(No Model.) 2 Sheets—Sheet 1.

G. M. D. POMEROY & G. H. WEBBER.

POTATO DIGGER.

No. 490,924. Patented Jan. 31, 1893.

Fig. 1.

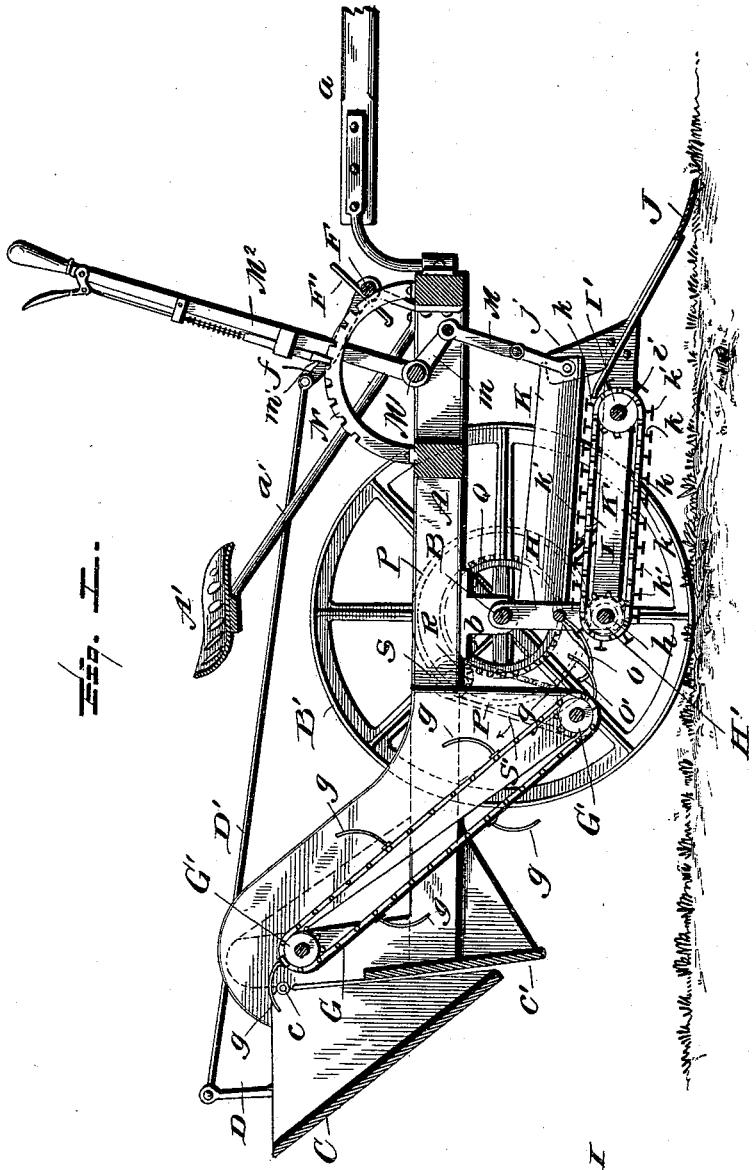
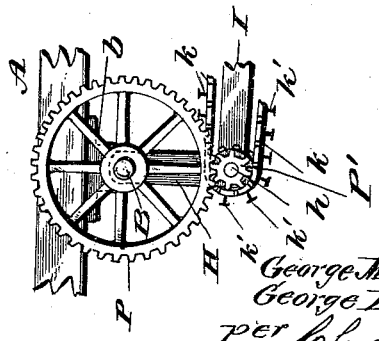


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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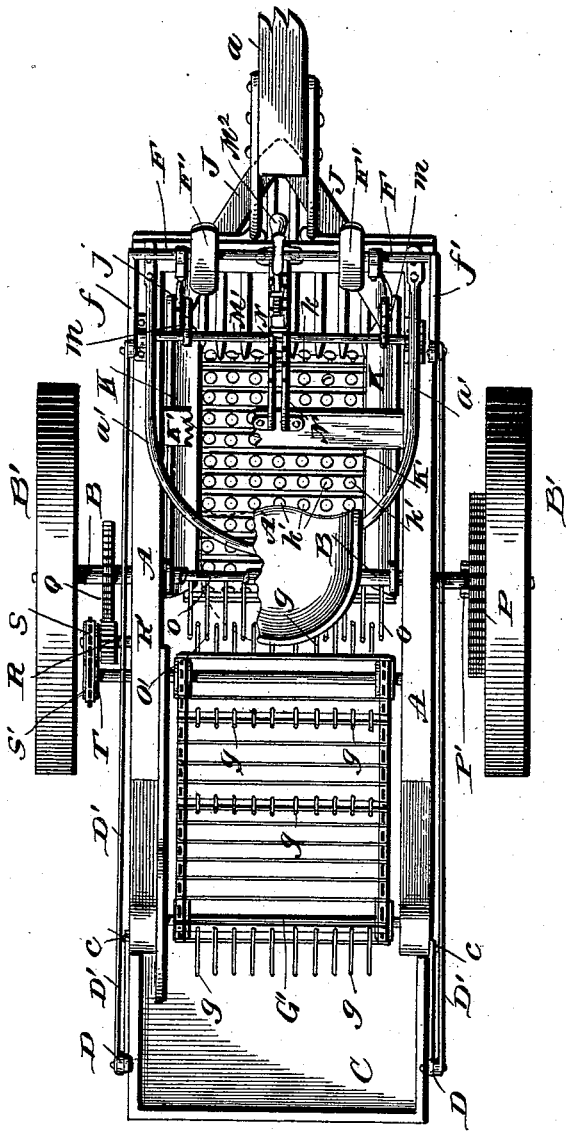
Fig. 5.



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UNITED STATES PATENT OFFICE.

GEORGE M. D. POMEROY AND GEORGE H. WEBBER, OF LEBANON, INDIANA.

POTATO-DIGGER.

SPECIFICATION forming part of Letters Patent No. 490,924, dated January 31, 1893.

Application filed July 20, 1892. Serial No. 440,583. (No model.)

To all whom it may concern:

Be it known that we, GEORGE M. D. POMEROY and GEORGE H. WEBBER, citizens 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 we 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 which shall be more efficient in operation than the prior forms and in which the potatoes as they are dug and gathered up by the machine will not be so collected as to prevent the proper sifting of the dirt therefrom.

We provide a carrier between the shovel or plow and the elevator and provide a receptacle between the said carrier and the elevator into which the potatoes are deposited to be taken up by the elevator. This carrier is also of novel construction permitting of the collection of the potatoes without clogging and allowing all of the dirt to escape.

Other objects and advantages of the invention will hereinafter appear and the novel features thereof will be specifically defined by 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 central vertical longitudinal section through the machine. Fig. 2 is a detail showing the means for operating the carrier. Fig. 3 is a top plan with a portion of the seat and cross bar broken away.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates the frame of the machine provided with the usual draft attachments *a* and with a seat A′ suitably supported as by the bars *a′*.

B is the main axle and B′ the wheels all of known construction. The axle is supported in hangers *b* on the under side of the frame as seen in Fig. 1.

To the rear of the frame is pivotally supported on pivots *c* the movable portion of the box C the front wall C′ of which is fixedly secured to the frame.

D are upright rods secured to opposite sides of the movable portion of the box and to the upper ends of each of these uprights is pivotally secured one end of a rod D′ the forward ends of which are pivotally connected with the upper ends of the arms *f* of the crank shaft F which is supported in suitable bearings or boxes on the frame and provided with the foot levers F′ by pressing upon which the movable portion of the box may be thrown out to dump the contents. It returns to its normal position by gravity.

Arranged to the rear of the axle is an elevator consisting of a suitable endless carrier G provided with cross slats with curved teeth *g* as seen best in Fig. 1. It is carried over the upper and lower sprocket wheels G′ and is operated as will soon be described.

H are hangers pivoted on the axle and at their lower ends carrying a shaft *h* on which are the sprocket wheels H′ and extending forward from the lower ends of these hangers are the horizontal arms I in the forward ends of which is journaled the shaft *i* carrying the sprocket wheels I′.

J is the shovel or plow carried by the forward ends of the side bars I and to the upper ends of the extensions *j* of the side bars are the scoops or curved guards K which serve to keep the potatoes on the carrier. This carrier consists of an endless band or belt or bands or belts carrying the cross slats K′ on each of which are a plurality of vertical pins *k* at the outer end of each of which is a flat or otherwise shaped plate *k′* as seen in all of the views. These bands or belts are carried over the sprocket wheels H′ and I′ as seen in Fig. 1. The shovel and the frame carrying the same are adapted to be raised and lowered when desired by the following means; M is a toggle lever connecting some portion of the carrier-frame and the main frame as seen in Fig. 1 and M′ is a cross shaft suitably journaled in the main frame and having secured thereto a short arm *m* connecting the same with the upper

portion of the toggle and on this cross shaft is a lever M^2 provided with a suitable spring pawl m' which is adapted to engage in the notched quadrant N to hold the parts in their adjusted positions. The quadrant is suitably supported on the main frame as seen in Figs. 1 and 3.

On the hangers H below the axle is secured a cross shaft O which has secured thereto a plurality of upwardly and rearwardly curved spring fingers O′ as seen best in Fig. 1 which are arranged between the rear end of the carrier and the forward end of the elevator the fingers on which are designed to work between the fingers O′ as seen in Fig. 3.

Motion is conveyed to the carrier in the following manner, P is a gear wheel on the main axle and this meshes with a smaller gear wheel P′ on the shaft *h* which is the rear shaft of the carrier as above explained.

Motion is given to the elevator as follows;— Q is a pinion on the opposite end of the main axle and this pinion meshes with a smaller pinion R on a stub shaft R′ supported from the main frame and on which is a sprocket wheel S which is connected by sprocket chain S′ with a sprocket wheel T on the lower and forward shaft of the elevator as seen best in Fig. 3.

The operation will be readily understood. As the machine is moved forward the potatoes are dug up by the shovel and then conveyed, in the further forward movement of the machine, onto the carrier which carries them to the receptacle formed by the curved spring fingers O′ from which they are taken up by the fingers of the elevator and carried to the box at the rear from which they are dumped by manipulation of the forward rock shaft. The dirt is sifted from the potatoes as they pass over the carrier and if any dirt remains when they arrive at the receptacle it is sifted out and by the time the potatoes reach the box they are entirely free from dirt. The peculiar construction of the carrier prevents the potatoes from settling on the carrier so as to clog the same and prevent the escape of the dirt therefrom. The carrier is operated and the elevator given its motion by the forward movement of the machine as above described.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What we claim as new is;—

1. In a potato digger a carrier consisting of endless bands and cross slats flexibly connected and independent separated portions extending from the slats to support the potatoes out of contact with the slats, as set forth.

2. The combination with the elevator and shovel, of an interposed endless carrier, and spring toothed receptacle a pivoted frame therefor, and carrying the shovel and means for raising and lowering the carrier and shovel, as set forth.

3. The combination with the elevator and the shovel, of the interposed endless carrier and spring toothed receptacle and means for raising and lowering the shovel and carrier, as set forth.

4. The combination with the main frame and the elevator, of the pivoted frame at the front end of the main frame, the shovel and the endless carrier on said pivoted frame the spring toothed receptacle and means for operating the elevator and carrier from the main axle, as set forth.

5. The combination with the elevator and shovel, of the interposed carrier and receptacle carried by a pivoted frame, the spring toothed receptacle as set forth.

6. The combination with the elevator and shovel, of an interposed endless carrier, a relatively fixed spring toothed receptacle between the carrier and elevator and means for operating the carrier and elevator from the main axle, as set forth.

7. The combination with the main frame and the pivoted frame carrying the shovel and carrier, the elevator and the interposed spring toothed receptacle of the toggle connection between the two frames, a lever and a connection between the lever and the toggle as shown and described.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

GEORGE M. D. POMEROY.
GEORGE H. WEBBER.

Witnesses:
JOHN B. HARRISON,
J. S. HARRISON.