

J. HIST.
 POTATO DIGGER.
 APPLICATION FILED AUG. 27, 1910.

1,009,665.

Patented Nov. 21, 1911.

2 SHEETS—SHEET 1.

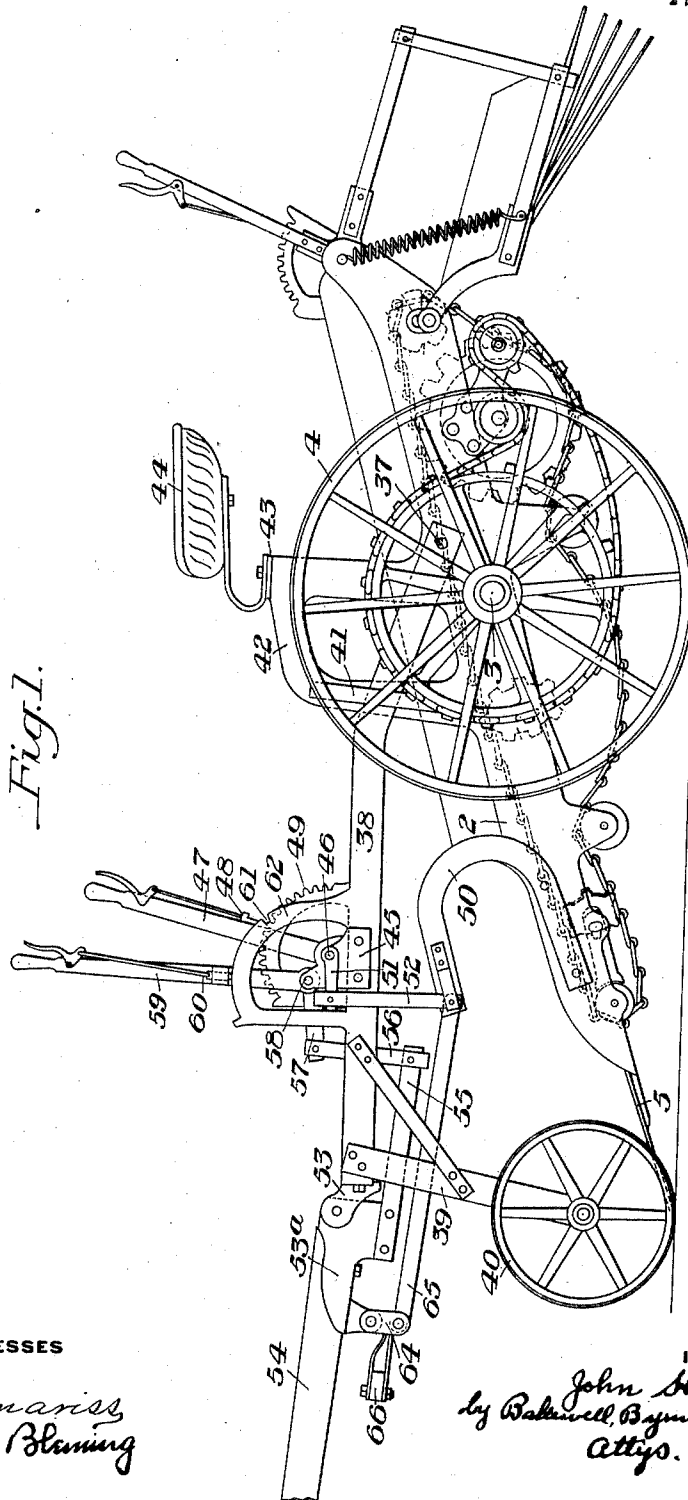


Fig. 1.

WITNESSES

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E. B. Blum

INVENTOR

John Hist.
 by *Watson, Byrnes & Samuel,*
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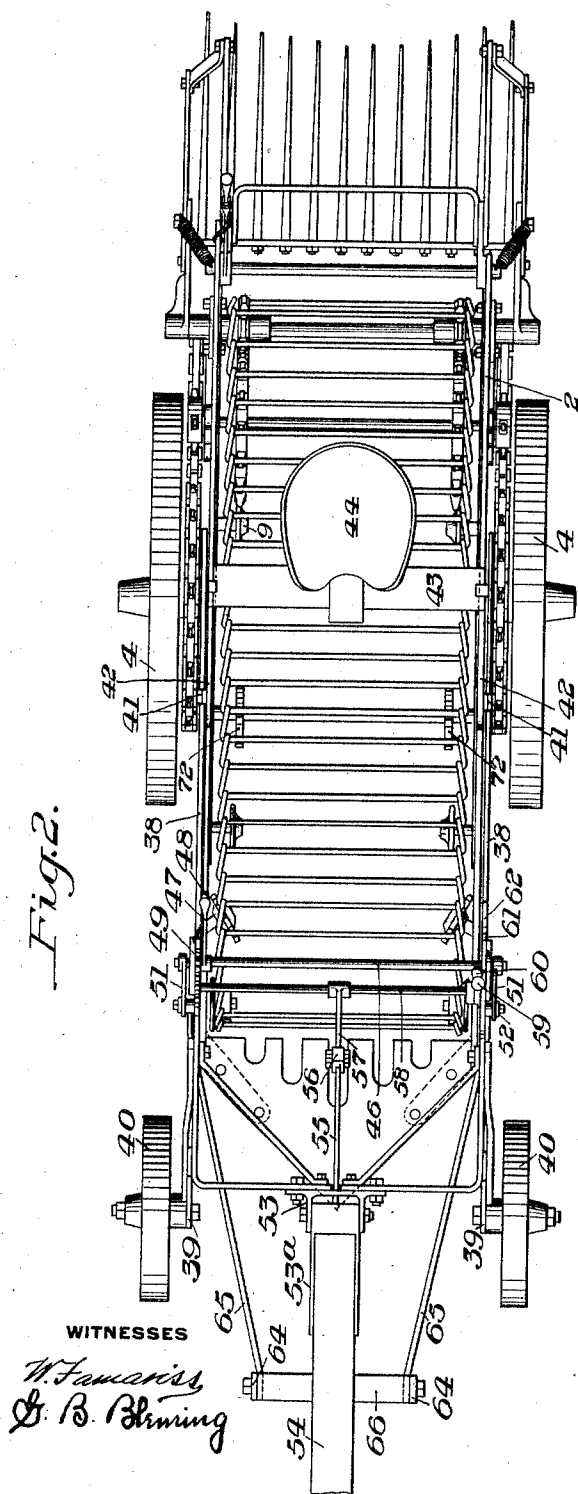
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2 SHEETS-SHEET 2.

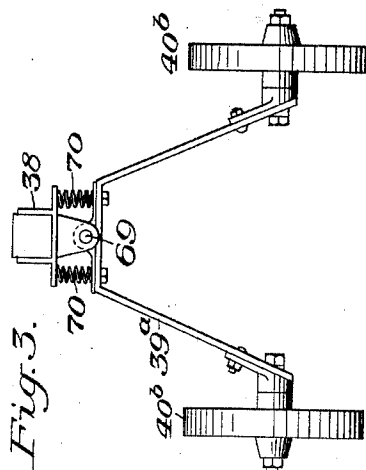
Fig. 2.



WITNESSES

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Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN HIST, OF BEREA, OHIO.

POTATO-DIGGER.

1,009,665.

Specification of Letters Patent.

Patented Nov. 21, 1911.

Original application filed January 22, 1910, Serial No. 539,515. Divided and this application filed August 27, 1910. Serial No. 579,260.

To all whom it may concern:

Be it known that I, JOHN HIST, a resident of Berea, Cuyahoga county, Ohio, have invented a new and useful Improvement in Potato-Diggers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of one form of my improved potato digger. Fig. 2 is a plan view. Fig. 3 is an end view of a modified form of connection for the gage wheel frame.

This invention relates to potato diggers having a shovel at the front which is arranged to scoop up the potatoes and the soil in which they are contained.

The object of my invention is to provide a cheap and efficient machine of the character described in which the main or mechanism supporting frame is directly supported on the axle of the supporting wheels. Further in the provision of an auxiliary frame pivoted to the main frame and the rear end of the tongue or pole; together with gage wheels rotatably mounted on a frame which may be rigidly, or pivotally, connected to the auxiliary frame or the rear end of the tongue. Another object of my invention is to provide connections between the main frame and the auxiliary frame for swinging the main frame about the supporting axle to adjust the height of the shovel point with relation to the gage wheels, and also connections between the main frame, the auxiliary frame, and the end of the tongue, for raising the gage wheels and shovel clear of the ground and locking the parts together, so that the tongue will be rigidly connected to the main frame.

The precise nature of my invention will be best understood by reference to the accompanying drawings, which will now be described, it being premised, however, that various changes may be made in the details of construction and general arrangement of the parts without departing from the spirit and scope of my invention, as defined in the appended claims.

In the drawings, the numeral 2 designates the main frame.

3 is the axle which is connected thereto in any manner so that the axis thereof forms

a center about which the frame can be swung.

4 are the main or supporting wheels on the outer ends of the axle 3.

Secured to the front end of the frame 2 is a shovel 5.

Pivotally mounted on the main frame 2 at 37 is an auxiliary frame 38, and secured or pivotally connected to the forward end of this frame 38, is a frame or bracket 39, the lower ends of which are provided with the gage wheels 40. The auxiliary frame 38 passes through guides 41 on the upwardly extending portions 42 of the frame 2. The upper portions of these extensions 42 are secured together by means of a cross bar 43 on which the driver's seat 44 is secured.

Pivotally mounted in brackets 45 on the auxiliary frame 38 is a rock shaft 46, and secured to this rock shaft 46 is a hand lever 47, having a spring pressed locking lever 48 arranged to engage the teeth in a rack 49 to lock the shaft 46 in its adjusted position. Extending upwardly and forwardly from each side of the main frame 2 is a goose neck 50. The outer ends of the rock shafts 46 are provided with cranks 51, each of which is connected by means of a link 52 with one of the goose necks 50, and by raising or lowering the operating lever 47, the front of the main frame, and with it the shovel 5, may be raised and lowered.

Pivotally mounted in a bracket 53 on the front end of the auxiliary frame 38 is a tongue frame 53^a, to which is secured the tongue 54. This tongue frame 53^a has a rearwardly extending member 55 which is connected by means of a link 56, with a crank 57 on a rock shaft 58; which is also journaled in the bracket 45 on the auxiliary frame 38. This rock shaft 58 is provided with an operating lever 59 having a spring pressed locking lever 60, the end of which is arranged to engage a detent 61 in a sector 62. Pivotally supported at the front end of the tongue frame 53^a are links 64, the lower ends of which are connected by means of a pair of rods 65 with the goose necks 50. Connected to the center portion of these links 64 is a bar 66 to which the double tree is connected.

In Fig. 3, I have shown a flexible arrangement for the gage wheels which may be connected to the front end of the aux-

iliary frame 38, or to the heel end of the tongue. In this construction the frame or bracket 39^a to which the gage wheels 40^b are secured is pivoted to the auxiliary frame 69; and 70 are compression springs between the auxiliary frame 38 and the frame 39^a. These springs are adapted to yield and allow the frame to swing on its pivot 69 when running over uneven surfaces.

10 The operation of the device is as follows: When the digger is moved to the point where the potatoes are to be harvested, the shovel and the main frame are lowered to their proper position by means of the operating lever 47, and are locked in their adjusted position by means of the locking lever 48. The gage wheels 40 and the main wheels 4 prevent the shovel from going beyond the adjusted depth. The device is drawn forward through the connecting links 65 with the double tree 66. While the shovel is moved through the soil, the soil and potatoes will be raised on the shovel. If the shovel has been set too deep or not deep enough, it can be adjusted by the movement of the operating lever 47. When the end of the row has been reached, and it is desired to turn the machine, the operator will move the operating lever 59 to the rearward and lock the same by means of the detent 61. This will raise the front end of the auxiliary frame 38 and lock it rigidly with the tongue 54, so that the full load of the digger will be supported by means of the tongue and the main wheels 4; the shovel and the gage wheels being raised clear of the ground. It will also be understood that if the shovel has been set to such a depth that the movement of the lever 59 will not clear the same from the ground, the lever 47 can be operated to change the height of the main frame with relation to the auxiliary frame 38.

The advantages of my invention result from the provision of means for supporting all of the operating mechanism on the main frame which is mounted on the axle of the driving or main supporting wheels. Further in the provision of an auxiliary frame which is pivoted to the main frame beyond the supporting axle, and is guided in suitable guides on the sides of the main frame which will hold the two frames in longitudinal alinement. Further in the provision of means for connecting the front end of the main frame with the operating mechanism in such a manner as to provide a clear and open space for the grass or weeds at a point considerably to the rear of the shovel, without moving the connections to the rear. By this provision I am enabled to carry the grass a considerable distance before it engages any obstruction on the side frame to retard its movement, and thereby avoid the bunching of grass and earth at the front end of the frame.

This application forms a divisional part of my application, Serial No. 539,515, filed January 22, 1910.

I claim:

1. A potato digger having a main frame, an axle connected to the main frame, supporting wheels journaled on said axle, a shovel connected to the main frame, an auxiliary frame pivoted to the main frame, gage wheels connected to the auxiliary frame, a tongue pivoted to the auxiliary frame, connections between the main frame and the auxiliary frame arranged to swing the main frame on the axle to raise the shovel, means to lock the two frames together and connections between the tongue and auxiliary frame to raise the gage wheels from the ground and to lock the parts in their adjusted positions; substantially as described.

2. A potato digger having a main frame, an axle connected to the main frame, supporting wheels journaled on said axle, a shovel connected to the main frame, an auxiliary frame pivoted to the main frame beyond the axle, gage wheels connected to the front end of the auxiliary frame, operating connections between the main frame and the auxiliary frame to swing the main frame on the axle to raise the shovel, and means to rigidly lock the two frames to each other in their adjusted positions; substantially as described.

3. A potato digger having a main frame, an axle connected to the main frame, supporting wheels journaled on said axle, a shovel connected to the main frame, an auxiliary frame pivoted to the main frame, gage wheels secured to the front end of the auxiliary frame, upwardly and forwardly extending goose necks on the main frame, operating connections between said goose necks and the auxiliary frame arranged to swing the main frame on the axle and adjust the two frames with relation to each other, and means to lock the frames in their adjusted position; substantially as described.

4. A potato digger having a main frame, an axle connected to the main frame, supporting wheels journaled on said axle, a shovel connected to the main frame, an auxiliary frame pivoted to the main frame, a tongue pivotally connected to the auxiliary frame, connections between the tongue and the auxiliary frame to swing the tongue on its pivotal connection with said frame and arranged to lock the tongue in its adjusted position, gage wheels arranged to support the tongue and auxiliary frame, and connections between the main frame and the auxiliary frame arranged to swing the main frame on the axle to raise the shovel, and means to lock the two frames together; substantially as described.

5. A potato digger having a main frame, an axle connected to the main frame, sup-

porting wheels journaled on said axle, a shovel connected to the main frame, an auxiliary frame pivoted to the main frame at a point to the rear of the axle, gage wheels secured to the front end of the auxiliary frame, guides on the sides of the main frame for the auxiliary frame, and connections between the main frame and the auxiliary frame arranged to swing the main frame on the axle to raise the shovel, and means to lock the two frames together; substantially as described.

6. A potato digger having a main frame, an axle connected to the main frame, supporting wheels journaled on said axle, a shovel connected to the main frame, an auxiliary frame pivoted to the main frame, a tongue pivotally connected to the auxiliary frame, a gage wheel frame connected to the auxiliary frame, gage wheels mounted on said frame, connections between the main frame and the auxiliary frame arranged to swing the main frame on the axle to raise the shovel, and connections between the tongue and the auxiliary frame arranged to raise the gage wheels from the ground; substantially as described.

7. A potato digger having a wheel supported axle, a main frame directly supported on said axle, supporting wheels journaled on said axle, a shovel connected to the main

frame, an auxiliary frame pivoted to the main frame at a point to the rear of the axle, gage wheels connected to the auxiliary frame, connections between the main frame and the auxiliary frame arranged to swing the main frame about the axis of the axle to adjust one frame with relation to the other, and means to lock said connections to retain the two frames in their adjusted positions; substantially as described.

8. A potato digger having a main frame, an axle connected to the main frame, supporting wheels journaled on said axle, a shovel connected to the main frame, an auxiliary frame pivoted to the main frame at a point to the rear of the axle, gage wheels secured to the front end of the auxiliary frame, guides on the sides of the main frame in front of the axle for the auxiliary frame, and connections between the main frame and the auxiliary frame to swing the main frame on the axle to raise the shovel, and means to lock the two frames together; substantially as described.

In testimony whereof, I have hereunto set my hand.

JOHN HIST.

Witnesses:

ED FIEDLER,
T. J. POOLE.