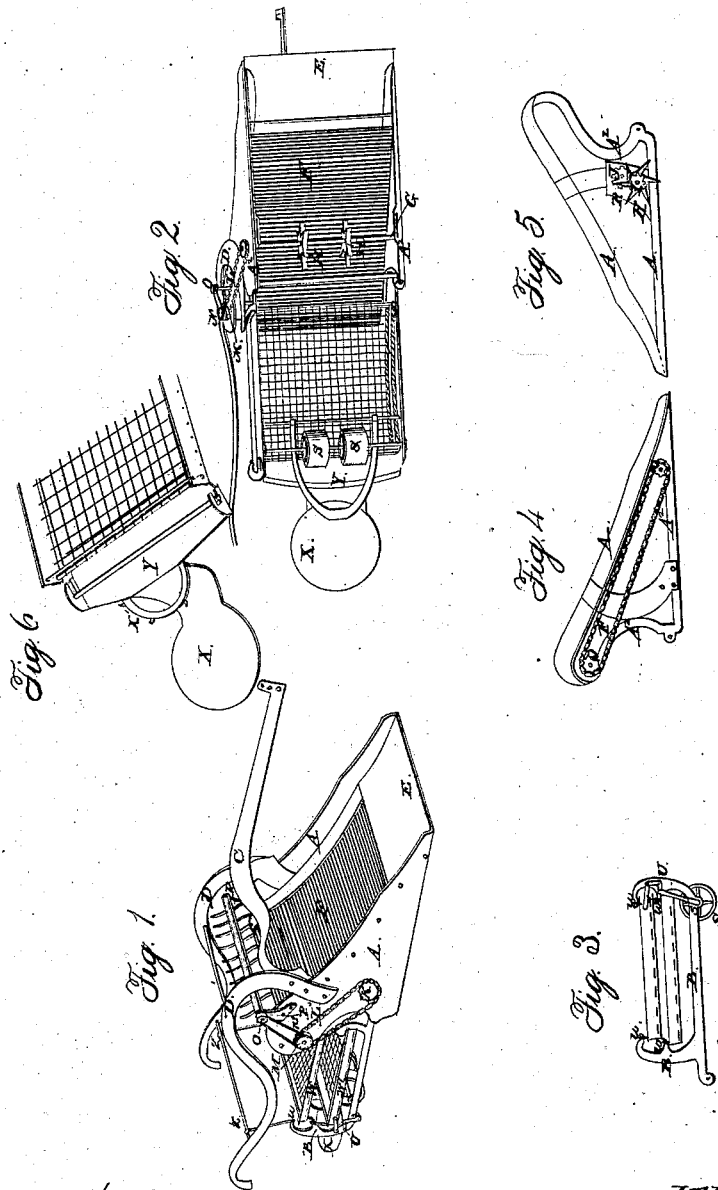


J. W. BARTLETT.

Potato-Digger.

No. 47,916.

Patented May 30, 1865.



Witnesses:
D. H. Bates
J. J. Parker

Inventor:
John W. Bartlett

UNITED STATES PATENT OFFICE.

JOHN W. BARTLETT, OF HARMAR, OHIO.

IMPROVED POTATO DIGGER AND SEPARATOR.

Specification forming part of Letters Patent No. 47,916, dated May 30, 1865.

To all whom it may concern:

Be it known that I, J. W. BARTLETT, of Harmar, in the county of Washington and State of Ohio, have invented a new Potato Digger, Separator, and Assorter; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view of my machine, showing one side and front of same. Fig. 2 is also a perspective, showing the bottom and interior arrangement. Fig. 3 is a side view of the after part of the machine, showing the left side, with the screens, levers which communicate motion to them, and the wheels which move the levers by means of crank. Fig. 4 is an interior view of the left side of the forward part. Fig. 5 is an interior view of the right side of the same.

The design of my machine is to enable the farmer with few hands to gather large crops of potatoes speedily and in good order; and in order to enable mechanics to make my machine, I will proceed to describe it.

The main body scraper or digger is made of cast or wrought metal. The sides of this body are about two feet and a half long, straight on the underside. The upper side is tapered down a little in the form of a road-scraper, and is rounded off and scalloped out at the back end to make room for the end of screens, hereinafter more fully explained. Attached to this main body is a sharp thin scraper-edge, made of iron or steel. Inside of the aforesaid body is an iron frame, the sides of which are formed or shaped like the outer body on the under side and back end. The front end is forged out and tapered, with a circle to suit the shape of scraper-edge, to which it is fastened by rivets or bolts. The sides are held to their proper places by two rods, one at each end, at or near the bottom. The scraper-edge extends up the incline about twelve inches, where it is cut out, leaving only narrow strips on each side, extending along up the sides to the upper end, and is slightly turned down, which is hereinafter explained.

Immediately under the upper edges of scraper is an arbor running in bearings on aforesaid iron frame. On it are two little heads, over

which and a similar arbor, with larger heads, at the upper end of said frame, is an endless chain. This upper arbor extends through the side and has a pulley on it, over which and a pulley near the lower edge of main body a chain or belt works.

The main shaft extends across the under side of said iron frame and works in bearings made in the ends of beam, which extend along down the sides of body on the inside. On one end of said main shaft a small cog-wheel is fastened, so as to gear into a similar wheel on a little short shaft or arbor, which has the before-mentioned driving-pulley on outside of main body for driving the endless chain, which chain is made with small links in the usual way, and has small steel rods extending across from side to side of said form or body, thus forming a carrying-apron, for purposes hereinafter explained. Suspended on little arms or standards nearly over the extreme upper end is a revolving rake or cleaner, driven by pulleys on the end of it and on the upper endless roller-shaft.

Fastened to the back end of said main body is a frame or screen-carrier. This frame is also made of iron or other metal. The lower bars or rails are nearly straight, and have arms extending up to within three or four inches of the under side of the endless chain, nearly under the center of the upper endless-chain roller. These upright arms have little projections, on which the ends of the screens are suspended, so as to swing easily and freely. At the other end they make a circular turn up, but not quite so high, thereby causing the screens to hang the lowest at the rear end, where they are suspended from little arms similar to those from which depend the forward ends. This frame is also held together by rods at each end through the said little upright arms and one rod through the lower rails. At the rear end of said screen-carrier an arbor is suspended in proper bearings made on the under side of lower rails. On each end of said arbor are small cranks, to which small pitmen are properly attached for shaking the screens by little elbow-levers. The screens are made, in the usual manner, of wire. On the said shaft are small wheels or pulleys, which run on the soft or loose earth and move the screens, as before mentioned. Across the rear end of said frame,

and immediately over said shaft, is a chute or spout with edges raised up, so as to leave an opening just wide enough to fit the mouth of a sack suspended to it on a circular holder attached to said chute.

Fastened to said chute or spout, and to suitable stays and braces, is a round platform for the operator to stand on, from which he can regulate the machine by two handles, which are fastened to main body just where the said beam or tongue is fastened, and extend back to a proper place to take hold of while standing on said platform.

The screen-carrier is hinged to the under back end of said main body and frame, so that it will lift up or let down for any condition of the ground it is passing over, and it can also be raised up so as not to be affected by the moving of the forward machinery, and is held up by little hooks on the handle-stretcher. These little hooks can be thrown over the handles while the machine is operating.

The beam is forked at the back end, and runs down the inside of body, as before mentioned, and is riveted and screwed together with the ends of the handles and main body. The handles are made in a circular shape at this end, rising up over the little revolving rake and coming down to a convenient height over the screen-carrier.

A A is main body or casing. B is the screen-carrier; C, beam; D D, handles; E, scraper-edge; F, endless chain or apron. G is main shaft; H H, spur-wheels on main shaft. I is cog-wheel on main shaft. J is intermediate cog-wheel; K, driving-pulley on intermediate shaft; L, chain or belt on said pulley; M, pulley on upper roller or arbor of endless apron; N, pulley on small shaft for driving revolving rake; n, cord for driving rake; O, pulley on rake-roller; o, revolving rake; P, standard or bearing for same; Q, heads on roller of endless chain or apron; q, heads on lower roller of same; R, bearing for intermediate shaft; S, pulleys on main shaft of screen-carrier; s, crank on said shaft; T, pitman; U, elbow-levers for moving screens; W W, screens; X, platform; Y, chute or spout; Z Z, little hooks for carrying or suspending screen-carrier.

The operation of my potato digger, separator, and assorter is as follows: A team hitched to beam, the machine is placed at the end of the row, the operator standing on the platform X. The scraper-edge is run under the potatoes, thus forcing the earth and potatoes up the scraper on the endless apron, which is put

in motion by the spur-wheels H H on the main shaft operating the intermediate or driving-pulley, K, by the cog-wheels I and J, and the chain or belt L on pulley M of upper roller of said endless apron, said apron running so as to carry everything on it to the upper end that is not fine enough to fall between the rods of apron. Any grass or weeds which may be carried up are cleared off by the operation of the revolving rake or cleaner, which revolves the contrary way from the apron, thus making a complete separation. The ends of these rods, and the links of chain and head, are guarded from the dirt or gravel by the narrow strips extending up from scraper-edge and bent over and around the upper end of the apron. It will be seen that the potatoes will be carried up and over the upper end of the apron and thrown onto the upper screen, W, which is in motion, by the wheels or pulleys S S on main-screen shaft, and the cranks s and the pitmen T and the elbow-levers u. The large potatoes are detained in and pass over it into the sack at the mouth of the chute Y, the smaller ones being deposited in the lower screen, W'.

It will be readily understood that the operator has full control of the machine while standing on the platform X with the lines of the team in hand. He can guide it at will, and by the handles he can raise and lower the machine to dig deep or shallow at will, or even run it on top of the ground, if he wishes; and when he desires to run the machine without using the screens the carrier is hooked up by the little hooks Z on the handle-stretchers.

By this machine one hand can pass over three to four acres of ground per day, and dig and sack all the potatoes found.

After having thus fully described my machine, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the iron frame A², scraper E, endless apron or chain F, main shaft G, spur-wheel H, with gearing, as stated, or their equivalent, by means of which the machine is made to dig and automatically separate potatoes, as set forth.

2. The platform X, in combination with the chute Y and sacking device X', in the manner and for the purpose set forth.

This specification signed and witnessed this 24th day of August, 1864.

JOHN W. BARTLETT.

Witnesses:

J. J. PARKER,
P. H. YATES.