

No. 704,046.

Patented July 8, 1902.

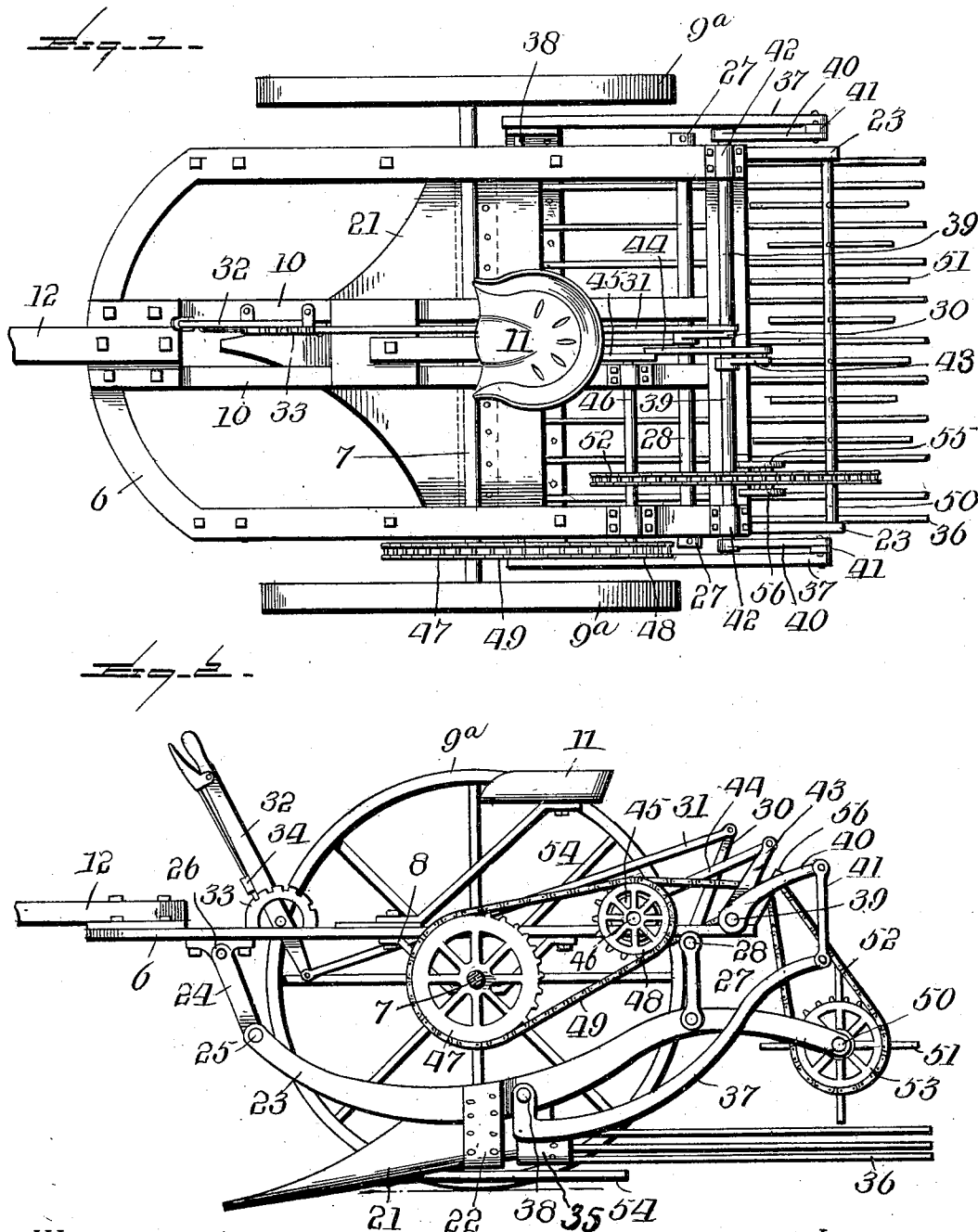
J. L. INGERSOLL.

POTATO DIGGER.

(Application filed Feb. 28, 1902.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

Wm. F. Doyle
Geo. C. Tew

INVENTOR

John L. Ingersoll
 BY *Milo B. Stevens*
 Attorneys

No. 704,046

Patented July 8, 1902.

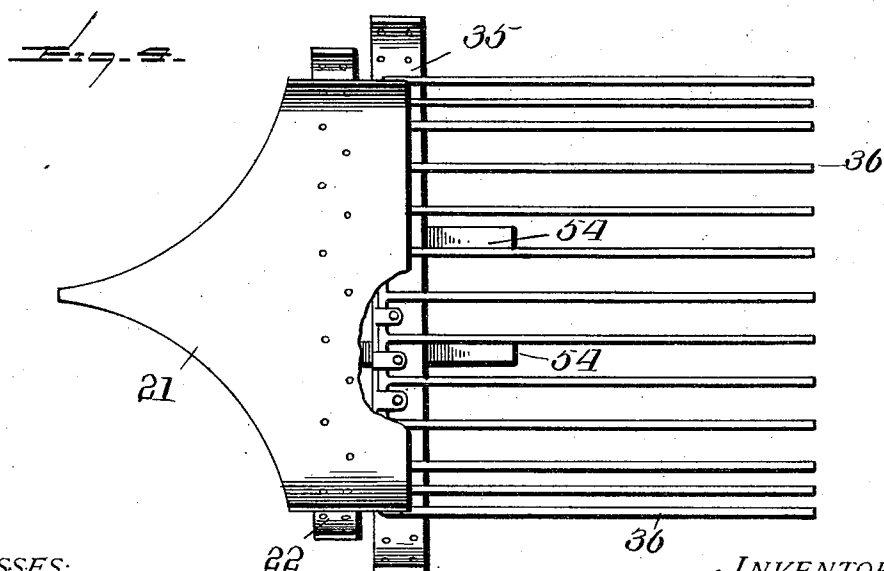
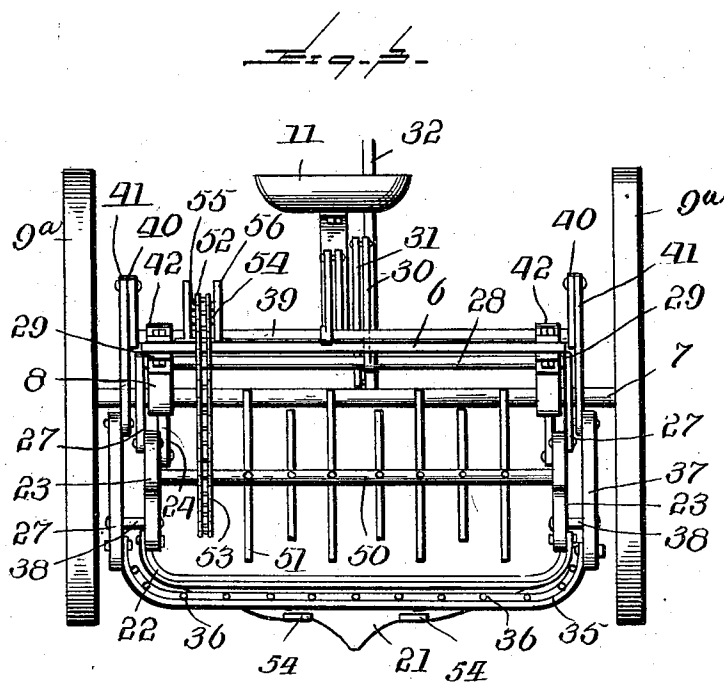
J. L. INGERSOLL.

POTATO DIGGER.

(Application filed Feb. 28, 1902.)

(No Model.)

2 Sheets—Sheet 2.



WITNESSES:

Wm. F. Doyle.
George E. Jew.

INVENTOR

BY *John L. Ingersoll*
Milo B. Stevens & Co.
Attorneys

UNITED STATES PATENT OFFICE.

JOHN L. INGERSOLL, OF MAYVILLE, MICHIGAN.

POTATO-DIGGER.

SPECIFICATION forming part of Letters Patent No. 704,046, dated July 8, 1902.

Application filed February 28, 1902. Serial No. 96,165. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. INGERSOLL, a citizen of the United States, residing at Mayville, in the county of Tuscola and State of Michigan, have invented certain new and useful Improvements in Potato-Diggers; and I do hereby 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 figures of reference marked thereon, which form a part of this specification.

15 This invention relates to potato-diggers, and particularly to that class of potato-diggers having a vibrating screen behind the shovel or plow, by means of which the earth and potatoes are separated.

20 The object of the invention is to provide improved means for supporting the shovel or plow, with the levers for raising or lowering the same.

A further object is to provide a construction by which the vibrating screen may be raised or lowered with the plow. This object is effected by attaching the screen to the bars which support the shovel.

30 A further object is the provision of a tedder above the screen and adjustable therewith to pick out and remove the vines and lighter stuff carried back over the screen to prevent the screen from becoming clogged.

35 A further object is the provision of improved means to vibrate the screen, whereby it is given a combined motion to and fro and up and down.

40 A further object is to provide means for simultaneously raising or lowering the shovel, the screen, and the tedder by a single hand-lever.

45 With these and other objects in view the invention is hereinafter described and is illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view of the machine. Fig. 2 is a side elevation thereof, the near wheel being removed. Fig. 3 is a rear elevation of the machine. Fig. 4 is a top plan view of the shovel and screen detached.

50 With the exception of the pole and whiffletree the entire machine is preferably con-

structed of iron and steel, and the frame is indicated at 6, mounted upon the axle 7 by brackets 8, securely attached to the under side of the frame. Said brackets have bearings for the axle, and the latter is provided with wheels 9^a. The frame also includes two bars 10, extending centrally lengthwise from end to end of the frame and securely attached thereto. These bars form a support for the seat 11 and the tongue 12, as well as for other parts to be hereinafter described.

The plow or shovel 21 is constructed of one piece of plate-steel made concave or scoop-shaped, converging to a point in front. This shovel is bolted to a rigid supporting-band of steel 22, which is made curved in form, corresponding to the rear of the shovel. This band is securely attached to the under side of the shovel a short distance from the rear end thereof, and the ends of said band extend upward above the sides of the shovel and are bolted to main supporting-bars 23, of which there is one on each side. These bars extend longitudinally under each side of the frame and have the shape of a compound curve. The front end of each is pivoted at 25 to a connecting draft-link 24, which is pivotally attached to the front end of the frame, as at 26. The rear end of each bar is supported by and pivotally attached to a depending crank-arm 27, said arm projecting from the end of a rock-shaft 28. The rock-shaft extends across the rear end of the frame and is journaled in bearings 29, secured to the frame. By crank-arm 30 and connecting-rod 31 the rock-shaft is operatively connected to a hand-lever 32, which is provided with the usual segment 33 and latch 34 to hold the lever at its adjustment. By this construction the operator is enabled to raise or lower the shovel at will and set the same to run at any desired depth and to lift it out of the ground when it is desired to transport the machine from place to place, which latter is a very desirable feature.

The vibrating screen is made concave to correspond with the shape of the shovel, and this shape is particularly advantageous inasmuch as it deposits the potatoes in a narrow row on the ground. The screen consists of a bar 35, carrying rearwardly-projecting rods 36. The bar is hung so that the front end of

the screen extends under the rear end of the shovel, so as to receive the earth and potatoes therefrom, and it is vibrated by means of bent levers 37, to which the bar 35 is bolted.

5 There are two of these levers, one on each side, and they are fulcrumed by pivot-bolts 38 to the main bar 23. The screen-bar 35 is bolted to the levers at or near the bend thereof. The front end of the screen is protected

10 from obstruction and from striking the ground by shoes 54, which are securely attached to the bottom of the shovel and extend rearwardly under the screen, so that an unobstructed space is formed between the shoes

15 and the shovel, in which the screen may vibrate.

The rearwardly-extending ends of the levers 37 are connected with a rock-shaft 39, which is carried in bearings 42 at the rear

20 end of the frame by means of crank-arms 40 and links 41. This rock-shaft is operated from the main axle by means of a crank-arm 43 and pitman 44, which is driven by a wrist-pin on crank-wheel 45. The connection

25 between the pitman and the crank-wheel may be adjustable, so as to regulate the throw of the pitman, and thereby the vibration of the screen. The shaft 46 of the crank-wheel is supported in proper bearings

30 on the frame of the machine and is driven from the main axle by sprocket-wheels 47 and 48 and chain 49. It will be seen that by the peculiar shape and connections of the levers 37 the screen is given a compound motion

35 forward and backward and up and down, which is very advantageous to the operation and function of the screen.

A revolving toothed shaft or tedder, adapted to assist the operation of the machine,

40 comprises a shaft 50, which is journaled in bearings at the rear ends of the main bars 23. Projecting teeth 51 are fixed to this shaft and the length of the teeth and downward curve of the bars 23 are such that the teeth

45 extend near to and rotate directly above the

screen, whereby the stuff on the screen is stirred and vines and the like removed, which prevents the screen from being clogged and assists in its operation. The shaft 50 is driven from the shaft 46 by means of chain

50 52 and sprocket-wheels 53 and 54 on said shafts. To accommodate the vertical adjustment of the parts and to retain the chain 52 in proper tension, it is passed over rollers 55, which are journaled in bearings in a bracket

55 56, attached to the rear end of the frame. This permits of the raising and lowering of the main bars 23, and retains the chain in proper engagement with the sprocket-wheel.

It will be seen that the draft strain of the shovel is very well carried and sustained by the connections with the front end of the bars 23 and that the peculiar shape and function of said bars permits them to carry all the active operative parts, which are all adjustable therewith.

60 65

What I claim is—

1. In a potato-digger, in combination, a frame and a shovel, and means to support and vertically adjust the shovel comprising

70 horizontally-disposed bars to and between which the shovel is attached, said bars having at their front ends connecting-links to the frame, and levers fulcrumed on the frame and connected to the bars rearward of the

75 shovel to adjustably elevate the same.

2. The combination with a wheeled frame, of bars linked at their forward ends to the frame at each side thereof, a shovel secured to and between the bars, bent vibrating levers pivoted to the bars, a screen suspended from the levers behind the shovel, and a revolving tedder journaled in the bars and extending across above the screen.

80

In testimony whereof I affix my signature

85 in presence of two witnesses.

JOHN L. INGERSOLL.

Witnesses:

A. B. MARKHAM,
C. L. SCHRAM.