(No Model.) 2 Sheets—Sheet 1.

E. E. EDDINGTON.

CULTIVATOR.

No. 347,583. Patented Aug. 17, 1886.

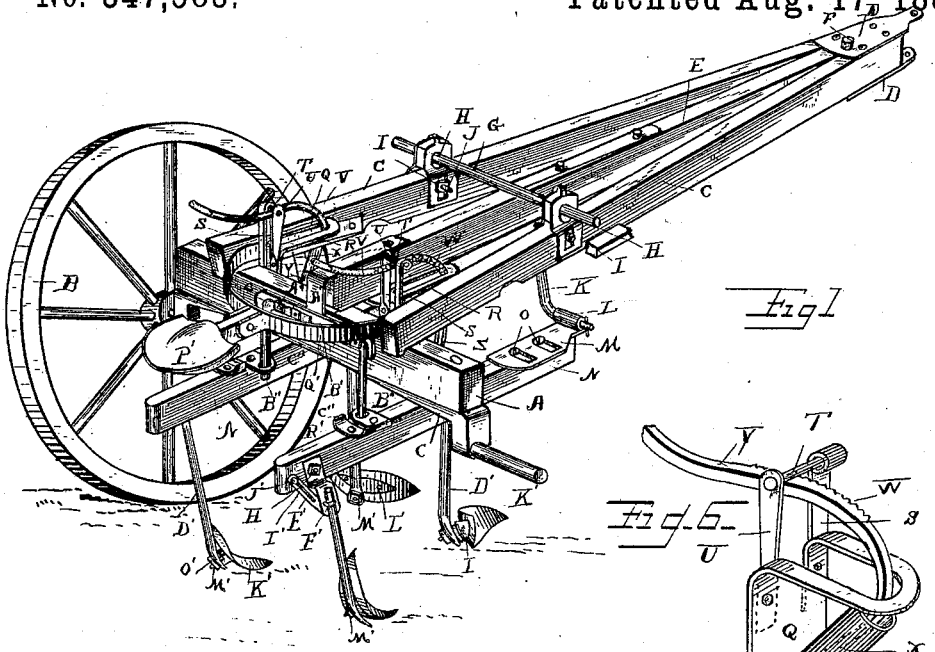

Fig 1

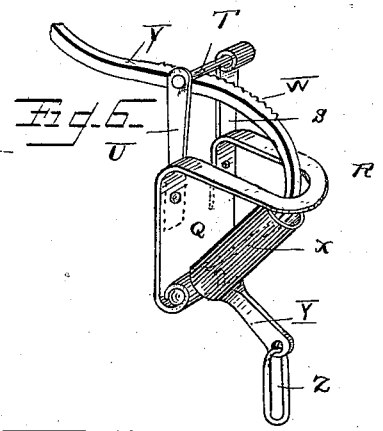

Fig 6

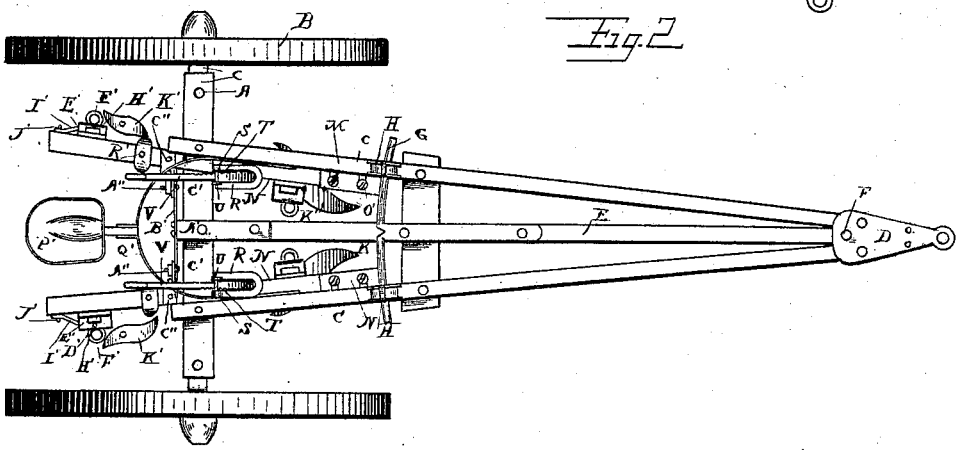

Fig 2

WITNESSES
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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3

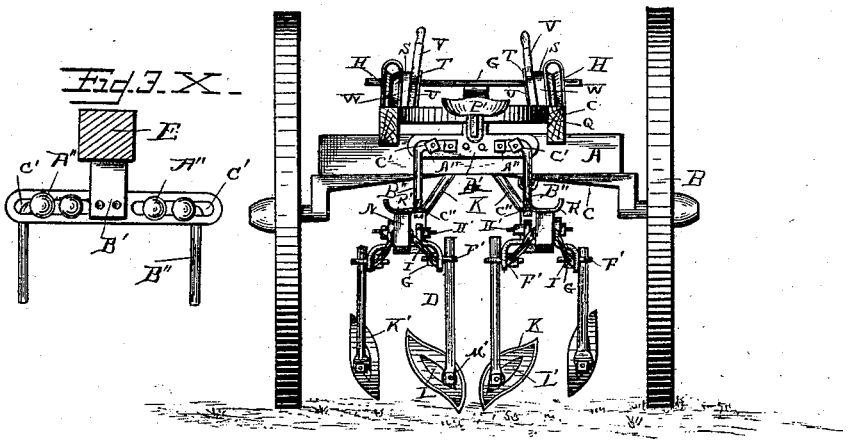


Fig. 4.

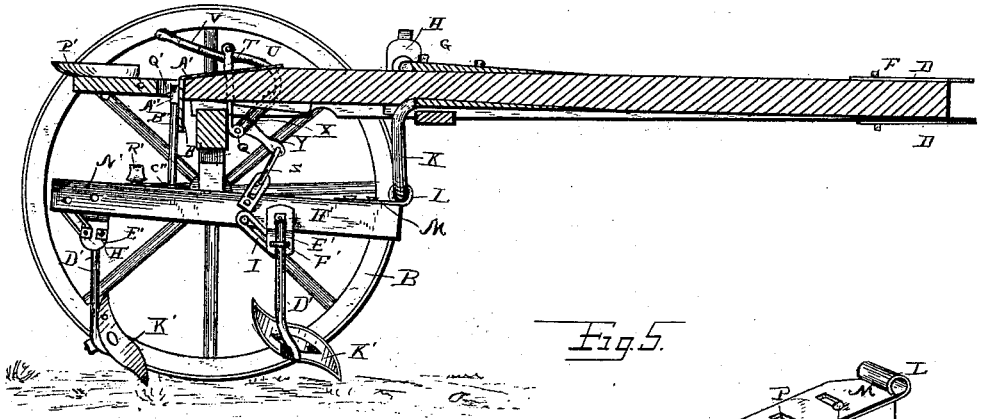
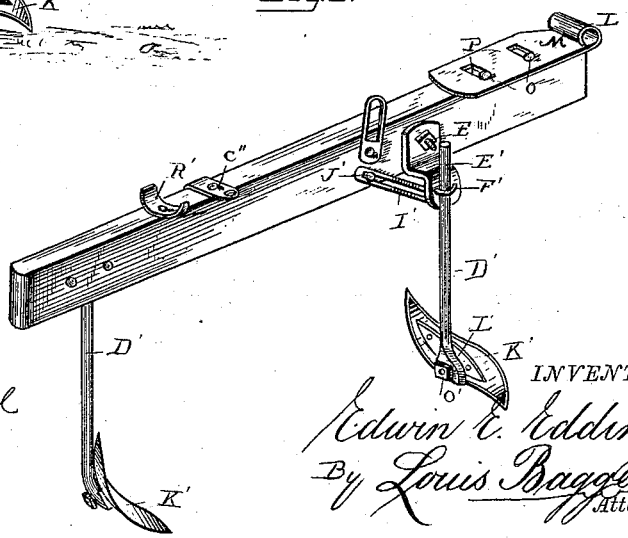


Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

EDWIN E. EDDINGTON, OF JANESVILLE, WISCONSIN.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 347,583, dated August 17, 1886.

Application filed May 17, 1886. Serial No. 202,376. (No model.)

To all whom it may concern:

Be it known that I, EDWIN E. EDDINGTON, a citizen of the United States, and a resident of Janesville, in the county of Rock and State of Wisconsin, have invented certain new and useful Improvements in Cultivators; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my improved cultivator. Fig. 2 is a top view of the same. Fig. 3 is a rear view. Fig. 3^x is a detail view showing the cross-head which carries the guide-rods. Fig. 4 is a longitudinal vertical sectional view of the cultivator. Fig. 5 is a perspective detail view of a standard and blade. Fig. 6 is a perspective view of one of the tilting levers and its appurtenances.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to straddle-row riding-cultivators; and it consists in the improved construction and combination of parts of such a cultivator in which the shovels are attached to beams suspended from the rear portion of a beam which is pivoted at its forward end between the forwardly-extending tongues or hounds of the frame, causing the beams to be moved laterally without being placed obliquely to the line of travel of the cultivator when the beams are shifted to one side or the other by the means for guiding them, as hereinafter more fully described and claimed.

In the accompanying drawings, the letter A indicates the main arched axle, to the ends of which the wheels B B are journaled, and to which the rear ends of the tongues or hounds C C are secured, the forward converging ends of these hounds being secured together by means of plates or castings D D, connected by means of bolts or similar means.

The forward end of a beam, E, is pivoted upon a bolt, F, in the plates connecting the converging ends of the hounds, and the rear end of this beam slides upon the middle of the axle. To said beam is connected a transverse segmental rod, G, which slides through guides H H upon the hounds, or upon similar guides, the segment having its centre of curvature at the pivotal bolt of the beam. The frames for these guides are formed with downwardly-projecting slotted lips I I, which straddle the hounds and slide adjustably upon nutted bolts J J, so that the guides may be raised or lowered, raising or lowering the beam, and consequently the cultivator beams and shovels, which are attached to the beam. An arched bar, K, is secured at its middle to the under side of the beam and has its ends turned outward, and the eyes L at the forward ends of two plates, M M, are pivoted upon the laterally-projecting ends of this arched bar. The beams N N for the cultivators are secured at their forward ends to these plates, having nutted bolts O O sliding adjustably in transverse slots P P in the plates, and by sliding the forward ends with their bolts laterally with reference to the plates, the bolts sliding in the slots, the cultivator-beams may be adjusted closer together or farther apart, according to the width of the rows between which the shovels are to travel.

Two plates, Q Q, are secured to the arched axle upon its forward side and near the points where the hounds are secured to the axle, and have their upper ends bent forward to form longitudinally-slotted forwardly-projecting guide-plates R R, and upright bars S S project from the plates at the bends, and have inwardly-projecting bolts T at their upper ends. Flat springs U U are secured at their lower ends to the plates at the bends, and have their upper perforated ends sliding upon the bolts at the upper ends of the bars. The downwardly-bent portions of two levers, V V, are pivoted with their lower ends at the lower ends of the plates, and the rearwardly-projecting arms of these levers are formed with outwardly-facing cogs W W, which engage the inner edges of the upright flat bars, having the flat springs forcing them into engagement with the said bars, and it will be seen that by drawing the said levers forward and backward the flat springs will have a tendency to force the cogged sides to engage the edges of the

flat bars, so that the levers may be adjusted at any point desired.

Sleeves X X fit upon the downwardly-bent ends of the levers, and have outwardly-projecting arms Y at their lower ends, and links Z are pivoted to the outer ends of the arms and to the inner sides of the beams, the sleeves turning upon the arms of the levers and swinging with the beams as they are moved laterally. It will now be seen that when the levers are drawn rearward the arms upon the sleeves will be tilted upward and will raise the beams, and when the levers are pushed forward the arms will be tilted down and the beams will be depressed.

A downwardly-bent bar, A′, is secured to the rear end of the pivoted beam, and has a cross-head, B′, at its lower end, and this cross-head is formed with longitudinal slots C′ C′ at its ends, in which slide nutted bolts A″ A″, projecting through the inwardly-bent upper ends of two rods, B″ B″, the lower vertical portions of which slide in inwardly-projecting eyes C″ C″ upon the beams, the said rods serving as guide-rods for the vertical motion of the beams; also serving to slide the rear end of the beam E, as the rear ends of the cultivator-beams are guided sidewise by the feet of the driver. This movement of said beam provides for giving lateral movement to the front ends also of said cultivator-beams, thus causing said beams to be capable of an approximately parallel lateral movement, thereby rendering it an easy matter for the driver to keep the teeth at both ends of the cultivator from striking into the rows on either side.

The rear ends of the beams may be adjusted by adjusting the bolts and inwardly-bent ends of the guide-rods in the slots of the cross-head, so that the rear ends may be adjusted laterally, as well as the forward ends, which have the bolts sliding in the slotted plates, and in this manner the beams may be adjusted to travel at different relative distance and remain parallel to each other.

The standards D′ are round rods slightly curved, and the upper ends of the standards are adjustably secured to castings E′ upon the sides of the beams, by means of staples F′, passing through perforations in the lower ends of the castings, and provided with nuts G′ upon their ends, which nuts bear against the inner sides of the lower ends of the castings. The castings are each secured to the side of the beam by means of a bolt, H′, having a nut, and slotted bars I′ are pivoted at the lower ends of their slots upon one of the ends of the staples, being secured by the nut upon the end, and at their upper ends, by nutted bolts J′ in the beams, to the rear of the castings. It will thus be seen that the standards may be adjusted in the staples by loosening and tightening the nuts upon the ends of the staples, so that the ends may be turned in different directions, and the standards may be raised or lowered in the staples, and the angles of the standards may be adjusted by means of the longitudinally-slotted bars, which are pivoted to the castings by one end of the staples and to the bolts of the beams.

The blades or shovels K′ have re-enforcing strips L′ secured upon their rear sides, and have bolts M′ passing through perforations N′ in the lower ends of the standards, and provided with nuts O′, the said bolts projecting from the middles of the blades. The blades are shaped in the form of parallelograms, having their obtuse corners rounded, and having their acute corners curved, the entire blades being curved concave upon their outer or forward sides, and it will be seen that by adjusting the standards and by adjusting the blades by means of their bolts and nuts the blades may be placed in such positions to the row to be cultivated that they may either throw the dirt toward the plants or from them; or they may scrape the ground or stir it with their points, all the edges being sharpened, so that all different kinds of work may be done with the same blades adjusted in their various positions.

The seat P′ for the driver is secured to the rear united ends of two curved arms, Q′ Q′, the forward ends of which are pivoted upon the inner sides of the hounds, and the driver may rest his feet in pivoted or swiveled plates R′ R′ upon the upper sides of the rear ends of the beams, guiding the beams laterally with his feet, while his hands remain free for driving the team and for manipulating the levers.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a wheel-cultivator having two forwardly-converging hounds, the combination of a beam pivoted at its forward end between the converging ends of the hounds and arranged to slide laterally at its rear end, and provided near its rear end with a transverse segmental guide-rod, and guides secured upon the upper sides of the hounds for the segmental rod, as and for the purpose shown and set forth.

2. In a wheel-cultivator provided with two forwardly-converging hounds, the combination of a beam pivoted at its forward end between the converging ends of the hounds, having lateral motion at its rear end, and having the cultivator-beams supported to its rear end below the same, a segmental rod having its center of curvature at the pivotal point of the beam and secured transversely at its middle upon the beam, and guides journaled in vertically-adjustable frames upon the hounds, as and for the purpose shown and set forth.

3. In a wheel-cultivator, the combination of a lever having its inner end bent downward, and pivoted at said end upon the frame, means for holding the lever, a sleeve turning upon the downwardly-bent end of the lever and having an arm projecting from its lower end, and a beam having a link pivoted to it and to the end of said arm, and means for adjusting

said beam laterally, as and for the purpose shown and set forth.

4. In a cultivator, the combination of a lever having it inner end bent downward, and pivoted at said end, and having the outer side formed with a series of cogs, an upright flat bar having its edge engaging the cogs, and having a laterally-projecting bolt at its upper end, and a flat spring secured at its lower end, and sliding with its perforated upper end upon the bolt bearing against the smooth side of the lever, as and for the purpose shown and set forth.

5. In a wheel-cultivator, the combination of plates secured upon the forward side of the axle and having the upper ends bent forward and slotted longitudinally, upright flat bars secured at the bend of the plates and having inwardly-projecting bolts at the upper ends, flat springs secured at the bends with their lower ends and sliding upon the bolts with their upper perforated ends, levers having their inner portions bent downward, and pivoted at the lower ends of the bent plates, and having the outer sides of the rearwardly-projecting arms provided with series of cogs engaging the flat bars, sleeves turning upon the downwardly-bent portions of the levers and having forwardly-projecting arms at their lower ends, and cultivator-beams having links connecting them to the outer ends of the arms, as and for the purpose shown and set forth.

6. In a wheel-cultivator provided with two forwardly-projecting hounds, the combination of a beam pivoted at its forward end between the converging ends of the hounds and having segmental rod for guiding it, cultivator-beams suspended by their forward ends, in a laterally-adjustable manner, from the pivoted beam, a cross-head at the rear end of the beam having longitudinal slots in its ends, vertical rods fitting in eyes upon the cultivator-beams, and having inwardly-bent ends provided with nutted bolts sliding adjustably in the slots of the cross-head, and foot-rests swiveled to said cultivator-beams to assist in guiding them laterally, as and for the purpose shown and set forth.

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

EDWIN E. EDDINGTON.

Witnesses:
C. L. VALENTINE,
B. A. ROLSTON.