G. STORM.

CULTIVATOR.

No. 192,541. Patented June 26, 1877.

Fig. 1.

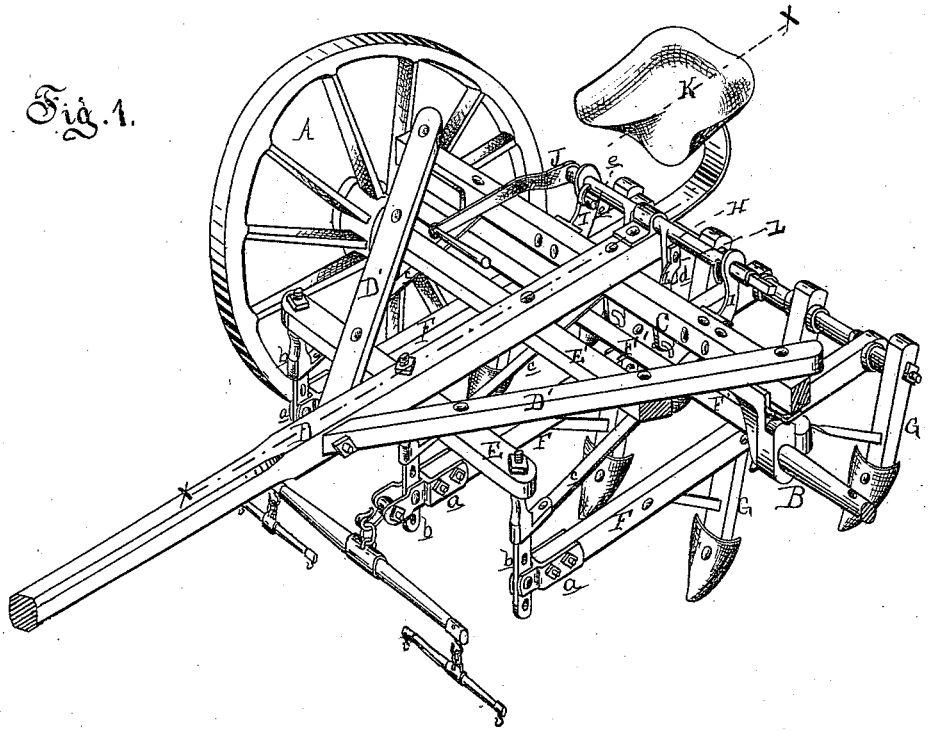
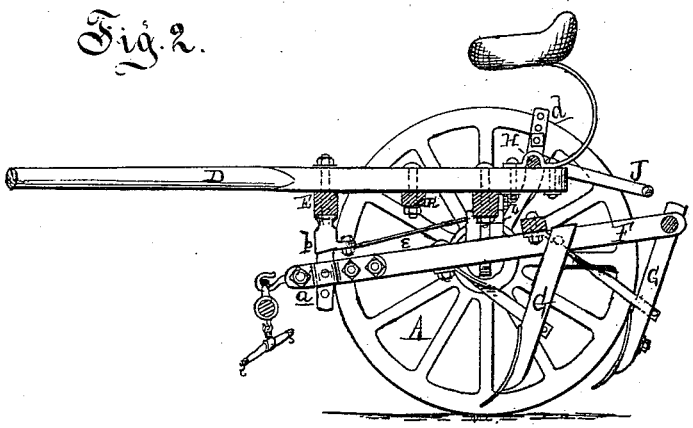


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

GARRY STORM, OF PORTLAND, MICHIGAN, ASSIGNOR TO HIMSELF AND JACOB M. BENEDICT, OF SAME PLACE.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **192,541**, dated June 26, 1877; application filed January 22, 1875.

To all whom it may concern:

Be it known that I, GARRY STORM, of Portland, in the county of Ionia and State of Michigan, have invented an Improvement in Cultivators, of which the following is a specification:

My invention relates to a two-wheeled cultivator; and consists in the combination of the parts for raising, lowering, and locking the shovel-beam, the peculiar features of which are the curved links, which allow the rock-shaft to be thrown beyond the center, locking it in that position when the shovels are either in or out of the ground.

Figure 1 is a perspective view of the implement, showing the cultivator-frame lowered. Fig. 2 is a longitudinal vertical section at *x x*, showing the cultivator-frame raised.

In the drawing, A A represent two traction-wheels, each mounted on an axle-arm, B, bolted under the end of an axle-bar, C. The arms B are dropped, to give the axle-bar the required elevation. D is the pole, bolted across the top of the axle-bar, as are also two diagonal braces, D′. To the under side of the pole and braces a transverse bar, E, is bolted, and between it and the axle-bar a second one, E′, is in like manner bolted. F F F are the cultivator-beams, to each of which two shovel-standards, G, are bolted on opposite sides. The front end of each beam F carries a clevis, *a*, formed of two straps, fastened by horizontal through-bolts, which clevis embraces the lower part of a hanger, *b*, pendant from the bar E. The hanger has a row of holes, through one of which the bolt which pivots the clevis to it passes, thereby adjusting the pitch of the beam. Above the holes a brace-rod, *c*, extends from each hanger back to the axle-bar. The whiffletrees of the team are engaged with a hook, pivoted in the clevis of the middle beam, whose clevis is elongated to receive it. H is a rock-shaft, journaled across the rear end of the pole, in brackets I, projecting from the axle-bar. At its end is a lever, J, within easy reach of the driver from his seat K. On the rock-shaft are two arms, *d*, each perforated with several bolt-holes, to receive a pin or bolt at the upper end of a curved link, L, whose lower end is pivoted in the upper side of a bar, F′, bolted to the tops of the several cultivator-beams. The top end of each link has several bolt-holes in it, through any of which the bolt which pivots it to the arm may be passed, to regulate the drop of the rear ends of the beams, while, by rotating the rock-shaft backward, the beams may be raised high enough for the shovels to clear the ground.

The links being curved, the arms may be thrown back of the upper center, and thus lock the shovel-beams in their elevated position.

The shovels are lowered by throwing forward the rock-shaft lever until the arms are arrested by stops *e* on the sides of the brackets.

There being no mortises and tenons, as all the parts are bolted together, repairs can be made by the farmer with simple tools.

By means of adjustment at both ends of the cultivator frame-work the beams can always be kept level while working at different depths.

The means for raising and lowering the shovel-beam and locking the same in either position are simple, efficient, and much less complicated and expensive than many in use.

I am aware that levers have been heretofore used which are self-locking, both when the plow-beam is up and down, and I hereby disclaim the broad invention thereof; but

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

The combination, with the axle-beam C and bar F, of the rock-shaft H, brackets I, lever J, arms *d d*, and curved links L, for raising and lowering the shovel-beam and locking the same in either position, substantially as described.

GARRY STORM.

Witnesses:
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