W. W. BUBOLTZ.

ATTACHMENT FOR CULTIVATORS.

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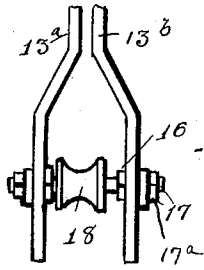

Fig. 3

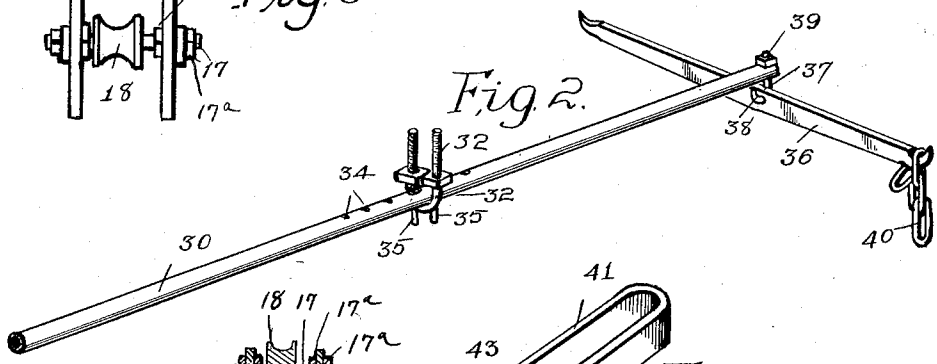

Fig. 2.

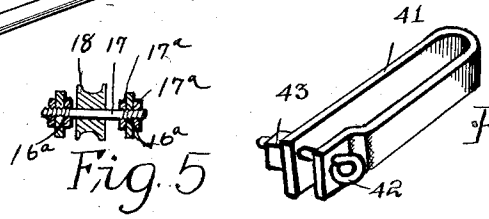

Fig. 4.

Fig. 5

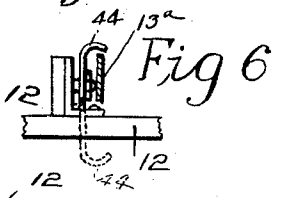

Fig 6

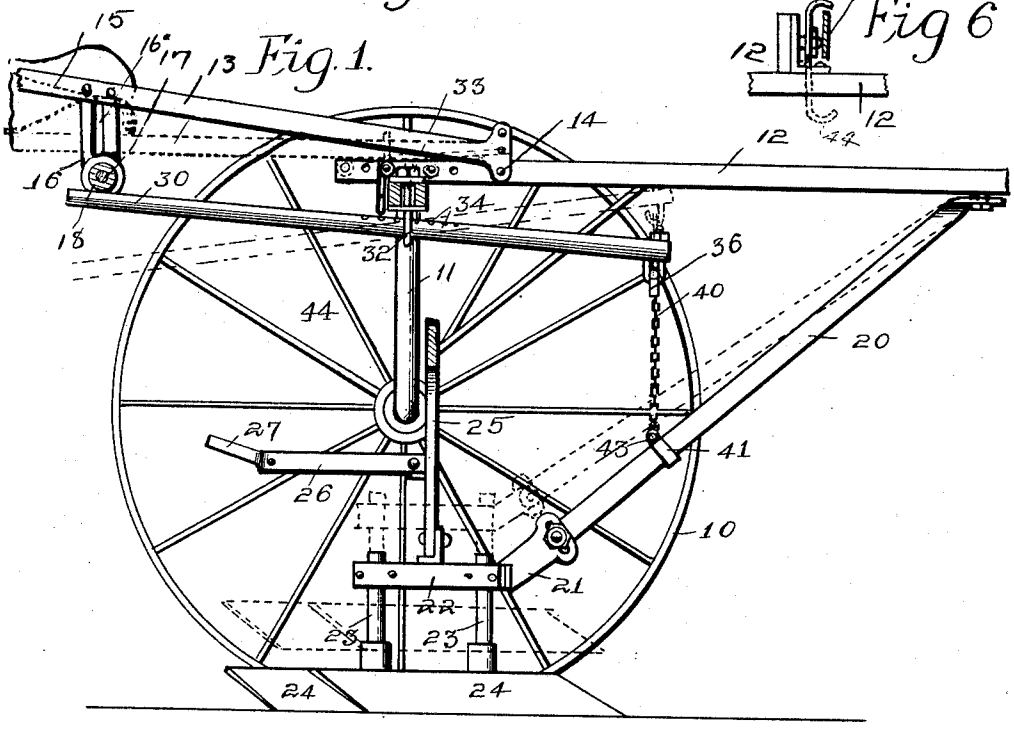

Fig. 1.

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ATTACHMENT FOR CULTIVATORS.

1,039,890. Specification of Letters Patent. Patented Oct. 1, 1912.

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To all whom it may concern:

Be it known that I, WALTER W. BUBOLTZ, a citizen of the United States, residing at Massena, in the county of Cass and State of Iowa, have invented a certain new and useful Attachment for Cultivators, of which the following is a specification.

The object of my invention is to provide an attachment for cultivators, more especially for that class known as surface cultivators, composed of simple, durable and inexpensive mechanism, whereby the shovels may be controlled by shifting the weight of the driver on the seat of the cultivator.

More particularly it is my object to provide an attachment for surface cultivators, whereby the driver on the seat of the cultivator may regulate the depth of the cut of the shovels by shifting his weight.

A further object is to provide such mechanism, so arranged and constructed that the shovels on the right or left sides of the center of the cultivator may be regulated independently of each other.

A further object is to provide such mechanism, which may be adjusted so that it may be accommodated for drivers of different weights.

My invention consists in certain details, in the construction, arrangement and combination of the various parts of my device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows a vertical, sectional view of a cultivator, provided with an attachment embodying my invention, the dotted lines showing the seat and shovels in raised position. Fig. 2 shows a perspective view of part of the mechanism whereby the shovels are controlled. Fig. 3 shows a detail, plan view of part of the beam on which the seat is placed and of the roller thereon. Fig. 4 shows a perspective view of the clamp for attaching my attachment to the shovel draw bar. Fig. 5 shows a sectional detail view of the bracket and roller under the seat. Fig. 6 shows a detail view of the hook for holding the shovels in raised position.

In the accompanying drawing, I have used the reference numeral 10 to indicate one of the wheels of a riding cultivator. Connecting the wheel 10 with the other wheel not shown is an arched axle 11. Detachably and adjustably mounted on the arch of the axle 11 and extending forwardly therefrom is a tongue 12. The forward end of the seat supporting beam 13, which is composed of arms 13^a and 13^b slightly spaced from each other is pivotally mounted on the arch of the axle 11 by means of a bolt 14. On the rear end of the seat supporting beam 13 is a seat 15. Mounted on the sides 13^a and 13^b of the seat supporting beam 13, preferably beneath the seat 15 is a bracket 16 having two downwardly extending arms in which are vertical opposite slots 16^a. Mounted in the slots 16^a is a short shaft 17, the ends of which are screw threaded. On the end of the shaft 17 on each side of the bracket 16 is a nut 17^a. On the shaft 17 is rotatably mounted a grooved roller 18 which is sufficiently narrow to permit some lateral movement of said roller 18 on the shaft 17. Extending rearwardly, downwardly and toward each side, from a point on the tongue 12 in front of the cultivator proper, are cultivator draw bars 20. The draw bars 20 are so secured to the tongue 12 as to permit some pivotal play in a vertical plane and also to permit lateral play of said draw bars.

Adjustably secured to the lower ends of the draw bars 20 are brackets 21 to which are pivoted rearwardly extending cultivator beams 22. Mounted on the beam 22, in any suitable way, are the stems or upwardly extending standards 23 of surface cultivator shovels 24. There are two of the shovels 24 on each side of the cultivator and one of each pair travels in the rear of and nearer the center than the forward shovel. Connecting the beams 22 on each side of the center of the cultivator and pivoted to each beam is an arch 25. Extending rearwardly from each side of the arch 25, is an arm 26 on which is a foot rest 27. Pivotally mounted beneath the middle of the arch of the axle 11 is a rod or pipe 30.

Various means may be used for mounting the rod 30 on the cultivator. In the drawings I have shown the following device therefor: The rod 30 is received in a U-shaped device 32, the ends of which are screw threaded and are extended upwardly through the arch of the axle 11, as shown in Fig. 1. On said screw threaded ends are nuts. To hold the rod 30 against sliding longitudinally in the U-shaped device 32, I provide in said rod a plurality of vertical openings 34 and in one of the openings in

each side of the device 32 I place a pin 35, the lower end of which extends below the device 32. The rear end of the rod 30 rests beneath the roller 18. Pivotally mounted on the forward end of the rod 30 is a transverse bar 36 which may be mounted in any suitable way. As shown in the drawings, a short rod 37 is extended through the forward end of the rod 30 and is provided with a hook member 38. The upper end of the rod 37 is screw threaded and on said screw threaded member is a nut 39. The hook member 38 is extended through an opening in the middle of the bar 36, which opening is sufficiently large to permit the bar 36 to tilt freely. Detachably secured to each end of the bar 36 are chains 40 or other similar devices. Mounted on each of the draw bars 20 is a U-shaped clamp 41 through the free ends of which is extended an eye bolt 42 having a screw threaded end on which is a nut 43. The chain 40 on each end of the bar 36 is screwed to the eye of the eye bolt 42 in the clamp 41 on the adjacent draw bar 20. Pivotally mounted on the tongue 12 is a hook 44 designed to engage one of the arms 13^a or 13^b and to hold the shovels off the ground when the weight of the driver is removed and the cultivator is being drawn from place to place. The hook 44 normally hangs free.

It has already been noted that the seat beam 13 and tongue 12 are longitudinally adjustable with relation to each other and with relation to the arch of the axle 11. By adjusting the roller 18 vertically the seat can be raised or lowered with reference to the rod 30 and the foot rests, to adjust the device to accommodate drivers of different heights.

In the practical operation of my device, the beam 13 and the tongue 12 are adjusted longitudinally to suit the weight of the driver. The rod 30 may also be adjusted longitudinally for the same purpose. When a cultivator equipped with my improved attachments, is in use, the driver rests his feet upon the foot rests 27. When he is desirous of causing the shovels 24 to cut deeper, he places more weight upon the foot rests 27 and when he is desirous of raising said cultivator shovels, he withdraws some or all of his weight from said foot rests 27. It will be seen that the clamps 41 may be adjusted longitudinally on the draw bars 20, as desired. The cut of the cultivator shovels is thus regulated by shifting the weight of the driver wholly without the use of levers.

Among the advantages of my improved attachment for cultivators, is its adaptability and efficiency for controlling the shovels by the weight of the operator and without the use of levers. It will be seen that the chains 40 permit considerable lateral movement of the draw bars 20 and the maximum distance of this movement is increased by the fact that this roller 18 has some lateral play.

The parts of my device are of simple and extremely durable construction, are inexpensive to manufacture, are not likely to get out of repair and are easily repaired if they should become broken or worn.

The device may be readily adjusted to suit drivers of different heights by raising or lowering the roller 18 in the bracket 17.

Many changes in the details of construction of my device may be made without departing from its essential purposes.

In the following claims by the use of the word chain, I mean to cover any suitable flexible means for accomplishing the purpose.

I claim as my invention:

1. In a device of the class described, the combination of a riding cultivator having pivoted draw bars to which the shovels are pivoted, with a rod pivoted to the frame of said cultivator at a point between its ends, said rod extending rearwardly and forwardly from its pivotal point, means for engaging the upper surface of the rear end of said rod approximately beneath the seat of the cultivator, a transverse bar pivotally mounted on the forward end of said rod, chains extending from the respective ends of said bar, to the respective draw bars on each side of said cultivator, and foot rests arranged so that the weight of a driver may be imposed on the shovels on either side of the center of the cultivator.

2. In a device of the class described, the combination of a riding cultivator with a longitudinal rod pivoted to the frame of the cultivator at a point between its end and adjustable longitudinally with relation to said frame, draw bars mounted on said cultivator and capable of vertical and lateral pivotal movement, adjustable means whereby one end of said rod supports the said draw bars to permit them to move laterally with relation to said rod, vertically adjustable means for engaging the upper side of said rod at a point below the seat and foot rests arranged so that the weight of a driver may be imposed on the seat or on either or both shovels.

3. In a device of the class described, the combination of a riding cultivator with a rod pivoted to the frame of said cultivator at a point between its ends, said rod extending rearwardly and forwardly from its pivotal point, and being longitudinally adjustable with relation to its pivotal point, means for engaging the upper surface of the rear end of said rod approximately beneath the seat of the cultivator, a transverse bar pivotally mounted on the forward end of said rod, chains extending from the respective ends of said bar, to the respective draw bars

on each side of said cultivator, and foot rests arranged so that the weight of a driver may be imposed on either side of the center of the cultivator.

4. In a device of the class described, the combination of a riding cultivator with a rod pivoted to the frame of said cultivator at a point between its ends, said rod extending rearwardly and forwardly from its pivotal point, means for engaging the upper surface of the rear end of said rod approximately beneath the seat of the cultivator, said means comprising a grooved roller, a transverse bar pivotally mounted on the forward end of said rod, chains extending from the respective ends of said bar, to the respective draw bars on each side of said cultivator, and foot rests arranged so that the weight of a driver may be imposed on the shovels on either side of the center of the cultivator.

5. In a device of the class described, the combination of a riding cultivator, with a rod pivoted to the frame of said cultivator at a point between its ends, said rod extending rearwardly and forwardly from its pivotal point, means for engaging the upper surface of the rear end of said rod approximately beneath the seat of the cultivator, said means comprising a grooved roller capable of some lateral movement, a transverse bar pivotally mounted on the forward end of said rod, chains extending from the respective draw bars on each side of said cultivator, and foot rests arranged so that the weight of a driver may be imposed on the shovels on either side of the center of the cultivators.

6. In a device of the class described, the combination of a riding cultivator with a rod pivoted to the frame of said cultivator at a point between its ends, said rod extending rearwardly and forwardly from its pivotal point, means for engaging the upper surface of the rear end of said rod approximately beneath the seat of the cultivator, said means comprising a grooved roller a transverse bar pivotally mounted on the forward end of said rod, chains extending from the respective ends of said bar, to the respective draw bars on each side of said cultivator, and adjustably secured thereto, and foot rests arranged so that the weight of a driver may be imposed on the shovels on either side of the center of the cultivator.

7. In a device of the class described, the combination of a riding cultivator having an arched axle, a tongue adjustably mounted thereon, a seat beam adjustably mounted on said tongue, and cultivator draw bars mounted on said tongue and capable of pivotal movement in a vertical plane and also laterally with relation to said tongue with a rod extending longitudinally of said cultivator, and adjustably pivoted thereto, means for engaging the rear end of said rod at a point approximately beneath the seat of the cultivator and limiting the upward movement of said end, a transverse bar pivoted to the forward end of said cultivator, a chain secured to each end of said bar and secured to the draw bar on the same side of the cultivator, a cultivator beam pivoted to the lower end of each draw bar, an arch connecting said cultivator beams, rearwardly extending arms near each end of said arch, and a foot rest on each arm.

Des Moines, Iowa, May 10, 1912.

WALTER W. BUBOLTZ.

Witnesses:
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."