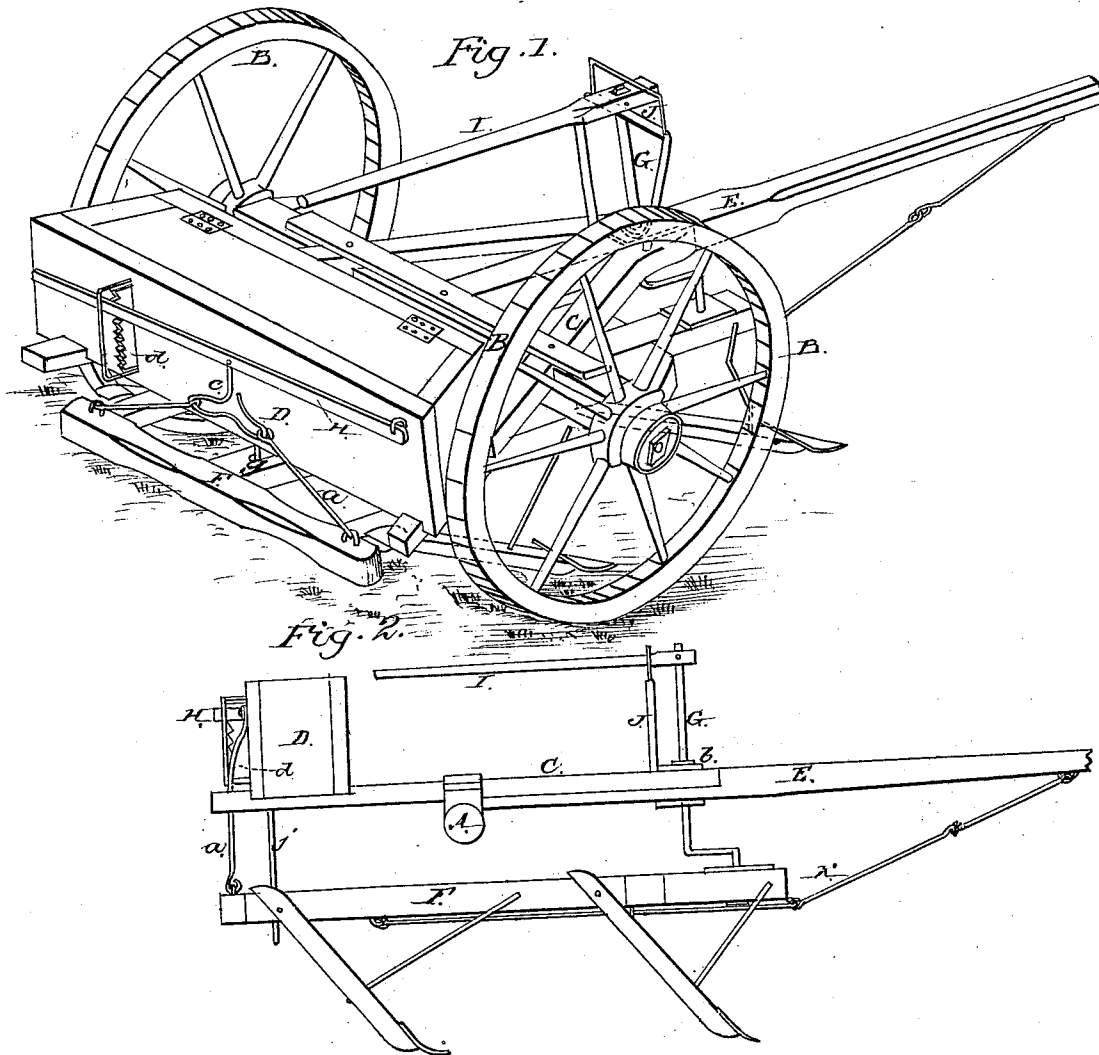


E. H. SAWYERS.

Wheel Cultivator.

No. 37,775.

Patented Feb. 24, 1863.



Witnesses:

J. A. Tauberschmidt
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Inventor:

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UNITED STATES PATENT OFFICE.

E. H. SAWYERS, OF WEST GROVE, IOWA.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. 37,775, dated February 24, 1863.

To all whom it may concern:

Be it known that I, E. H. SAWYERS, of West Grove, in the county of Davis and State of Iowa, have invented a new and Improved Cultivator; 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 part of this specification, in which—

Figure 1 represents my improved machine by a perspective view. Fig. 2 is a side elevation of the same with a wheel removed.

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

This invention relates to an improved machine for cultivating those crops which are grown in hills or drills—such as corn, potatoes, and the like; and it consists in a novel arrangement of devices whereby the most perfect control over the plows is afforded the driver, enabling him to guide the machine so as to follow the sinuosities of the rows, and to cultivate on both sides of crooked or straight rows with equal efficiency and ease, as will be hereinafter fully explained.

To enable others skilled in the art to fully understand and construct my invention, I will proceed to describe its construction and operation.

A represents a common wooden axle, supported on the wheels B B, and supporting a triangular frame, C, on rear end of which is an oblong box, D, which is furnished with a lid, and serves both as a receptacle for small tools and a seat for the driver. The front end of the frame C is attached to the draft-pole or tongue E, which is mortised into the axle midway between its supporting-wheels.

F is the plow-frame, also of triangular form, suspended beneath the main frame C at its front and back ends respectively by guide-rod G and rods a a.

K is a draft-chain, connecting the plow-frame with the draft-pole or tongue E. The guide-rod G fits a hole in the draft-pole or tongue E, and is prevented from protruding through the under side thereof beyond a certain distance by a collar, b, which is slipped over the rod G, and is secured thereon by a pin, or it may be secured in any other suitable manner. This collar b rests upon a metal plate

attached to the top side of the tongue. The rods a a are connected by a hook, c, to the lever H, which serves to raise or lower the hind end of the plow-frame F, and thus to regulate the depth of the plows in the ground. When adjusted to the proper depth the plows are retained in such position by resting the loose end of the lever H in one of the series of notches or teeth of the rack d. The guide-rod G terminates at top in a square shank to receive the slotted end of a lever, I, and at its lower end in an offset or crank, the handle of which passes through the central beam of the plow-frame, and has secured upon its extremity a collar, which secures the plow-frame to the guide-rod.

The plow-frame, where the guide-rod passes through it, is provided, similar to the draft-pole, with a metal plate on its upper and lower sides to lessen the friction of the rod and render the implement more durable. The central beam of the frame F is slotted to receive a spindle, j, which depends from the bottom of the box D, and forms the fulcrum upon which the plow-frame is vibrated or moved at its front end in a lateral direction by means of the offset guide-rod G and lever I, to adapt the implement to the sinuosities of the row of corn being cultivated. The lever H, near its place of attachment to the guide-rod G, rests on top of a metallic support, J, which rises from the frame C. This support forms the fulcrum of the lever I, whereby the forward plows may be raised or lowered to adapt the implement to cultivate to a greater or less depth, as may be desired. The lever H, at the hind end of the machine, is attached at one end by a staple or pivot to the back side of the box D, and at its other end it is free to be moved up and down to raise or lower the hind end of the plow-frame, said frame being, as before stated, retained at any desired height by resting the loose end of the lever H in one of the series of teeth in the rack d, which is permanently attached to the box D. As the driver sits on his seat he is within easy reach of both of the levers H and I, and hence has perfect control over the movements of the plows, being enabled while the machine is in motion to adjust them to cut a furrow of greater or less depth, according as may be desired, or to adjust the

plows to follow the sinuosities of the row or to pass an obstruction.

The hind plows are designed to cut furrows outside of those formed by the forward plows. Hence the object in having the frame triangular.

By making a number of holes in that part of the guide-rod G above the tongue the collar *b* may be adjusted thereon so as to give a greater range of motion to the plows in a vertical direction.

The above-described implement is simple in its construction and operation, and very efficient.

I do not claim any of the above-described parts, separately considered; but,

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

The main frame C, guide-rod G, metallic support J, levers H I, rods *a a*, plow-frame F, and spindle *j*, the whole combined and arranged to operate in the manner and for the purpose specified.

E. H. SAWYERS.

Witnesses:

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