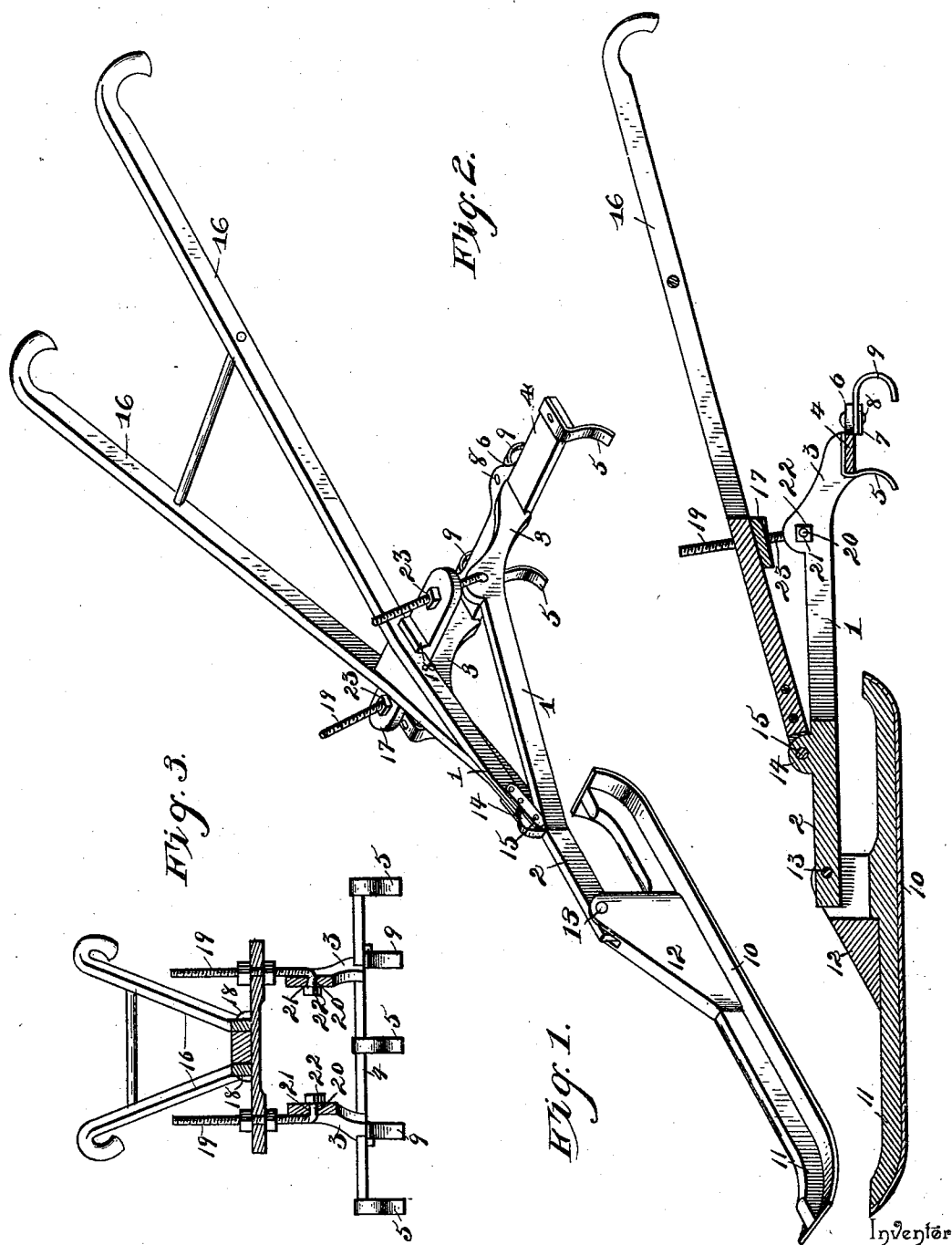


(No Model.)

J. W. NORTON.
CULTIVATOR.

No. 517,231.

Patented Mar. 27, 1894.



Witnesses
Chas. Ford.
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UNITED STATES PATENT OFFICE.

JAMES W. NORTON, OF WESTFIELD, NEW YORK.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 517,231, dated March 27, 1894.

Application filed May 16, 1893. Serial No. 474,415. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. NORTON, a citizen of the United States, residing at Westfield, in the county of Chautauqua and State of New York, have invented a new and useful Cultivator, of which the following is a specification.

My invention relates to improvements in cultivators and particularly to that class thereof adapted to be operated by hand; and the objects in view are to produce a cultivator designed for light work, that may be readily operated by hand in gardens and other places and which by its peculiar construction will glide easily over the ground; may be adjusted to suit persons of different heights, and which will thoroughly pulverize the soil subjected to its operation.

With these and other objects in view the invention consists in certain features of construction hereinafter specified and particularly pointed out in the claims.

Referring to the drawings:—Figure 1 is a perspective view of a cultivator embodying my invention. Fig. 2 is a longitudinal sectional view. Fig. 3 is a transverse vertical sectional view taken through the adjusting means for the handles.

Like numerals of reference indicate like parts in all the figures of the drawings.

In practicing my invention I employ a pair of opposite beams 1, which converge and meet, and beyond the same are extended longitudinally, being applied face to face and securely bolted together, thus forming an extension 2. The rear ends of the beams are dropped to produce standards 3, and the same are in the present instance, recessed upon their under sides for the reception of a transverse harrow-bar 4. If desired the beams, their extension 2, and the harrow-bar may be all cast integral. The harrow-bar is provided at its center and its opposite ends with downwardly disposed teeth 5, whose upper ends are laterally bent to overlap the bar and are bolted to position. Between the series of teeth 5 extensions 6 are formed upon the rear edge of the bar, the under side of each extension being provided with a rib 7. Bolted as at 8 to the sides of the ribs is a pair of cultivator or harrow-teeth 9. These teeth 5

and 9 may be formed integral with the bar and case-hardened, or, as shown in the present instance, spring teeth may be employed.

A long flat runner 10, whose opposite ends are upwardly turned or curved, is located under the extension 2, the front end of said runner being more gradually turned than the rear end, whereby it is adapted to ride over small hillocks and other obstructions with which it may meet. The upper side of the runner is in the present instance provided with a rib 11, though such rib may be omitted if desired, and the triangular bearing-ears 12, shown as formed upon the rib, may be formed upon the runner or otherwise secured thereto. The bearing-ears being triangular have front inclined edges, whereby they do not obstruct the free passage of the cultivator while running close to plants. The front end of the extension 2 is by means of a transverse bolt 13 pivotally connected between the bearing-ears.

A bearing-lug 14 is formed upon the upper sides of the beams 1 at their juncture, and to this bearing-lug there is pivoted, by a bolt 15, the front bifurcated end of a pair of jointed and extended handle-bars 16, whose rear ends are shaped to form suitable hand-holds and extend in rear of the harrow-bar 4. A transverse rest-bar 17 is located under the handle-bars 16 at their point of juncture, and the said handle-bars are seated between a pair of diverging superficial ribs 18 with which the rest-bar is provided upon its upper side. The rest-bar extends beyond the ribs some little distance above the dropped ends 3 of the beams 1 and has its ends perforated for the reception of a pair of standards 19, whose lower ends are laterally bent to form bearing-ends 20 that take through perforations 21 formed in the beams 1 at their angles, and whose upper ends are provided with threads. Nuts 22 are applied to the lower bent ends of the standards and retain the same in pivotal position with relation to the beams, while pairs of clamping nuts 23 are located upon said standards above and below the rest-bar 17. By adjusting the clamping-nuts it will be seen that the rest bar may be secured at various points along the standards, and thus the handles elevated and depressed to accom-

modate themselves to the height of the operator. Other means than the standards herein shown may be substituted for the purpose of adjusting the handles, as for instance, the well known perforated standards with which ordinary bolts are employed for the purpose of securing adjustability.

I do not limit my invention to the various details herein shown and described, but hold that I may vary the same to any degree and extent within the knowledge of the skilled mechanic.

Having described the construction of my invention, the operation will at once be obvious, in that it consists in pushing the cultivator over the soil by hand, the operator following the same and grasping the handles. In its movements the cultivator is guided by the elongated shoe which readily rides over all hillocks and uneven places, and having its corners rounded is not liable to engage with any tangled underbrush adjacent to which it may pass. The cultivator or harrow-teeth operate upon the soil in the usual manner, and hence require no detail description.

From the foregoing description it will be seen that I have produced a very simple, cheap, convenient, and easily operated cultivator or harrow adapted for light work upon gardens and to be propelled by hand and one which even though the draft is applied from the rear will be guided in a straight line through the medium of its runner.

Having described my invention, what I claim is--

1. In a cultivator of the class described, the combination with an elongated runner having its ends curved and provided upon its upper side with a bearing, a pair of divergent beams

pivoted at their front ends to the runner, and having downwardly curved rear ends provided with recesses and a transverse harrow-bar let into the recessed rear ends of the beams, of a pair of handles connected to the beams, means for connecting the same with the rear ends of the beams, the teeth overlapping the front edge of the bar, and the curved teeth alternating therewith and secured to the under rear edge of the bar substantially as specified.

2. In a cultivator of the class described, the combination with an elongated runner having upturned ends, and a pair of inclined bearing-ears arranged thereon, of a beam pivoted between the ears, a harrow-bar carried by the beam, and handles secured to the beam, substantially as specified.

3. In a cultivator of the class described, the combination with a runner, a pair of divergent beams pivoted at their front ends to the runner, and a harrow-bar secured to the beams, of a pair of handles pivoted to the beams, threaded standards having their lower ends laterally bent and threaded and passed through openings in the beams, nuts applied to the lower ends of the standards, a rest-bar perforated to receive the upper ends of the standards, ribs thereon embracing the handles, and nuts carried by the standards, and arranged above and below the rest-bar, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES W. NORTON.

Witnesses:

JOSEPH MACER,
R. L. HANSADEL.