(No Model.)

E. R. CONKLIN.

WHEEL CULTIVATOR.

No. 302,107. Patented July 15, 1884.

Fig. 1.

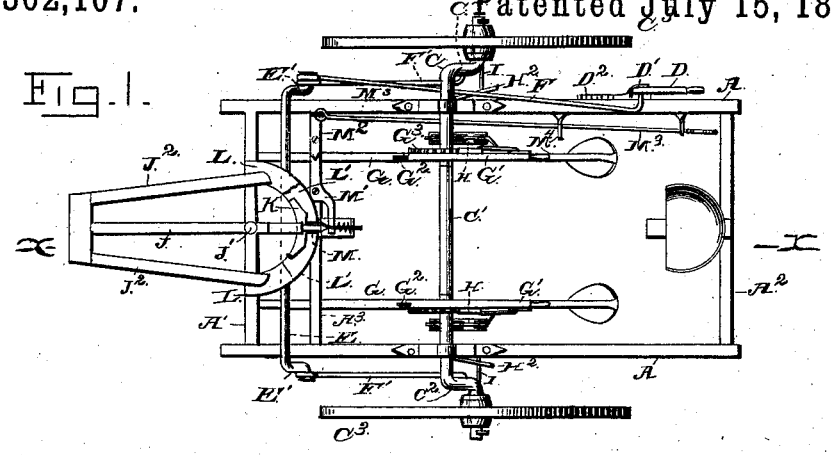


Fig. 2.

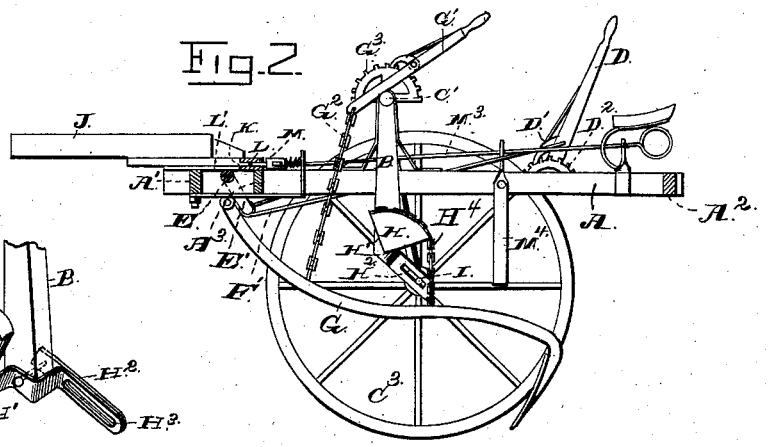


Fig. 5.

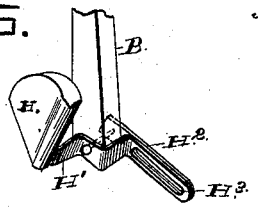


Fig. 3.

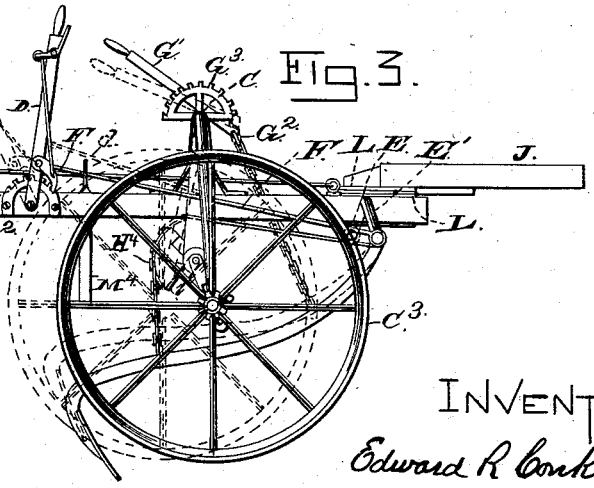
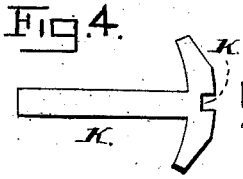


Fig. 4.



WITNESSES

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EDWARD R. CONKLIN, OF WAUSEON, OHIO.

WHEEL-CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 302,107, dated July 15, 1884.

Application filed April 23, 1884. (No model.)

To all whom it may concern:

Be it known that I, EDWARD R. CONKLIN, a citizen of the United States, residing at Wauseon, in the county of Fulton and State of Ohio, have invented certain new and useful Improvements in Wheel-Cultivators; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to wheel-cultivators; and it consists in the novel construction, combination, and arrangement of the several parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a plan view of my machine. Fig. 2 is a vertical section of same on line *x x*, Fig. 1. Fig. 3 is a side elevation of the machine when turned in the opposite direction to that shown in Figs. 1 and 2. Fig. 4 is a detail view of the notched tongue-plate. Fig. 5 is a detail perspective view of the segment-pulley and its crank-strap, all of which will be described.

The side bars, A, and end bars, A′ A^2, together with the cross-bar A^3, constitute the top or main frame of my machine. Vertical bars B B are secured to the side bars about midway the ends thereof, and extend above and below the same. The crank-axle C has its shaft or top bar, C′, journaled on the upper end of the bars or standards B, and the arms C^2 extend down below the frame, and are provided at their lower ends with suitable spindles, on which are held the wheels C^3. In operation this crank-axle is turned on the shaft as a pivot by means of the lever D, shaft E, and connecting-rods F F′. The lever D is pivoted to the top frame in convenient reach from the driver's seat, and has a pawl, D′, arranged to engage a rack, D^2, so the lever can be held in any suitable position to which it may be adjusted. The shaft E is journaled in the main frame near the forward end of the machine, and is provided with depending crank-arms E′. A rod, F, connects the lever D and one of these crank-arms, and rods F′ connect these crank-arms and the arms C^2 of the crank-axle. I prefer in practice to use two crank-arms, E′, as shown, and connect each of them with the crank-arms C^2, as thereby I secure a firmer, steadier action of the axle; but it will be understood that where so desired a single crank and connecting-rod could be used and would give good results. It will be also understood that instead of connecting lever D with the crank-axle through the medium of the crank E E′ and the several rods, as before described, the lever might be connected by a suitable rod directly with the arms C^2 of the crank-axle, as indicated in dotted lines *d*, Fig. 3; but I prefer the construction before described, as thereby I gain power and render the machine easy of operation, as will be appreciated. The cultivator-beams G are suspended from the forward end of the main frame, preferably on plates extended between the front and cross-bar, as shown. A lever, G′, is pivoted on the shaft of the crank-axle, and is connected by a chain, G^2, with the cultivator-beams. By this lever, in connection with rack G^3, I am able to adjust the depth at which the cultivators should run. The exact location of the lever and rack G′ G^3 is immaterial to the operation of the machine, and it is manifest they could be supported on the standards B where so desired; but, for convenience, I prefer to arrange them directly over the cultivator-beams, as shown.

The segment-blocks H are grooved on their curved edge, and are provided with a plate, H′, which is pivoted near its juncture with the block to the lower end of standards B. This plate is extended beyond or below the pivot, forming a crank, H^2, and which is provided with a slot, H^3. Pins I are projected inward from the lower end of the crank-arms of the axle and extend into or through the slots H^3. This will be understood from Figs. 1 and 2. It will be noticed that as the crank-arms are thrown back and forth they will, by means of pins I, operating in slots H^3, turn block H and plate H′ on its pivot. Chains H^4 are secured at their lower ends to the cultivator-beams and at their upper ends to the segment-blocks, so that the operation of such blocks effects a raising or lowering of the cultivator-beams.

In operation, when the crank-arms of the

axle are moved forward, the cultivators are lowered into the ground, and the machine, being relieved of the weight of same, is balanced, the draft of the cultivator on the forward end balancing the weight of the driver at the rear end. When the wheels are thrown back to the position shown in dotted lines, Fig. 3, the cultivators are raised from the ground, and the said motion of the wheels throws them in rear of the point of attachment of the beams, and the equilibrium is retained. To retain the even balance is very desirable in implements of the class to which my invention relates, especially where the tongue is pivoted on the frame in order to be swung around in turning. The tongue J is pivoted at J′ on the forward end of the main frame, and is provided in its rear end with a plate, K, in rear edge of which I form a notch, K′. This plate K is held and slides between two plates, L L′, secured on the framing. A latch, M, is arranged in the framing in position to engage the notch K′ when the tongue J is in the position shown in Fig. 1, and is actuated by a suitable spring, so as to be forced into engagement with the notch, as will appear. The hounds J^2 of the tongue extend over and have their rear ends rested on the upper plate, L, as shown, and brace and steady the tongue when turned from side to side. Levers M′ M^2 are pivoted on the cross-bars A^3, and are connected at one end together, so that the operation of one actuates the other. One end of the lever M′ is connected with and adapted to operate the latch M, as most clearly shown in Fig. 1. A rod, M^3, is connected at one end with the outer end of lever M^2, and extends back in reach of driver, so that the tongue can be released from the back of the machine. A lever, M^4, is pivoted to the framing, and has its upper end connected with rod M^3 and its lower end adapted to be engaged by the foot of the rider, so that the rider can raise the cultivators with the hand-lever and simultaneously release the tongue.

The operation of my machine will be fully understood from the description before given.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the crank-axle, the cultivator-beams, the segment-block, the chain connecting said block and cultivator-beams, and the plate pivoted to the framing and secured at one end to the segment-block, and having its other end extended beyond the pivot to form a crank-arm, and provided with an elongated slot, and a pin or rod extended from the crank-arms into or through the slot, substantially as set forth.

2. The combination of the beams, the segment-block having a crank-plate or extension, the crank-axle A, pin extended therefrom and engaging the crank-plate of the block H, and a chain or cord connecting the segment-block and cultivator-beams, substantially as set forth.

3. The combination of the supporting-frame, the crank-axle journaled to said frame, the shaft journaled in the supporting-frame and having at its opposite ends crank-arms, rods connecting said arms with the arms of the crank-axle, and devices for operating said shaft, substantially as set forth.

4. The combination, substantially as hereinbefore set forth, of the crank-axle, a plate pivotally supported adjacent an arm of said axle, and slotted longitudinally, and a pin extended from the arm of the axle into or through the slot in the plate, all arranged and operating substantially as set forth.

5. The combination of the main frame, the segmental plates L L′, supported on said frame, and one above the other, the tongue pivoted on the main frame in advance of the plates, and provided at its rear end with a plate, K, extended between the plates L L′, and adapted to engage the latch, the latch, and the hounds having their forward ends secured to the tongue and extended in divergent lines therefrom, and having their rear ends extended over and rested on the upper plate, L, all arranged substantially as and for the purposes specified.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD R. CONKLIN.

Witnesses:

P. B. TURPIN,

O. M. KRAMER.