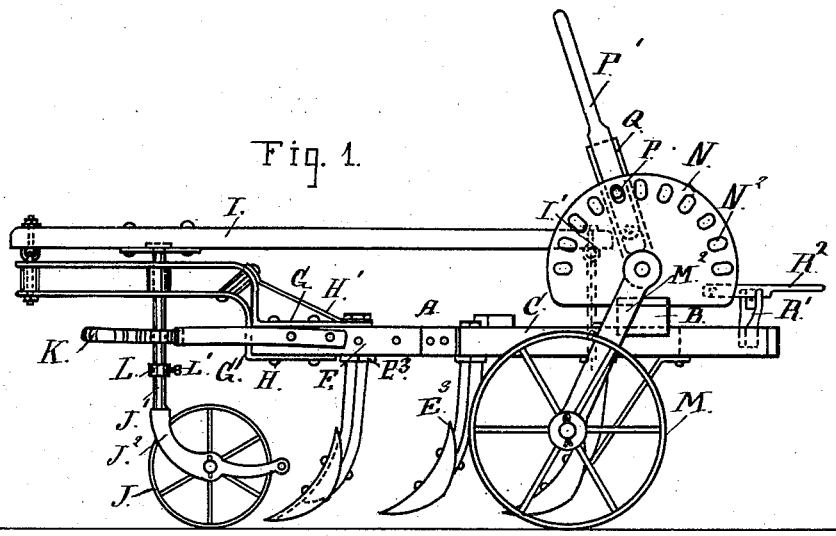
(No Model.)

E. E. KRAUSE.

CULTIVATOR.

No. 347,722. Patented Aug. 17, 1886.

Fig. 1.



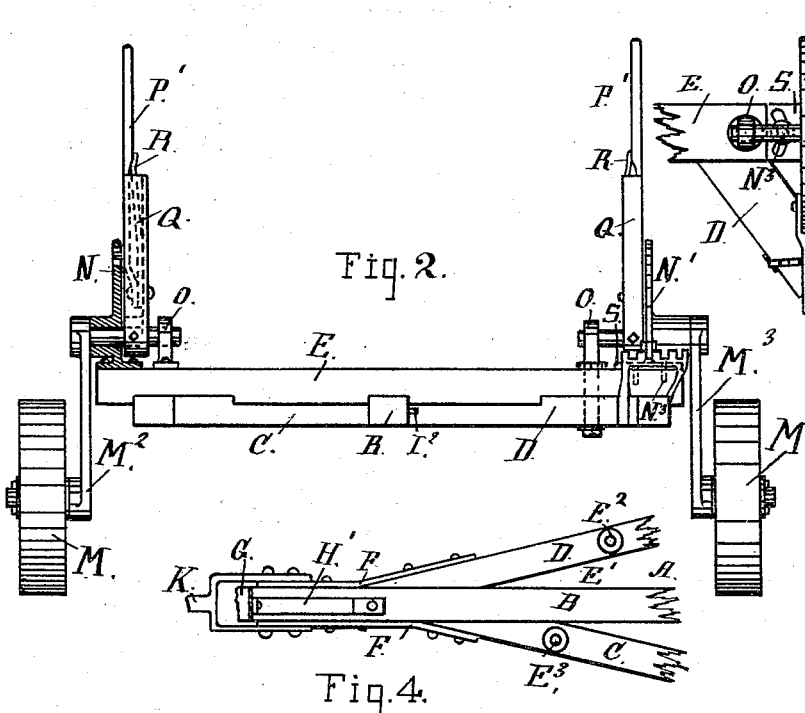


Fig. 2.

Fig. 3.

Fig. 4.

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UNITED STATES PATENT OFFICE.

ERNEST EDWARD KRAUSE, OF RIO VISTA, CALIFORNIA.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 347,722, dated August 17, 1886.

Application filed October 12, 1885. Serial No. 179,733. (No model.)

To all whom it may concern:

Be it known that I, ERNEST EDWARD KRAUSE, a citizen of the United States, residing at Rio Vista, in the county of Solano and State of California, have invented certain new and useful Improvements in Cultivators, of which the following is a specification.

The object of my invention is to provide a strong cultivator adapted to the cultivation of steep inclines or hillsides as well as level fields.

My invention consists in the following construction and arrangement of parts, whereby the object of my invention is attained, and which will be first fully described, and points of novelty set forth in the claims. All this will be fully seen in the course of the following description, and by reference to the accompanying drawings, in which—

Figure 1 is a side elevation of my improved cultivator. Fig. 2 is a transverse view. Fig. 3 is a plan or top view of a device for directing the machine to or from land. Fig. 4 is a plan or top view of frame at the juncture of the beams.

A represents the frame of my machine, which consists of four beams, B C D E—B composing the center beam, C D the diagonal beams, and E the transverse beam—forming what is known as a "V-shaped frame." The inner beveled ends of the beams C and D are connected to the straight or main beam B, the former, or beam C, a little to the rear or back of the juncture of the latter, or beam D, so when the teeth of the cultivator are set in the frame a space or throat, E′, will be formed at the left-hand side or side opposite the landside between the teeth E^2 E^3, through which the debris—such as weeds and stubble—will pass and not clog or encumber the machine or teeth, and at the same time cut the entire surface of the ground. A strengthening strap or iron, F, is pinned to the beveled ends of the diagonal braces C D, passing around the end of the beam B. A gooseneck or double strap of iron, G, is connected to the beam B, one arm passing under and the other over the forward end thereof, in which position the straps are kept apart and supported by the studs H and strap H′. The inner end of the latter is connected to the groove neck and the outer end to the beam B, and for holding this outer end of the strap the bolt of the standard which carries the end of the forward tooth of the cultivator may be employed. To the upper strap of the gooseneck is pivoted a lever, I, which extends backward along the frame, the end of which is provided with a link, I′, connecting with a hook, I^2, on the beam B. A supporting and guiding wheel, J, is loosely pivoted to the lower face of this lever I by means of the vertical spindle J′, and has its bearing in the split and curved arms J^2, the spindle extending up through the draw-bar or clevis K, pivoted to the end of the frame B, and also through the gooseneck. A set-nut, L, on the spindle J′ keeps the forward end of the frame in position, and by adjusting this set-nut the teeth of the cultivator are permitted to enter the ground to a greater or less depth. The object of this wheel is to support the forward end of the machine and regulate the cutting depth of the cultivator or teeth, and this is accomplished by adjusting the nut L and set-screw L′ on the spindle J′, and by raising or lowering the lever I and setting the nut a greater or less depth of the forward teeth of the machine is had. One of the curved arms carries a knife or scraper for cleaning the face of the wheel from adobe or clay which might adhere thereto.

The transverse beam E is strongly bolted to the beams B C D, and to the outer ends thereof is connected the wheels M and M′, and these wheels, together with the wheel J and appliances, constitute the supporting, running, and guiding gear of my machine.

The wheels M and M′ are supported and operated upon crank-axles M^2 M^3, the end of which are bent at opposite angles, the lower arms of the crank supporting and forming journals for the wheels, and the upper arms, passing through vertical disk-plates N N′ at each end of the transverse beam E, enter a stud or post, O, bolted to the beam E, and thus these studs and the vertical disk-plates, likewise bolted to the transverse beam E, form bearings or journals for the upper crank-arms. The vertical stationary disk-plates are pierced with holes N^2, to receive a stud or pin, P, upon the spring-levers P′, which latter are rigidly fixed to the crank-arms at the inner faces of the disk-plates by means of set-screws through the medium of the casings Q. A flat spring,

R, is pinned to the casings, so that by pressing back the spring-levers the studs or pins will be withdrawn from the holes in the disk-plate, and the levers in position to be moved forward or backward and permit the stud or pin to enter any one of the series of holes in the arc of the disk-plate, and cause the crank-arms to assume a position at any point from the vertical to a horizontal or nearly-horizontal position, and raise or lower the rear end of the machine and cause the teeth of the cultivator to enter the ground a greater or less depth.

In order to keep the machine to land in cultivating hillsides or inclines, I pivot the right-hand crank-axle, M^3, to the end of the transverse beam by forming two slots in the bent plate S, which carries the disk-plate N', and placing studs or buttons N^3 therein, on which the whole system can be moved, including the crank-arm. The stud or post O, however, which supports the latter, is pivoted to the cross-beam.

To the end of the beam D is bolted a rack, R', the teeth of which receive the pawl or lever R^2, which latter is pivoted to the disk-plate N', and by operating this lever the whole system is turned from right to left to any point within a half-circle in a manner similar to that which characterizes the operation of a turn-table. By this means the machine can be kept to land at all times, no matter how steep the incline or grade over which it passes.

The teeth of the cultivator are all made reversible, so as to be self-sharpening, and are bolted to the standards, as shown.

The upper ends of the standards are cast with square shoulders, R^3, so as to fit snugly against the lower face of the beams to which they are connected, and when the nuts at the top of the beams, which hold the standards in position, are turned up the teeth are immovable and not liable to work loose.

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

1. The combination of the frame B C D and transverse beam E, the wheel M', crank-axle M^3, journal and rack-plate N, post O, spring-levers P', slotted plate S, and studs N^3, all arranged and operated substantially as shown and described.

2. In a cultivator, the combination of the frames B C D and transverse beam E, the wheel M', crank-axle M^3, journal and rack plate N, post O, spring-levers P', slotted plate S, studs N^3, rack R', and lever R^2, substantially as specified and shown.

In testimony that I claim the foregoing I have hereunto set my hand and seal.

ERNEST EDWARD KRAUSE. [L. S.]

Witnesses:
CHAS. E. KELLY,
C. W. M. SMITH.