

(No Model.)

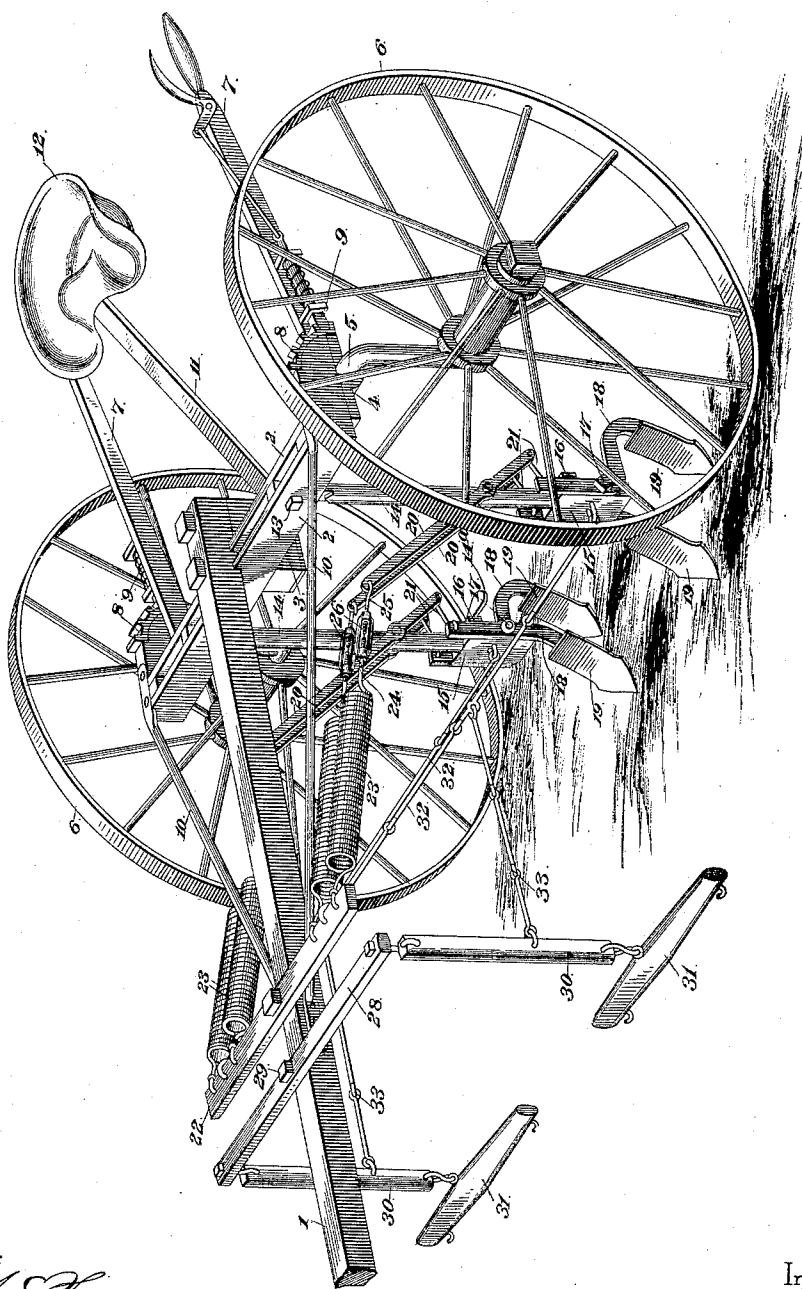
2 Sheets—Sheet 1.

F. R. WINTER.
CULTIVATOR.

No. 469,311.

Patented Feb. 23, 1892.

Fig. 1.



Witnesses:

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W. S. Linnell

By his Attorneys,

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Inventor
Fritz R. Winter

(No Model.)

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Fig. 2.

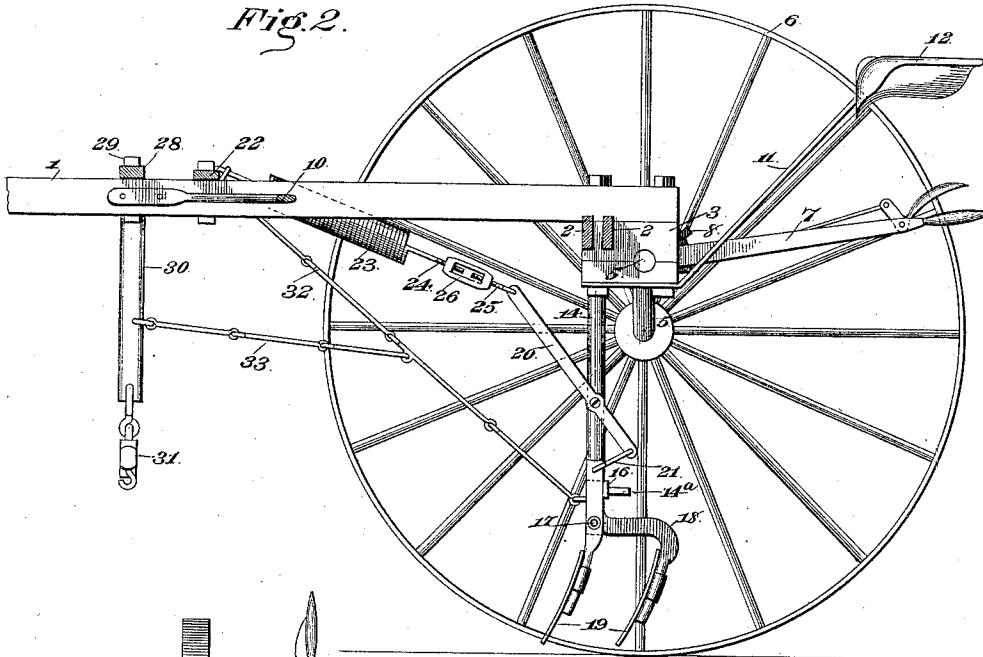
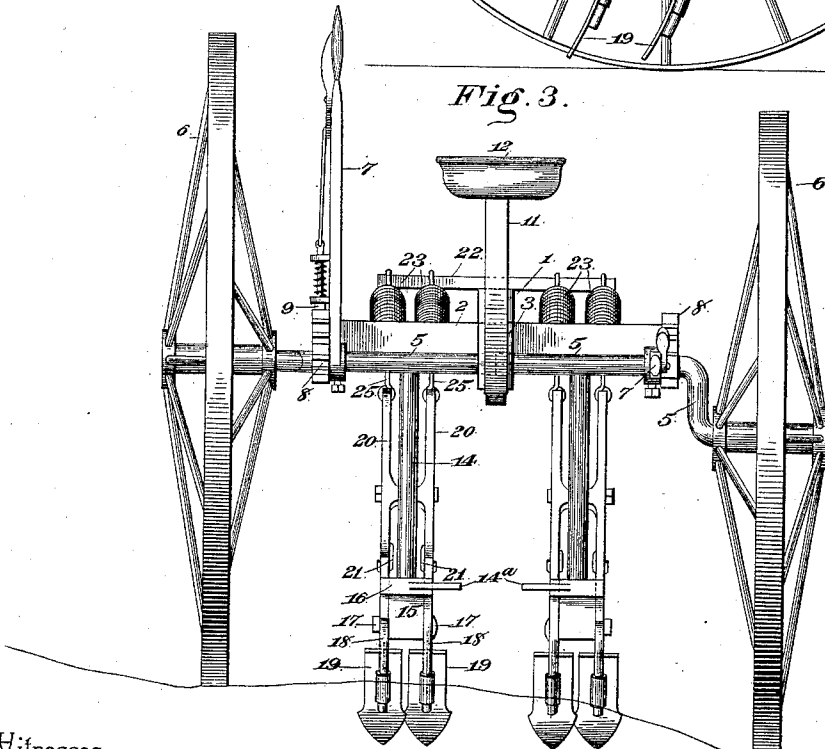


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

FRITZ R. WINTER, OF KNOBNOSTER, MISSOURI.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 469,311, dated February 23, 1892.

Application filed October 26, 1891. Serial No. 409,873. (No model.)

To all whom it may concern:

Be it known that I, FRITZ R. WINTER, a citizen of the United States, residing at Knobnoster, in the county of Johnson and State of Missouri, have invented a new and useful Cultivator, of which the following is a specification.

This invention relates to improvements in cultivators; and the objects in view are to provide a riding-cultivator of cheap and simple construction, adapted to effectually cultivate the ground, to be strong and durable and adapted to plow along hillsides or over uneven ground, and to provide means for raising and lowering the plows independently of each other.

With the above objects in view the invention consists in certain novel features that will be hereinafter specified, and particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of a cultivator constructed in accordance with my invention. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 is a rear elevation of the plow, the same at work upon a hillside.

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

1 denotes the beam or tongue, and the same is bolted to a pair of transverse bars 2, which are let into the front edge of a bearing-block 3, bolted to the under side and at the rear end of the beam. To the opposite ends of the transverse bars 2 is secured a pair of rearwardly-disposed bearing-blocks 4, the bearings of which are in transverse alignment with the bearing formed in the block 3.

5 designates a pair of opposite crank-axes, each of which is mounted in one of the outer bearing-blocks of the transverse bars 2, and has its inner end terminating in the bearing of the central bearing-block 3. These axes have ground-wheels 6, mounted thereon and adapted for loose rotation, and a hand-lever 7 is mounted upon each of the axes, with which they are rigid, and at the inner sides of the outer bearing-blocks 4. The bearing-blocks 4 have their upper sides curved, and to the same are applied curved toothed rack-bars 8, any of the teeth of which are engaged by means of spring-actuated pawls 9, mounted for reciprocation upon the levers of the axes,

so that by manipulating the pawls either or both sides of the frame-work may be raised or lowered, and consequently in a similar manner may either or both of the plows supported by the frame-work be raised and lowered. The transverse bars are braced to the beam 1 by diagonal hounds or braces 10. Between the levers and to the block 3 there is bolted the standard 11, that supports the seat 12 for the accommodation of the driver.

At each side of the beam 1, between the pairs of transverse bars 2, there is loosely pivoted, by a bolt 13, the upper end of a standard 14, said upper ends being cut away, so as to enter between the transverse bars and permit of a limited swinging of the standards. The lower ends of the standards terminate in squared heads 15, provided at their rear upper corners with stop-lugs 16, which project beyond the opposite sides of the head. To the opposite sides of the heads there are pivoted, as at 17, plow-feet 18, the outer ones of which are cranked, so as to be disposed in rear of the inner feet. To these feet are secured ordinary cultivator-shovels 19. To each of the standards 14 there is pivoted at opposite sides levers 20, and each lever is connected at its rear end to the upper end of a plow-foot by means of shortlinks 21. A transverse bar 22 is bolted to the upper side of the beam 1, and yielding connections are located between the forward ends of the levers and said bar. These connections consist of a heavy coiled wire section 23, the rear end of which is threaded, as at 24, and a rod 25, connected to the end of the lever, said rod being also threaded and the two sections adjustably connected at their inner ends by a turn-buckle 26, whereby the tension of the coiled springs may be increased or diminished, as may be desired. The tendency of these spring connections between the levers and the cross-bars 22 is to depress the front ends of the levers and throw to the rear the upper ends of the plow-feet, so that should the shovels meet with such obstructions as would be calculated to injure the same they will yield or swing to the rear against the tension of their springs and thus ride over said obstructions without injury.

28 designates a transverse draft-bar, which is pivoted, as at 29, to the beam 1, slightly in

advance of the cross-bar 22. Bars 30 are loosely supported by and depend from the ends of the bar 28, and are connected at their lower extremities to ordinary singletrees 31. 5 The head of each of the standards 14 is connected by a link-rod 32 with the cross-bar 22, and linked rods or chains 33 connect each of the depending bars of the draft-bar with the said linked rods, so that the draft is applied 10 directly to the plows.

From the foregoing description, in connection with the annexed drawings, it will be seen that I have provided a riding-cultivator the plows of which may be separately or 15 jointly elevated and depressed so as to penetrate to different depths, and whereby the plow is adapted to operate upon hillsides and uneven places; that I have provided means for increasing the durability of the cultivator- 20 shovels and for avoiding any possible breaking of the same by contact with stumps, bowlders, &c., and that I have facilitated the drawing of the plow by applying the draft more directly to the lower ends of the cultivator- 25 standards.

The heads 16, in which the standards 14 terminate, may be provided with the steps 14^a to aid the driver in mounting to his seat.

Having described my invention, what I 30 claim is—

1. In a cultivator, the combination, with the central draft-beam, the pair of transverse bars spaced apart and supported by the beam and terminating at their ends in bearings, an 35 axle journaled in the bearings of the cross bar and beam, and ground-wheels for the axle, of a pair of plow-standards having their upper ends reduced and pivoted between the cross-bars and adapted for slight lateral move- 40 ment, shovels located at the lower ends of the standards, and draft appliances connected to the standards, substantially as specified.

2. In a cultivator, the combination, with

the beam having the depending standard, the shovel-foot pivoted between its ends to the 45 standard, and a cross-bar located upon the beam, of a lever pivoted upon the standard, a spring connection between the front end of the lever and the cross-bar, and a loose connection between the rear end of the lever and 50 the upper end of the foot, substantially as specified.

3. In a cultivator, the combination, with the main beam, the axles, and the frame-work supported thereby, of the depending stand- 55 ards, the shovel-carrying feet pivoted to the standards, stops arranged in rear of the upper ends of the feet, levers pivoted to the opposite sides of the standards, links connecting the rear ends of the levers at the upper 60 ends of the feet, a cross-bar located upon the beam in front of the standards, spring-sections connected with the cross-bar and having rear threaded ends, threaded rods connected to the upper ends of the levers, and turn- 65 buckles adjustably connecting the upper ends of the rods with the spring-sections, substantially as specified.

4. In a cultivator, the combination, with the beam, the transverse bar, the standards 70 supported by the bar, the front cross-bar mounted on the beam, jointed rods between the standard and cross-bar, loose bars suspended from the ends of the cross-bar, singletrees connected to the lower ends of the loose 75 bars, and jointed rods connected to the lower ends of the loose bars and to the jointed rods between the front bar and standards, substantially as specified.

In testimony that I claim the foregoing as 80 my own I have hereto affixed my signature in the presence of two witnesses.

FRITZ R. WINTER.

Witnesses:

GEO. J. TAYLOR,
C. V. HUFF.