(No Model.) 2 Sheets—Sheet 1.

H. B. UTTER.

POTATO DIGGER.

No. 343,553. Patented June 8, 1886.

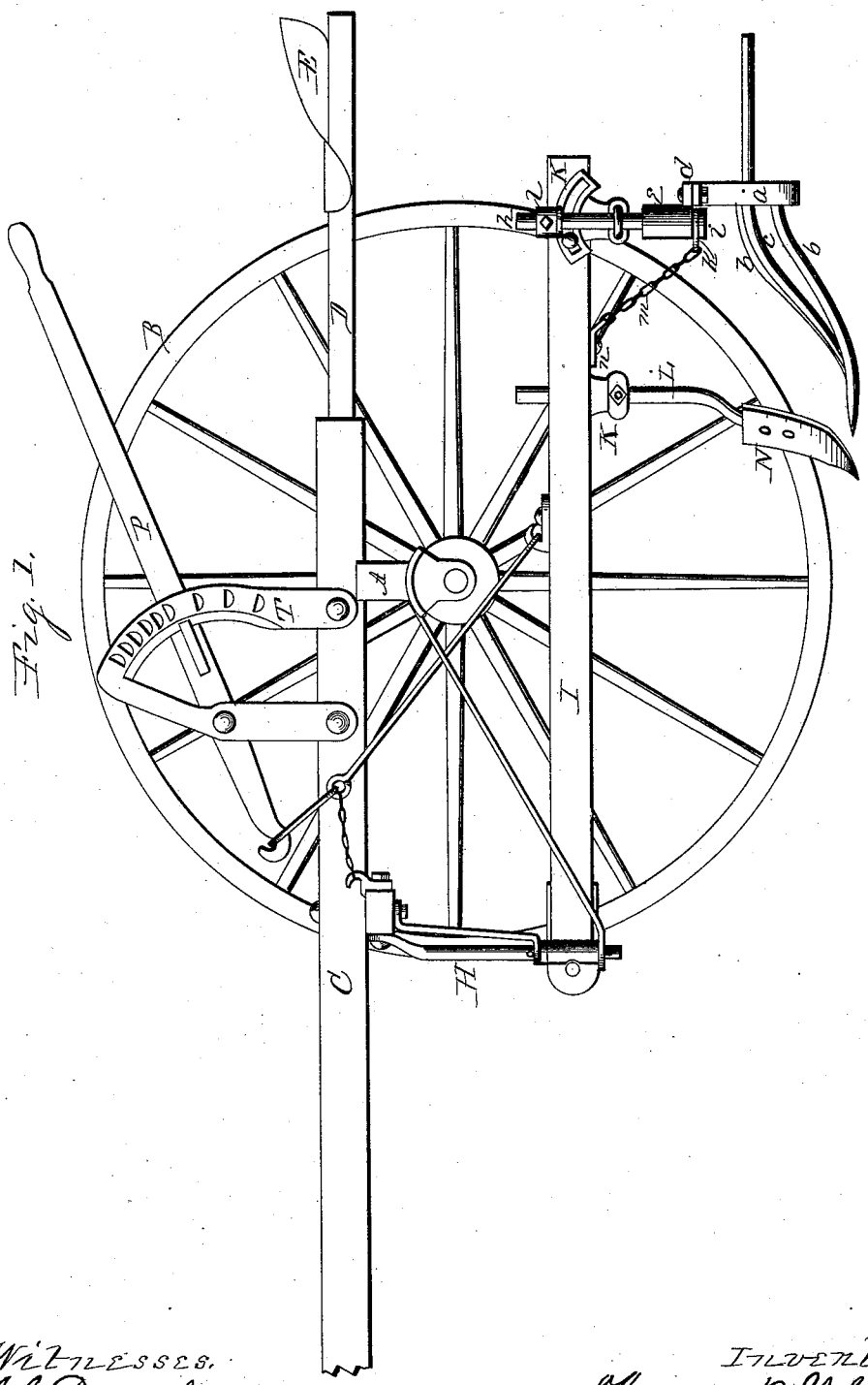

Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

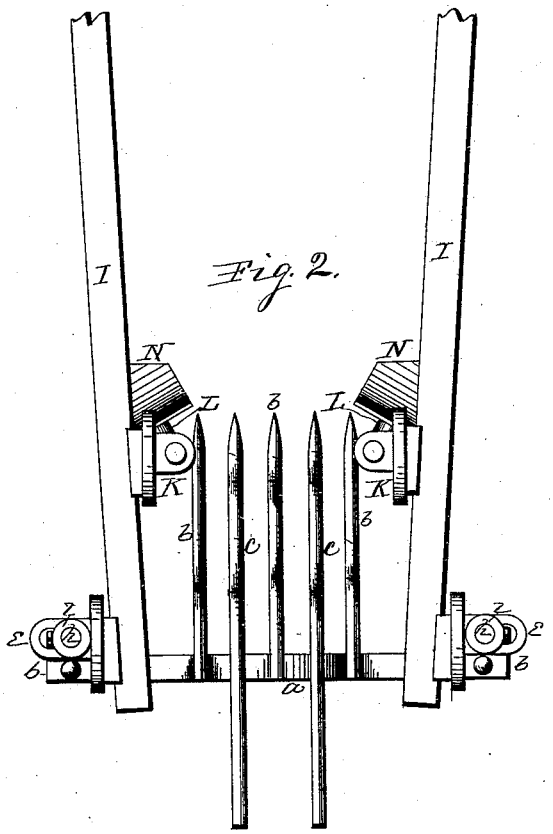


Fig. 4.

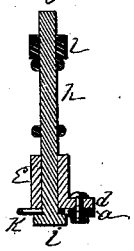
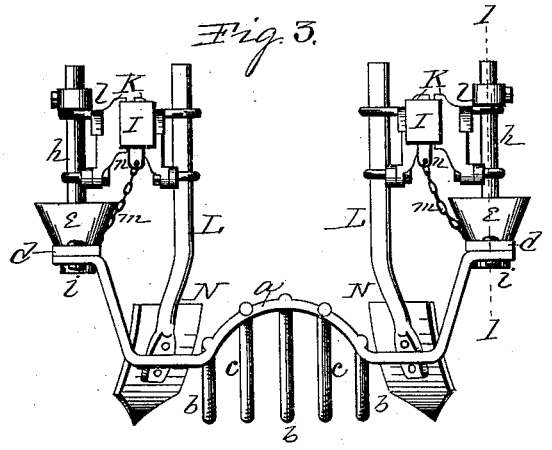


Fig. 3.



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UNITED STATES PATENT OFFICE.

HORACE B. UTTER, OF ROCKFORD, ILLINOIS, ASSIGNOR TO THE UTTER MANUFACTURING COMPANY, OF SAME PLACE.

POTATO-DIGGER.

SPECIFICATION forming part of Letters Patent No. 343,553, dated June 8, 1886.

Application filed August 31, 1885. Serial No. 175,791. (No model.)

To all whom it may concern:

Be it known that I, HORACE B. UTTER, a citizen of the United States, residing in the city of Rockford, in the county of Winnebago and State of Illinois, have invented a new and useful Potato-Digger, of which the following is a specification.

This invention relates to horse-power potato-diggers. Its object is to combine a potato-digger with a wheeled cultivator; and it consists, essentially, in the combination of a potato-digger with a wheeled cultivator, and in the devices employed to produce the combination. To this end I have designed and produced the apparatus represented in the accompanying drawings, in which—

Figure 1 is a side elevation of a wheeled cultivator with which I have combined a potato-digger, and in which one of the carrying-wheels is omitted, to more clearly show the connection. Fig. 2 is a plan view of a portion of the cultivator and digger attached. Fig. 3 is a rear elevation of the digger in its connection with the cultivator, and Fig. 4 is a vertical section on dotted line 1 on Fig. 3.

The several parts represented in the several figures of the accompanying drawings, consisting of an axle-tree, A, with axle-arms fixed to its end portions, and carrying wheels B, mounted to revolve thereon, a tongue-frame, C, fixed to the axle-tree and extending forward therefrom, a seat-frame, D, fixed to the supporting-frame and extending rearward, with a seat, E, fixed on its rear end, the pendants H, with drag-bars I, having their forward ends hinge-jointed to the lower ends of the pendants and extending rearward therefrom under the axle-tree, shovel-standard safety-fastenings K, fixed to the drag-bars, and shovel-standards L, with shovels N fixed thereto, supported in the standard-fastening, the lifting and holding levers P, their ratchet-supports T, their link-connection with the supporting-frame and with the drag-bars, and their pawl-connection with the ratchet-supports, including the mechanical construction and attachments of these several parts, are substantially the same, for the same purpose, and operate in the same manner as like parts of the cultivator secured by United States Patent No. 197,503, to Morris L. Utter, dated November 27, 1877.

The potato-digger consists, essentially, of a curved bar, *a*, and digger-fingers *b* and *c*. The digger-fingers are fixed at proper intervals to the central upward-curving portion of the curved bar, and from their connection therewith extend forward, inclining downward to place their pointed forward ends in the same horizontal plane. The digger-teeth *c* on each side of the center tooth extend rearward of the curved bar to which they are fixed. The uprising end portions of the curved bar *a* of the digger engage a bracket-arm, *d*, projecting rearward from the joint-sockets *e*, and are securely fixed thereto—in this instance by means of a screw-bolt passed through the parts. The joint-socket *e* is of inverted-bell form, having vertical side walls, and their end walls flaring or inclining outward in the lateral direction of the machine, and of an internal opening in the lengthwise direction thereof equal to the diameter of its standard-support *h*. The standard-supports *h* are each provided with a head, *i*, and each standard receives an eye or hook washer, *k*. The standards are passed upward through the bell-formed joint-socket, and their upper portions are fixed to the drag-bars by means of the shovel-standard fastening. A collar, *l*, is placed on each standard above the standard-fastening, and is fixed in place by means of a set-screw.

The standards, by means of their connection with the fastening and the adjustable collar *l*, are made adjustable vertically to regulate the running depth of the digger relatively with the side shovels forward of the digger. The standard-supports are also made adjustable in their connection with the fastening to raise and lower the points of the digger-fingers to place them on a proper working level.

In connection with the standard-fastening I have employed a brace-chain, *m*, or link, to connect with the eye or hook washer *k* and with the drag-bar to hold the digger in its adjusted position. The brace *m*, by means of a slotted bracket, *n*, is made adjustable in its connection with the drag-bar to regulate its length to the position of the digger.

In use I prefer to adjust the face of the shovels N oblique to the line of draft, inclining outward to throw the furrows from the center, to leave the row to be lifted by the

digger cut free on both sides. It will be seen that by reason of the bell-formed joint-socket connection of the digger with the drag-bars the respective sides are capable of independent vertical movements, controlled by the lifting and holding mechanism, to adjust the digger to run at the proper level, control its running depth, and elevate and support the digger in an elevated position for transportation.

In the operation of my improved machine the central portion, or the row containing the potatoes or other vegetables, will be lifted by forward movement of the digger, and will flow upward over the fingers, and a portion of the earth will be sifted through the openings between the fingers and the potatoes will be carried over and to a great extent will be found on the surface. In this instance I have combined a potato-digger with a particular form of cultivator, but do not wish to confine myself to this particular machine, as perhaps any or all of the varieties of wheeled straddle-row cultivators employing hinge-jointed drag-bars may be employed and still be within the scope of my invention.

I claim as my invention—

1. The combination of a potato-digger with the drag-bars and shovels of a wheeled cultivator, said digger made adjustable in its connection with said drag-bars and shovels, substantially as and for the purpose set forth.

2. The combination, with the drag-bars of a wheel-cultivator, of a potato-digger and its supporting-standards, said standards being adjustable in their attachment to the drag-bars, substantially as described.

3. The combination, with the drag-bars of a wheel-cultivator, of the adjustable standards, and a potato-digger whose frame is secured to said standards by means of joint-sockets, substantially as described.

4. The herein-described potato-digger, consisting of a curved or bent bar and digger-fingers, said bar having upturned end portions to engage its hinge-joint connection with the drag-bars, and a central upward-curving portion to secure the digger-fingers, and said digger-fingers fixed to the central upward-curving portion, and extending therefrom forward and downward, with their pointed ends in the same horizontal plane, substantially as and for the purpose set forth.

HORACE B. UTTER.

Witnesses:
A. O. BEHEL,
JACOB BEHEL.