected by a horizontal bar, K, which has a series of holes made in it to receive pins or rivets *v*, which pass through the bars J. By inserting these pins or rivets *v* in different holes in the bar K the beams and plows may be placed the desired distance apart to suit the width of the spaces between the rows of corn. The front ends of the beams are adjusted in a similar manner by having a series of holes made in the bar *m* to receive pins or rivets *w*, which pass into the plates or loops *n*.

The upright bars J are braced by rods *a′*, attached to the bar K and bars J, as shown clearly in Fig. 3, the pins or rivets *b′*, which

pass through the upper ends of the rods a', passing through any of a series of holes, c', in the bar K. The bar K has a bail-shaped rod, L, attached to it, to the upper part of which the lever G is attached by a pin, d'.

From the above description it will be seen that by moving the lever G laterally the plow-beams will be moved laterally, as the lever G is connected by the rod L to the bar K, which connects the upright bars J, and in consequence of the lever G being connected to the lever G′, as shown, the front parts of the beam will be moved simultaneously with the back parts. By this arrangement, in connection with the friction-rollers, the plows may be adjusted laterally with the greatest facility and with but little friction.

Each plow-beam H has a hook, M, attached to it, and to the under side of the back part of the frame A there are attached two pendent hook-projections, N N, which, when the plow-beams H are raised and moved laterally, admit of the hooks M being caught over them, so as to retain the plows in an elevated position above the surface of the earth, as shown in red in Fig. 2. This elevated position of the plows is necessary in moving the device from place to place. The plow-beams H are raised by elevating the lever G. The segment-rod i admits of this without allowing the levers G G′ to be disconnected.

The device, it will be seen, is extremely simple, and the plows may be adjusted laterally with but little effort or labor, and the plows, therefore, may be moved to conform perfectly to the sinuosities of the rows of corn, so that no plants will be plowed out or injured in any way by a too close proximity of the plows in passing them, and the plows at the same time be made to work at a proper distance from the plants.

The great difficulty attending the perfect operation of these laterally moving or adjustable plows has been a want of facility in moving the plows—an objection which, it is believed, is fully obviated by my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The two levers G G′, connected together by a joint formed of the slotted plate g and segment-rod i, and attached to the plow-beams H H, substantially as shown, to admit of a ready lateral movement of the same, as well as the ready elevating of the plows above the surface of the earth, as set forth.

2. The suspending of the plow-beams H H from the frame A by means of the upright bars J J and inclined bars p p, provided with rollers s o at their upper ends, which work on suitable ways or guides, substantially as set forth.

3. The hooks M on the plow-beams H, in connection with the pendent hook-projections N on the frame A, when said parts are used in combination with laterally-moving plow-beams, for the purpose specified.

A. J. SPARKS.

Witnesses:

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