(No Model.) 2 Sheets—Sheet 1.

G. M. D. POMEROY.

POTATO DIGGER.

No. 428,288. Patented May 20, 1890.

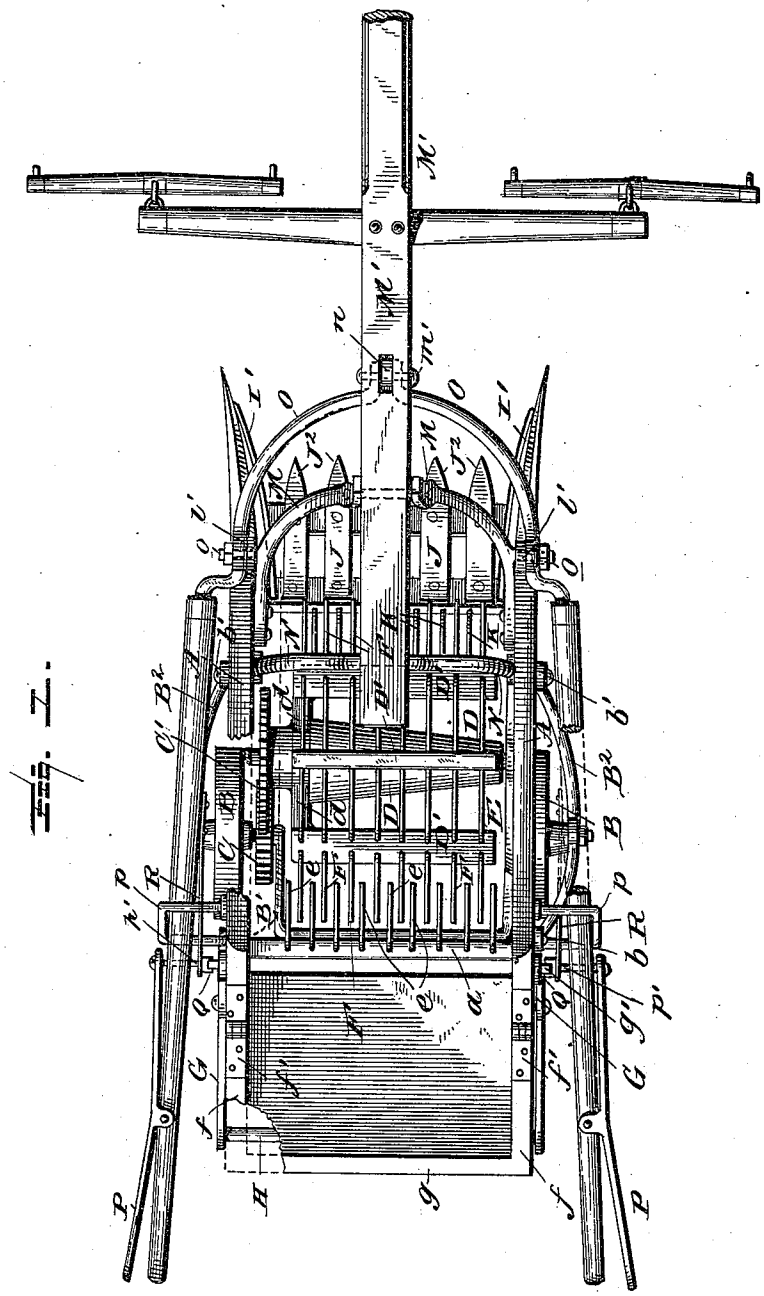

Fig. 1.

Witnesses
L. C. Hills.
E. H. Bond.

Inventor
George M. D. Pomeroy.
By his Attorneys
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(No Model.) 2 Sheets—Sheet 2.

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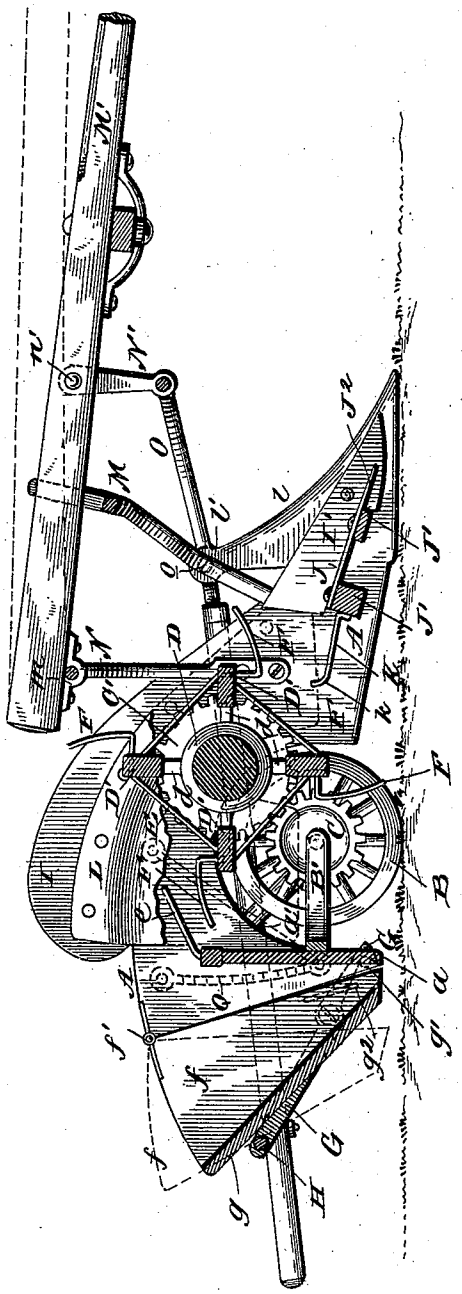

Fig. 2.

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E. R. Bond.

Inventor
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UNITED STATES PATENT OFFICE.

GEORGE M. D. POMEROY, OF LEBANON, INDIANA.

POTATO-DIGGER.

SPECIFICATION forming part of Letters Patent No. 428,288, dated May 20, 1890.

Application filed February 4, 1890. Serial No. 339,178. (No model.)

To all whom it may concern:

Be it known that I, GEORGE M. D. POMEROY, a citizen of the United States, residing at Lebanon, in the county of Boone and State of Indiana, have invented certain new and useful Improvements in Potato-Diggers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

This invention relates to certain new and useful improvements in potato-diggers; and it has for its object, among others, to provide an improved device of this character wherein provision is made for the ready adjustment of the parts, ready means for dumping the potatoes from the box when the same gets full, means for efficiently sifting the dirt from the potatoes on their way to the box, and for keeping the dirt from the gear-wheels and operating mechanism.

The novelty resides in the peculiar combinations and the construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawings, and then particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a top plan of a potato-digger constructed in accordance with my invention, parts being broken away to better show other parts. Fig. 2 is a vertical longitudinal section through the same with parts broken away.

Like letters of reference indicate like parts in both figures of the drawings.

Referring now to the details of the drawings by letter, A designates the side bars of the frame connected at the rear by the vertical plate *a*, which forms the front side of the potato-box. These side bars are formed with apertures *a'*, in which work the wheels B, the said wheels being carried by the axle B', which is bent, as shown in Fig. 1, with its transverse portion secured to the forward face of the vertical plate *a*, as shown in Fig. 2, the wheels being upon the end portions or stub-axles thus formed, as seen best in Fig. 1. The outer ends of these stub-axles have bearings in the arms B^2, secured to the outer face of the side bars, as shown at *b'* in Fig. 1, and bowed out for strength and to bring the wheels substantially in vertical line with the side bars.

On one end of the axle, in proximity to the side bar, there is a gear-wheel C, which meshes with a gear-wheel C' on the same end of the shaft or drum D, which is journaled in suitable bearings in or attached to the side bars. This shaft or drum D is conical, being largest at the gear end and tapered toward the opposite end for the purpose of carrying the dirt away from the gears, as will be readily understood. This drum has radial arms *d*, the outer ends of which are connected by the longitudinal bars D', which are connected and braced by the rods or wires E, which extend from bar to bar, as shown best in Fig. 2, and form a sort of rectangular beater. The outer face or edge of each of the transverse bars D' is provided with a plurality of wires F, which are secured to the said bars at one end, the other end being free and bent, as shown in Fig. 2, with a portion at right angles to the said bar, and the free end bent at an angle and on a slight curve, as shown in said Fig. 2. I have found from experience that this is the best form, as it readily enters beneath the potatoes, and as the bar is raised the potatoes fall into the angles near the bar and are thus held till the wires or fingers reach the point where the potatoes are delivered into the box.

The top edge of the plate *a*, which forms the front of the box, is provided with a plurality of fingers or wires *e*, which are inclined slightly upward and forward, as shown in Fig. 2, so that as the potatoes are delivered thereon by the fingers of the rotating drum they will fall down upon the said inclined fingers or wires and be delivered into the box. The fingers on the plate *a* are so arranged in relation to those on the drum that they will pass between each other, as indicated in Fig. 1.

As above stated, the vertical plate *a* forms the front side of the potato-box. The remaining portions of the box are formed as follows: The two side pieces *f* are hinged at their upper edge, as shown in Fig. 2, to the rear end

of the side bars A by means of suitable hinges f', being free at their lower ends and at their rear edges connected by the rear side piece g of the box, which is inclined from its rear upper edge downward and forward, as shown in said Fig. 2, so as to comparatively close the bottom of the box or form a box with a closed bottom, a slight space, however, being left through which the dirt may sift and yet not allow the potatoes to escape. Upon each side of the box, upon the side pieces thereof, is a lever G, the lower end of which is notched, as shown at G', to engage stop-pins g' on the side bars, the rear and upper ends of said levers being connected by a cross-bar H, arranged parallel with and to the rear of the rear side of the box. Normally the notched ends of the levers are engaged with the stop-pins on the side bars and hold the two side pieces and rear side of the box closed against the front side, as shown in Fig. 2. When the box is full and it is desired to dump the potatoes, the cross-bar is depressed slightly, sufficient to clear the notched ends of the levers from their engagement with the stop-pins on the side bars, when, by a slight movement to the rear, the rear side and side pieces of the box will be brought away from the front side, as indicated by dotted lines in Fig. 2, allowing the potatoes to fall and be discharged in a heap on the ground. After the box is emptied the parts are returned to their normal position by simply pressing the cross-bar forward and then raising up slightly on it, when the notched ends of the levers will engage their stop-pins on the side bars and lock the parts in position. I preferably provide guide-loops g^2 on the side pieces of the box for the levers to prevent them from dropping too low when the parts are in the position indicated by dotted lines in Fig. 2.

I are side wings, which are designed to be detachably secured upon the upper edges of the side bars to prevent the potatoes from falling over the sides. The forward ends of the side bars are tapered to nearly a point, as shown in Fig. 2, and are provided with side shovels or plows I', which may be attached thereto in any suitable way.

J is the digger or front shovel. It is suitably held between the side bars at the forward ends thereof, and consists of the lateral or cross bars J', to which are secured the plurality of points J^2, as shown in Fig. 1. These are arranged at an angle, as shown in Fig. 2, and are adapted to shovel up the potatoes to be gathered up by the revolving drum, hereinbefore described. The rear end of this digger is provided with the rearwardly and slightly upward extending wires or fingers K, the rear ends of which are turned up slightly, as shown at k, to better hold the potatoes until they are taken up by the fingers on the revolving drum. These fingers are so arranged in relation to those on the drum as to allow them to readily pass each other without contact.

To the inner face of the side board, at the rear end of the axle and drum, I provide a shield L, of any suitable material, which covers the gears, and this, in addition to the taper of the drum, serves to effectually keep the dirt from getting into and clogging up the gears.

At their forward end the side boards or bars extend upwardly, as shown at l, and form a sort of ears of lugs l', in which are secured the ends of the arch beam or brace M, which has a bifurcated portion to receive and form a guide for the tongue M'. Secured to the side bars to the rear of the said arch is the bail N, which engages a loose bearing m on the under side of the tongue at the rear end thereof, so as to allow the said tongue to be raised or lowered as occasion may require. This tongue carries at its forward end suitable means for attachment of the draft, as shown in Fig. 2, and between the point of attachment of the draft and the guide or arch beam M is provided with a vertical slot n, in which is loosely pivoted on a transverse pivot n' a depending hanger N', to the lower end of which are pivotally secured the forward ends of the levers O, the forward end of each of which is curved, as shown in Fig. 1, being pivoted at o to the lugs or ears l', above described. The rear ends of these levers are provided with suitable handles, as shown in Fig. 1, which work in guide-loops p on the side bars. Each handle has pivotally attached thereto a lever P, which at its forward end carries a pin p', which passes through a hole in the handle, and at its inner end is bifurcated, as shown in Fig. 1, and adapted to engage a rack-bar Q on the side bar. A flat spring R is attached at its forward end to the handle and at its rear end fastened to the said pin in such a manner as to normally exert its influence to hold the bifurcated end in engagement with the rack-bar. By pressing inward on the rear ends of these levers the pins are withdrawn from their engagement with the rack-bars, and the levers may then be elevated or depressed to raise or lower the tongue and change the depth to which the digger shall enter the ground.

The operation will be readily understood, and a detailed description thereof is not deemed necessary.

What I claim as new is—

1. The combination, with the frame, of the rear portion of the box hinged thereto and having an inclined rear side, substantially as shown and described.

2. The combination, with the side bars and vertical rear plate connecting the same, of the hinged portion of the box having an inclined rear side, leaving a space at the bottom for the escape of dirt, as shown and described.

3. The combination, with the side bars and the rear connecting-plate, of the movable portion of the box hinged to the rear ends of the side bars, the stop-pins on the side bars, and the levers pivoted on the end pieces of the

movable portion and engaging said stop-pins, as set forth.

4. The combination, with the side bars and the rear plate connecting the same and forming the front side of the box, of the movable portion of the box hinged to the rear ends of the side bars, the stop-pins on the side bars, the levers pivoted on the end pieces of the movable portion of the box and formed with notched forward ends, and the cross-bar connecting the rear ends of the levers and arranged behind the rear portion of the box, as set forth.

5. The combination, with the side bars having apertures, of the wheels in said apertures, the axle having bent portion and the ends forming stub-axles carrying the said wheels, and the brace-bars secured to the outer faces of the side bars and forming bearings for the ends of the axle, substantially as described.

6. The combination, with the side bars and the digging and dirt-sifting devices carried thereby, of the tongue, the bifurcated support therefor, and the levers pivotally connected with the side bars and pivotally connected with the tongue, as set forth.

7. The combination, with the side bars and the digger and sifting devices carried thereby, of the tongue hinged to the side bars, the hanger pivotally suspended from the tongue, and the levers pivoted on the side bars and at their forward ends curved inward and pivotally connected to the lower end of said hanger, substantially as shown and described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

GEORGE M. D. POMEROY.

Witnesses:
DAVID IRICK,
DAVID M. HENRY.