

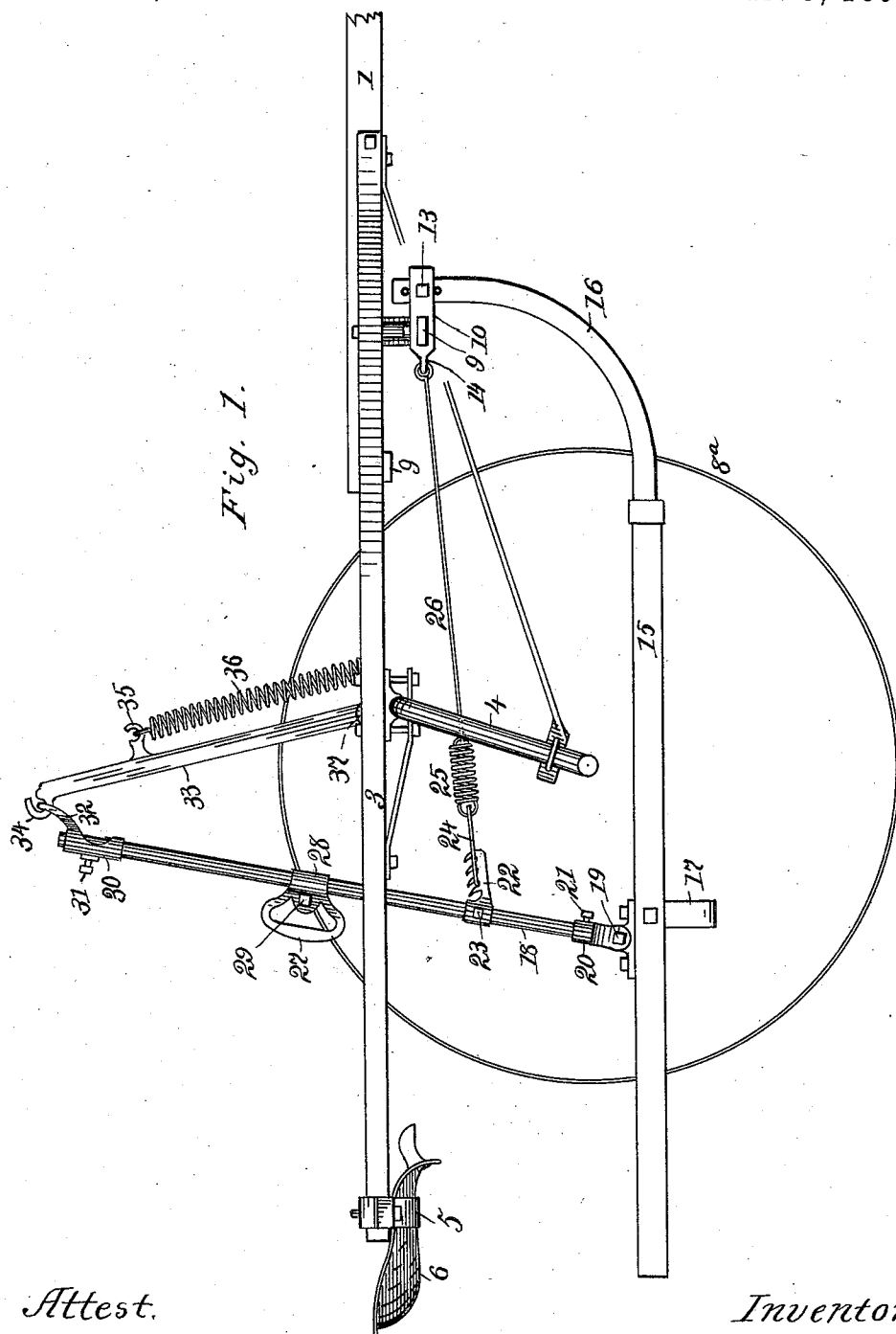
(No Model.)

2 Sheets—Sheet 1.

M. & A. SATTLEY.  
RIDING CULTIVATOR.

No. 555,710.

Patented Mar. 3, 1896.



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Mora Graham.  
Ina C. Graham.

Inventors  
Marshall Sattley  
and Archibald Sattley  
By L. P. Graham  
att'y

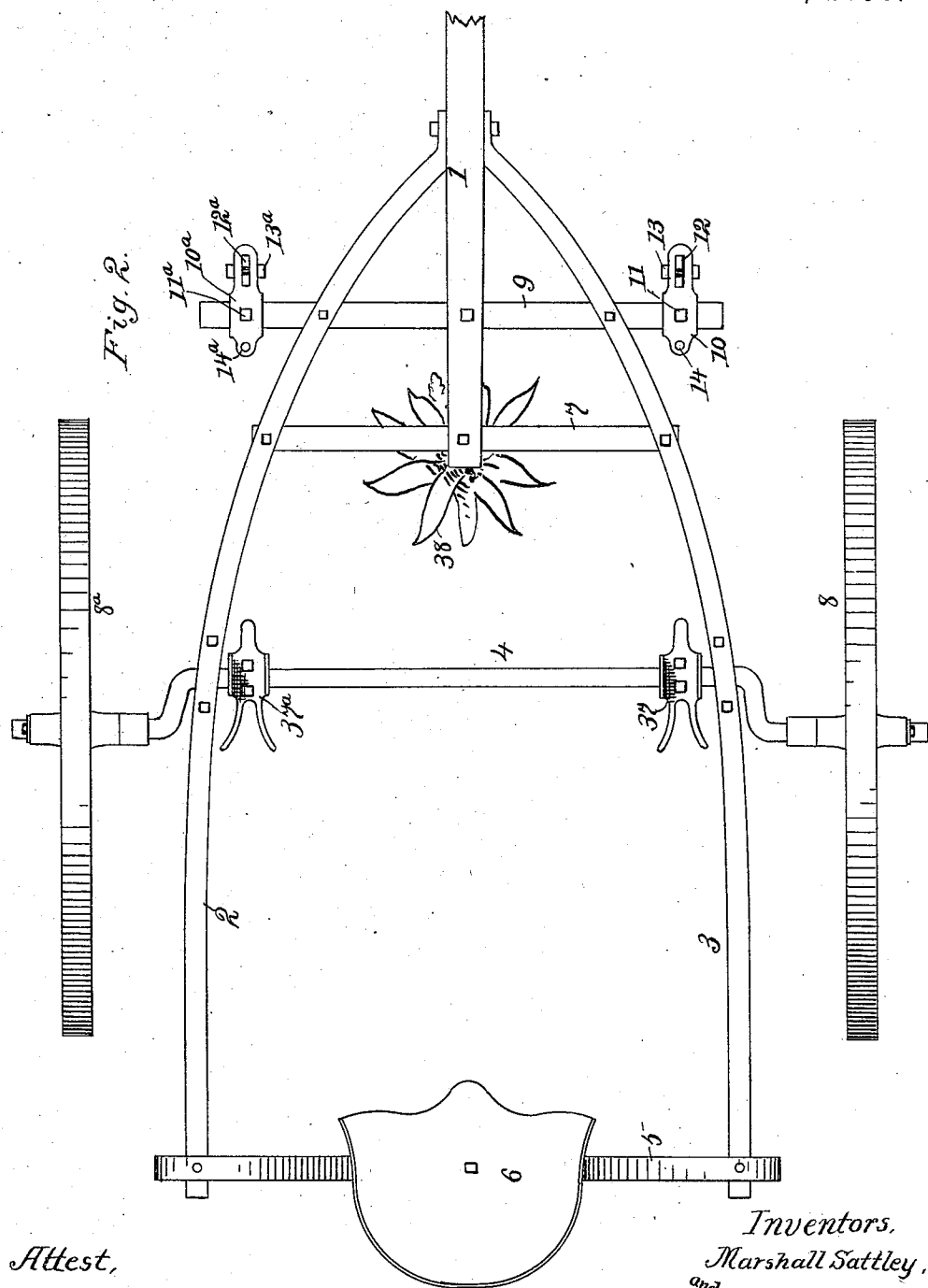
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# UNITED STATES PATENT OFFICE.

MARSHALL SATTLEY AND ARCHIBALD SATTLEY, OF SPRINGFIELD, ILLINOIS, ASSIGNOR TO THE SATTLEY MANUFACTURING COMPANY, OF SAME PLACE.

## RIDING-CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 555,710, dated March 3, 1896.

Application filed October 28, 1895. Serial No. 567,185. (No model.)

*To all whom it may concern:*

Be it known that we, MARSHALL SATTLEY and ARCHIBALD SATTLEY, of Springfield, in the county of Sangamon and State of Illinois, have invented certain new and useful Improvements in Riding-Cultivators, of which the following is a specification.

This invention is in the nature of an improvement on the cultivator described in Letters Patent of the United States No. 538,747, granted to Sattley Manufacturing Company as our assignee on the 7th day of May, 1895. It relates in part to means employed to counteract foot-pressure on the cultivator-beams, in part to means employed to connect the forward ends of the beams with the frame, and in part to a construction of the frame which better enables the driver to see the row of plants in advance of the cultivator-blades. It is exemplified in the structure hereinafter described, and it is defined in the appended claims.

In the drawings forming part of this specification, Figure 1 is a side elevation of so much of a cultivator as is necessary to exemplify the means employed to yieldingly resist depression of the beams and to show in a general way the connection of the beams with the frame. Fig. 2 is a plan of a cultivator-frame, showing the provision for exposing plants to view in advance of the cultivator-blades, and also showing with more clearness the means employed to connect the front ends of the beams with the frame.

The frame of the cultivator comprises a tongue 1, a pair of hound-formed side bars 2 and 3, connected at their front ends with the tongue and diverging rearwardly, a seat-bar 5, carried on the rear ends of the side bars, and a cross-bar 7, secured to the side bars and to the rear end of the tongue. The cross-bar 7 is well to the front of the frame, and between it and the arched axle 4, on which the frame is supported, there is a clear space through which the driver sitting on seat 6 may look downward and forward on the row that he is cultivating.

The arch 4 is of the ordinary or any desirable form, and it is supplied with carrying-wheels 8 and 8<sup>a</sup>.

A cross-bar 9 is secured to the side bars near the forward ends thereof, and the ends

of the cross-bar extend beyond the sides of the side bars.

The cultivator-beams 15 have upwardly-curved forward extensions 16, which are connected with the extended ends of cross-bar 9 through the intervention of castings or brackets 10 and 10<sup>a</sup>. The castings have slots to receive the ends of the cross-bar and other slots to receive the upturned ends of the beams. The slots for the beams are shown at 12 and 12<sup>a</sup>, bolts to hold the ends of the beams in the slots are shown at 13 and 13<sup>a</sup>, and set-screws to hold the brackets in position on the cross-bar are shown at 11 and 11<sup>a</sup>. In addition to the peculiarities mentioned, the brackets have eyes 14 and 14<sup>a</sup>, which form points of connection for rods, as 26, which constitute part of the beam-controlling mechanism. Brackets, as 37 and 37<sup>a</sup>, are mounted on the arch 4 in line with brackets 10 and 10<sup>a</sup>, respectively, and they are secured to the arch in a manner permitting adjustment lengthwise thereof. They provide pivotal bearings for arms 33, which extend upward therefrom, and they are supplied at their upper ends with hooks 34 and on their front edges with hooks 35.

Springs, as 36, connect hooks 35 with forward extensions of brackets 37 and 37<sup>a</sup> and resist backward swing of the arms. Rods, as 18, have sleeves 30 that are secured onto the upper ends of the rods by means of set-screws 31, and hooks 32, extending upward from the sleeves, engage the hooks 34 of arms 33. Castings 20 form knuckle-joints with bearing-blocks on the beams through bolts 19, and they are secured onto the rods by set-screws 21. On the rods 18, between the ends thereof, are sleeves carrying notched bars 22, and the sleeves are secured adjustably on the rods by set-screws 23. Links 24 are adapted to engage the notches of the bars, springs 25 connect with the links, and rods 26 connect the springs with the castings 10 and 10<sup>a</sup>. Handles 27 have sleeves 28 that are split to embrace the rods, and bolts 29 clamp the sleeves onto the rods wherever desired. The beams 15 are to be supplied with cultivating-blades, shovels, or other suitable cultivating devices suitably arranged, and they have stirrups, as 17, in which the driver places his feet as he sits in seat 6. When the beams

are forced downward, the arms 33 swing backward and carry the upper ends of the rods backward against the resistance of springs 25.

5 It is the function of springs 36 to aid in raising the beams to such an extent that the cultivating devices shall be clear of the ground, and such springs are comparatively weak and capable of long extension. On the  
10 other hand the springs 25 are adapted to resist downward motion of the beams after the cultivating devices are in operative contact with the ground. They aid the feet of the driver in controlling the depth of cultivation,  
15 they are ineffective for the purpose of performing the function of springs 36, and they are strong and stubby.

The links may be adjusted in the notches for the purpose of varying the tension of  
20 springs 25 and of applying the tension at the proper point in the motion of the beams, and more delicate adjustment may be obtained by shifting the sleeves of the toothed bars up or down on the rods. The springs and ad-  
25 juncts are under the frame, out of the way, and in position to be easily reached for the purposes of adjustment.

The rear ends of the beams may be raised or lowered with reference to given positions  
30 of arms 33 by slipping the rods up or down in brackets 30, and the forward ends may be correspondingly adjusted by means of holes in the upturned ends and the bolts 13 and 13<sup>a</sup>.

The handles 27 may be adjusted on the rods  
35 to suit requirements of different persons by simply loosening the clamp-bolt 29.

By means of the brackets 10 and 10<sup>a</sup>, adjustable on cross-bar 9, and the brackets 37 and 37<sup>a</sup>, adjustable on the arch, the beams  
40 may be set nearer to or farther from the rows.

In Fig. 2 a plant is represented crudely at 38, and it is seen that the driver may look over the arch and under the cross-bar 7 and see this plant and all others of the row long  
45 before the cultivating devices approach them, thus enabling the beams to be guided in a manner to cultivate as closely as need be and without danger of destroying the plants. This feature is in distinction to the ordinary mode  
50 of extending the tongue back to the arch and obscuring the view of the row to such an extent as to make accurate guiding extremely difficult.

Having thus described our invention, we claim as new and desire to secure by Letters  
55 Patent—

1. In a cultivator, the combination of a carrying-frame mounted on wheels, a cultivator-beam swung from the frame at its forward end, a rock-arm pivoted on the frame and extended upward therefrom, a rod connecting the swinging end of the rock-arm with the cultivator-beam, and a spring connected with the rod between the ends thereof  
60 and exerting a forward pull thereon, substantially as set forth.

2. In a cultivator, the combination of a

carrying-frame mounted on wheels, a cultivator-beam swung from the frame at its forward end, a rock-arm pivoted on the frame and extended upward therefrom, a rod connecting the swinging end of the arm with the cultivator-beam, a sleeve adjustable on the rod between the ends thereof, a notched bar on the sleeve, and a spring connected with  
70 the notched bar and exerting a forward pull thereon, substantially as set forth.

3. In a cultivator, the combination of a carrying-frame mounted on wheels, a cultivator-beam swung from the frame at its forward end, a rock-arm pivoted on the frame and extended upward therefrom, a rod connecting with the cultivator-beam, and an adjustable sleeve on the upper end of the rod connecting the rod with the swinging end of  
80 the rock-arm, substantially as set forth.

4. In a cultivator, the combination of a carrying-frame mounted on wheels, a cultivator-beam swung from the frame at its forward end, a rock-arm pivoted on the frame and extended upward therefrom, a rod connecting the swinging end of the rock-arm with the cultivator-beam, and a handle adjustable lengthwise of the rod, substantially  
90 as set forth.

5. In a cultivator, the combination of a frame mounted on wheels, a cross-bar fastened to the forward end of the frame, castings, or brackets, on the ends of the bar and adjustable lengthwise thereof, and cultivator-  
100 beams having upturned ends secured to the brackets, substantially as set forth.

6. In a cultivator, the combination of a frame mounted on wheels, a cross-bar fastened to the forward end of the frame, castings, or brackets, on the ends of the bar, cultivator-beams having upturned ends secured to the brackets, rock-arms pivoted on the frame and extended upward therefrom, rods connecting the swinging ends of the rock-  
110 arms with the rear ends of the cultivator-beams, and springs connected with the rods between the ends thereof and also connected with the brackets on the cross-bar, substantially as set forth.

7. In a cultivator, the combination of a carrying-frame composed of two hound-like bars, a cross-bar connecting the hound-bars, a tongue with which the hound-bars are connected at their forward ends and which con-  
120 nects with and terminates at the cross-bar, a frame-supporting arch in the rear of the cross-bar and the termination of the tongue, and a driver's seat on the frame in the rear of the arch, whereby an observation-space is  
125 provided in front of the arch, substantially as set forth.

In testimony whereof we sign our names in the presence of two subscribing witnesses.

MARSHALL SATTLEY.  
ARCHIBALD SATTLEY.

Attest:

MARY A. CHRISTY,  
J. H. MATHENY.