S. E. ANTHONY.

Improvement in Potato-Diggers.

No. 114,088. Patented April 25, 1871.

Fig. 1

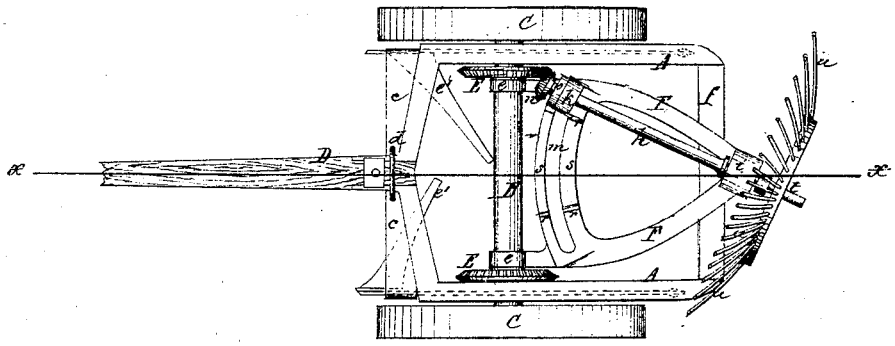
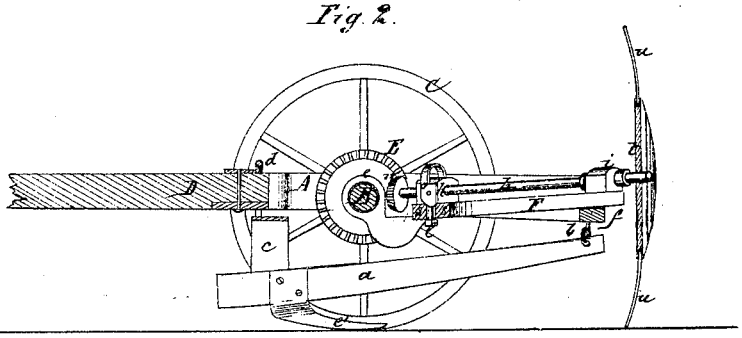


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

SHERMAN E. ANTHONY, OF STILLWATER, NEW YORK.

IMPROVEMENT IN POTATO-DIGGERS.

Specification forming part of Letters Patent No. **114,088**, dated April 25, 1871.

To all whom it may concern:

Be it known that I, SHERMAN E. ANTHONY, of Stillwater, in the county of Saratoga and State of New York, have invented a new and Improved Potato-Digger; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a plan view; and Fig. 2 is a sectional elevation in the line *x x*, Fig. 1.

This invention relates to a machine that first loosens up the roots and earth in a row of potato-hills by means of tines that run beneath the hills, said tines being inclined downward and backward and projecting toward each other from a pair of parallel bars that are drawn along the row, one at each side of the same, said machine being also provided with a vertical disk fixed on a horizontal shaft, which is mounted in the same frame that supports the aforesaid bars and tines, said disk bearing a row of radial teeth, which, by the rotation of the disk, effect the separation of the potatoes from the loosened earth.

In the drawings, A is a frame-work mounted on an axle, B, that is supported on master-wheels C. *a* are the parallel bars aforesaid, which are hung one beneath each of the side pieces of the frame A by links or hooks *b* at their rear ends and by a yoke, *c*, to the extremities of which the front ends of the bars *a* are fastened, said yoke being connected with the tongue D by a clevis, *d*, that loosely incloses the tongue and allows the bars *a* to rise sufficiently to admit of the tines *c'* mounting over any immovable obstacle they may chance to meet with. In this arrangement of the bars and tines by themselves there is nothing novel.

E E are bevel-gears fixed on the axle B, within the frame-work A.

F is a frame whose front end is provided with boxes *e*, which encircle the axle B, while the rear part of said frame rests on the hinder cross-piece, *f*, of the frame-work A. A shaft, *h*, is mounted lengthwise of the frame F, the rear box, *i*, of said shaft being jointed in the said frame, and the front box, *k*, of the shaft *h* being provided with a set-screw, *l*, that passes through a curved slot, *m*, which runs transversely of the frame F near its front end. A bevel-pinion, *n*, is fixed on the front end of the shaft *h* and engages with either of the gears E, according to the pleasure of the operator, the box *k* being arranged to slide in the slot *m*, and the shaft *h* being by these means capable of being placed either at an angle with the side pieces of the frame-work A or parallel with them, in which latter case the gears E would have to be moved toward each other along the axle B until they met the bevel-pinion *n*. A bow, *o*, is jointed to the sides of the front box, *k*, of the shaft *k*, the ends of which bow, when the latter is erect, enter grooves *r*, that run transversely of the upper surface of the front piece, *s*, of the frame F, the bow thus serving to fasten the box in place. On turning the bow forward, its ends are withdrawn from the grooves *r*, and the box *k* may then be slid along the front piece, *s*, to another position, in which it is fastened by turning the bow *o* upward until its ends enter other grooves *r*.

On the rear end of the shaft *h* is fixed a disk, *t*, which bears a row of radial teeth, *u*, which serve, when put in rotation by the forward movement of the machine, to separate the potatoes from the earth previously loosened by the tines *c*, the teeth *u* being made of sufficient length to properly discharge this function. If the teeth *u* meet with an immovable obstacle, the rear end of the frame F may be raised far enough to clear it.

The teeth *u* may be either inclined forward, as shown in the drawings, or vertical; but I am of the opinion that the inclined position is the best one, for the reason that when the shaft *h* is set at an angle with the side pieces of the frame-work A the teeth *u*, if inclined, enter and pass through the earth slanting, and consequently with less friction than as though they were vertical, the slanting position being also the most effectual for loosening the potatoes, while after coming out of the earth the teeth *u*, by the time they reach the height of the frame-work A, are about parallel with its rear end, and consequently leave a clear space between themselves and the frame for the passage of potatoes and vines.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the tined disk *t u*, shaft *h*, journal-bearings *i k*, bevel-pinion *n*,

bevel-gear E, axle B, and frame A *f*, when all said parts are arranged as shown and described.

2. The disk *t*, provided with the teeth *u*, and combined with the shaft *h* and frame F in the manner described and for the purpose of enabling the shaft *h* to be set at an angle with the side pieces of the frame A, if desired.

To the above specification of my invention I have signed my hand this 9th day of September, A. D. 1870.

S. E. ANTHONY.

Witnesses:

THOS. D. D. OURAND,

CHAS. A. PETTIT.