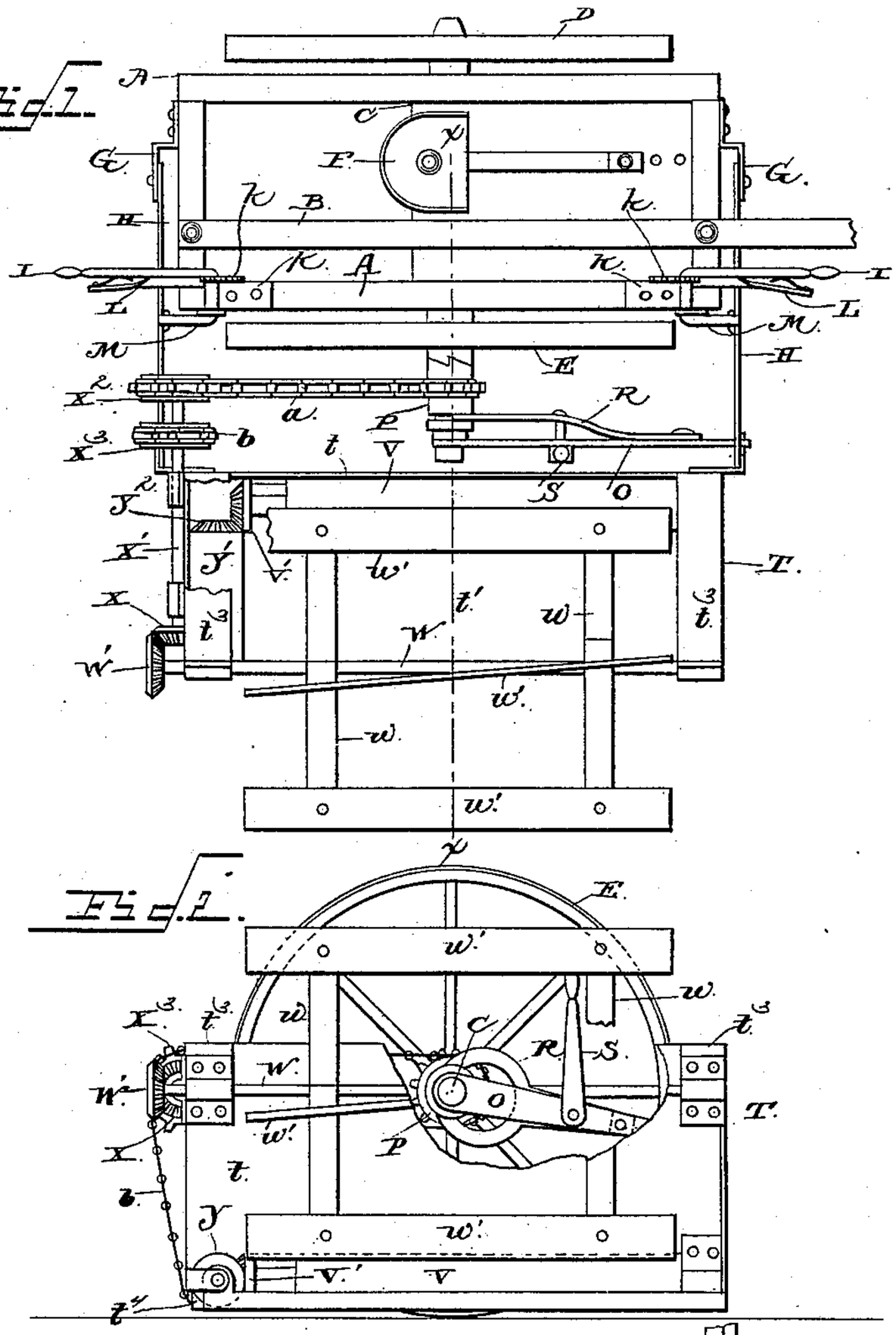
(No Model.)

E. CROWLEY.

MACHINE FOR CATCHING AND DESTROYING POTATO BUGS.

No. 361,139. Patented Apr. 12, 1887.

Fig. 1.



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EDWARD CROWLEY, OF PIERCE, NEBRASKA.

MACHINE FOR CATCHING AND DESTROYING POTATO-BUGS.

SPECIFICATION forming part of Letters Patent No. 361,139, dated April 12, 1887.

Application filed June 17, 1886. Serial No. 205,436. (No model.)

To all whom it may concern:

Be it known that I, EDWARD CROWLEY, a citizen of the United States, residing at Pierce, in the county of Pierce and State of Nebraska, have invented a new and useful Improvement in Machines for Catching and Destroying Potato-Bugs, of which the following is a specification.

My invention relates to an improvement in machines for catching and destroying potato-bugs; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is a top plan view of my invention. Fig. 2 is a side elevation of the same, with parts broken away to disclose interior mechanism. Fig. 3 is a transverse vertical sectional view taken on line *x x* of Fig. 1.

A represents a rectangular frame, which is provided with a tongue, B, for the attachment of the draft-animals, an axle, C, provided with wheels D and E, and a seat, F, for the driver. From the front and rear ends of the frame A depend brackets G, to each of which is pivoted a pair of parallel arms, H.

I represents hand-levers, which are journaled or pivoted in brackets K, that are secured on the front and rear ends of the frame A, at the inner side thereof. The said brackets are provided with the usual segmental locking-plates, *k*, and the hand-levers are provided with the usual spring-actuated detents, L, to engage with the said locking-plates, and thereby secure the hand-levers at any desired angle. The hand-levers are also provided with rocking arms M, from which depend rods N, that are attached to the lower parallel arms, H. The front upper arm H is connected to the projecting inner end of the axle by a bar, O, having its rear end pivoted on the projecting spindle of the axle and its front end connected near the outer end of the said front upper arm H. A sliding clutch, P, is feathered on the inner projecting spindle of the axle, and engages the wheel E, so as to lock the said wheel and clutch together and cause them to rotate simultaneously, and the said clutch is provided with sprocket-teeth, whereby it is converted into a sprocket-wheel.

R represents a spring-arm which has its front end attached to the bar O, and the rear end of the said spring-arm engages the sliding clutch. A lever, S, is attached to the spring-arm, by means of which the sliding clutch may be moved outwardly from the wheel E, and thereby disengaged therefrom.

T represents a box, which is pivoted to the outer end of the arms H. The said box is provided with the vertical side wall, *t*, and the horizontal bottom plate, *t'*, between which, at the lower edge of the side wall and the inner edge of the bottom plate, is made a longitudinal opening, t^2. A longitudinal crushing-roller, V, is journaled in the corner between the side wall and the bottom of the box, and to the rearward-projecting spindle of the said roller is attached a miter-pinion, V'. The roller V bears against the upper edge of the slot t^2, and the lower side of the said roller is nearly but not quite in contact with the bottom of the box. In brackets t^3, which project horizontally from the upper side of the box, is journaled a longitudinal shaft, W, which is provided with radial arms *w* at each end, the arms at the front end of the shaft being out of line with those at the rear end of the shaft. To the outer end of the said arms are attached wings or blades *w'*, which are arranged diagonally with relation to the shaft W and are parallel with each other. To the rear end of the shaft W is attached a miter-pinion, W', which meshes with a similar pinion, X, secured on the outer end of a shaft, X', which is journaled in bearings on the rear end of the box T, at the upper side of the same. To the extreme inner end of the said shaft X' is attached a sprocket-wheel, X^2, which is connected to the sprocket-wheel P by means of an endless chain, *a*. The shaft X' also carries a sprocket-wheel, X^3, which is connected by means of an endless sprocket-chain, *b*, with a sprocket-wheel, Y, which is attached to the inner projecting end of the spindle of a roller, Y', which latter is journaled transversely in the rear end of the box T, at the lower side of the same, and is provided with miter gear-teeth Y^2, which mesh with the pinion V'. A transverse horizontal slot, t^4, is made at the rear end of the box T, and the roller Y' bears against the upper edge of the said slot, and nearly but not quite against the bottom of the box, the same as the roller V.

The operation of my invention is as follows:

The machine is driven parallel with the rows of potato-vines with the reel formed by the shaft W and the wing *w* bearing against the potato-vines. As the machine advances, the reel is rotated in the direction indicated by the arrow in Fig. 3, and the wings of the reel beat against the potato-vines, dislodge the potato-bugs therefrom, and sweep them into the box T, where they fall upon the rollers V and Y′, and are crushed by the rotation of the said rollers, and swept outwardly, after being crushed, through the slots t^2 and t^1.

By pivoting the box T to the outer ends of the pivoted arms H and providing the said arms with the hand-levers I, for raising and lowering them, the box T, carrying the sweep-reel, may be raised or lowered, according to the height of the potato-vines, and thus adapt the machine to be operated when the potato-vines are at any stage of their growth.

Having thus described my invention, I claim—

1. In a machine for killing potato-bugs, the combination of the box T, having the slots or openings t^2 t^1 at opposite points, the rotating crushing-rollers V Y′, located at an angle to each other and geared together, said rollers working over the openings or slots t^2 t^1, and the rotating reel to sweep the bugs from the plants directly onto the crushing-rollers, as set forth.

2. In a machine for killing potato-bugs, the combination of the box T and the crushing-rollers, located at an angle to each other above the bottom of the box, with the rotating reel located above the crushing-rollers, so that the bugs are swept from the plants directly onto the rollers, as set forth.

3. The combination, in a machine for killing potato-bugs, of the vertically-movable box having the sweep-reel and the crushing-rollers, and the levers for raising or lowering the said box, substantially as described.

4. The combination of the frame A, having the supporting-wheels and the laterally projecting pivoted arms H, and the levers for raising and lowering the said arms, the box T, secured to the arms H and carrying the sweep-reel and the crushing-rollers, and mechanism connecting the said reel and rollers with one of the wheels of the frame A, whereby the said reel and rollers will be rotated as the machine advances, substantially as described.

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

EDWARD CROWLEY.

Witnesses:
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