N. VANDENBURGH.

Potato Digger.

No. 109,974. Patented Dec. 6, 1870.

Fig: 1

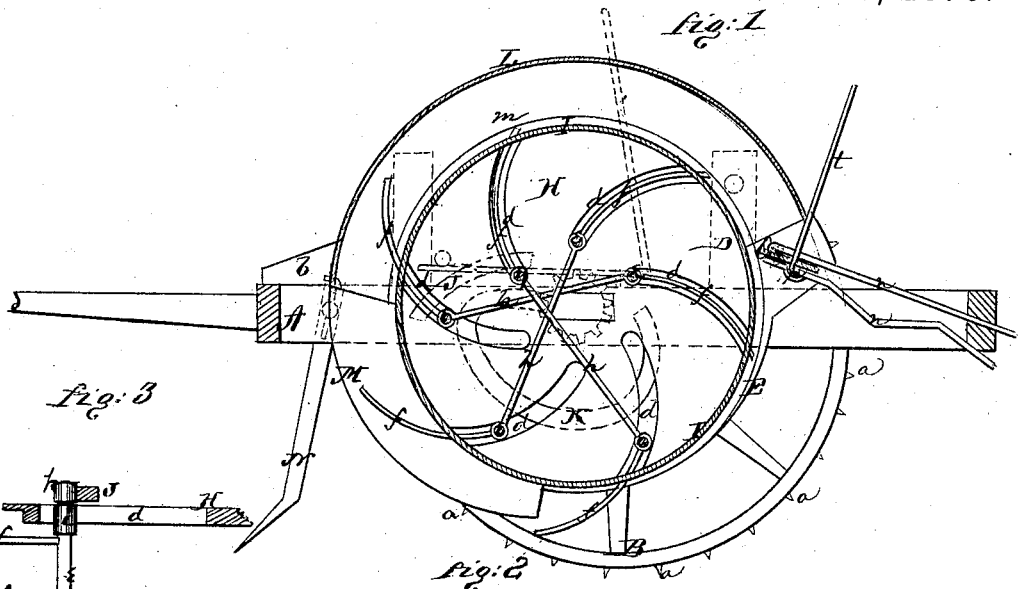
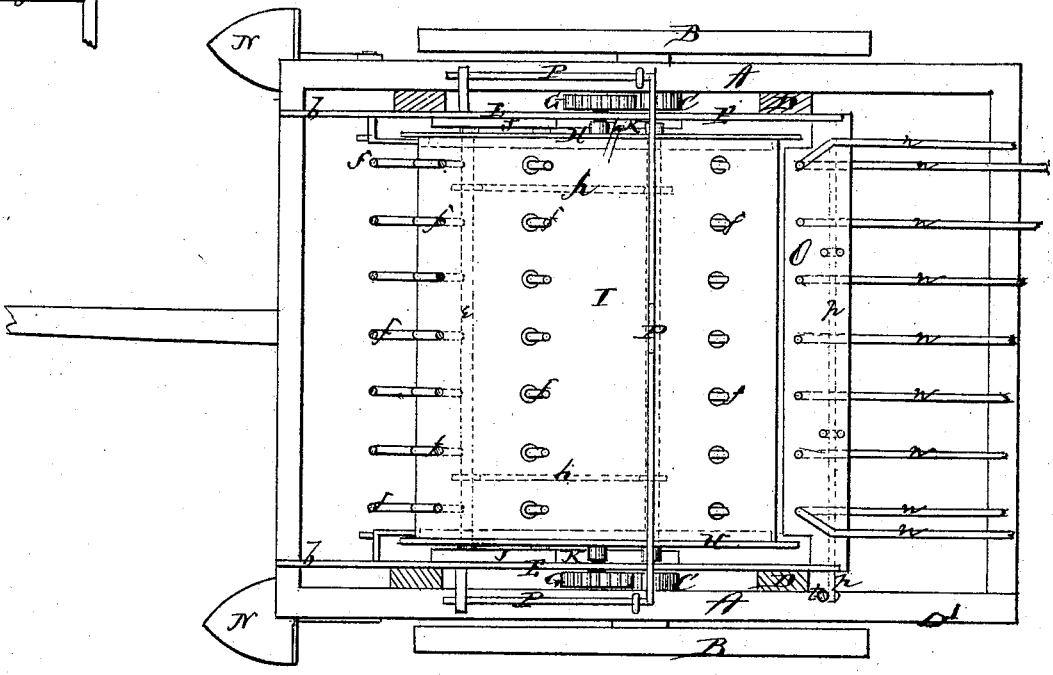


Fig: 3

Fig: 2



Witnesses

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NICHOLAS VANDENBURGH, OF SCHUYLERVILLE, NEW YORK.

Letters Patent No. 109,974, dated December 6, 1870.

IMPROVEMENT IN POTATO-DIGGERS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, NICHOLAS VANDENBURGH, of Schuylerville, in the county of Washington and in the State of New York, have invented certain new and useful Improvements in Potato-Digger; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The nature of my invention consists in the construction of a potato-digger, which is intended as an improvement upon one patented to me October 18, 1870, as will be more fully hereinafter set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a longitudinal vertical section of the entire machine, the revolving cylinder within, which is the mechanism of the potato-digger, being in transverse vertical section;

Figure 2 is a plan view of the entire machine; and

Figure 3 is a section, showing the end of one of the rakes.

A represents the frame of my machine, having a wheel, B, on each side.

The wheels B B have separate and independent axles or journals, which only pass through their respective sides of the frame, and have each a pinion, C, attached to it inside of the frame.

These wheels B B should be arranged on their axles with ratchet-wheels and pawls in such a manner that they will turn said axles with the pinions only, when the machine is driven forward; but when either or both of the wheels should be turned backward, its or their axle will remain stationary.

The rims of the wheels B B are provided with teeth *a a*, which penetrate the ground so as to insure the turning of the wheels.

On each side of the frame A, in rear of the wheels, is a standard or post, D, on the inside of which is pivoted a disk or circular board, E, the front edge of which has a projection, *b*, which rests upon the front edge of the frame A. These disks or boards E E, I call cam-boards, because certain cams are attached to them on their inner sides, as will be hereinafter described.

Through the center of each of these cam-boards E passes an arbor, having on its outer end a pinion, G, which gears with the pinion C, and its inner end is firmly secured in the center of the cylinder-head H, the two heads H H being connected by the cylinder I.

The heads H H are provided with an even number of curved slots *d d*, as shown in fig. 1, in which are placed the heads *e e* of the rakes, the teeth *f f* of the respective rakes passing through holes made for that purpose in the cylinder I, as shown in fig. 2.

The heads *e e* of every two rakes, directly opposite each other, are connected by the connecting-rods *h h*, so that when one of each set of rakes is drawn in into the cylinder, the other must be pushed out, and *vice versa*.

On the heads *e e*, where they pass through the slots *d d*, are placed rollers *i i*, to lessen the friction and facilitate the movement of the rake-head from end to end of said slot.

On the outer ends of the rake-heads *e e*, which project through the heads H H, are placed other friction-rollers *k k*, which strike against the cams J and K, attached to the inner side of the cam-boards E E.

The cams J are for the purpose of drawing the rakes into the cylinder after they have each in succession taken the potatoes out of the hill and carried them up a suitable distance on the cylinder.

At the same time as these cams draw each rake in succession into the cylinder, the corresponding rake in each set is, of course, by means of the connecting-rods *h h*, thrown outward in time to enter the ground and dig up more potatoes.

The cams K K then operate to hold these latter rakes outward, until the rollers *k k* on the outer ends of the rake-heads strike the cams J J, when the rakes are drawn in again.

By these means the potatoes are dug up and carried on the outer surface of the cylinder I, the potatoes and dirt being kept from rolling off on the sides or ends of the cylinder by the heads H H, which project beyond the cylinder, as shown in fig. 2.

The cams K are formed as shown in fig. 1, so that a portion thereof is below the cams J, whereby the guiding of the rakes is insured if the cylinder should turn backward.

The cylinder H I is covered by a bonnet, L, which rests upon the cam-boards E E, and is on its under side, near each edge, provided with a downward-projecting flange, *m*, fitting close to the inner side of the edge of the head H, so as to prevent any dirt from falling off from the cylinder onto the gearing.

This bonnet L, which may be provided with side wings to cover the wheels, serves also as a protection for the driver, whose position is in rear of the cylinder, so that if by any accident he should fall forward he cannot be injured by the rake or fork-teeth.

The bonnet L extends over the entire top forward to the projections *b b*, on the cam-boards, and at this end of the bonnet on each side is hooked an extension, M, which forms a continuation of the flange *m* of the bonnet, said extensions passing around the

lower front portion of the cylinder-heads, and are hooked or otherwise suitably fastened at their lower ends to the respective cam-boards.

I am aware that various kinds of machinery have been covered with a shield, to prevent injury to the operator and protect the parts from dirt and dust.

On each side at the front end of the frame A is attached an adjustable plow, N, which works directly in front of the driving-wheel for the purpose of clearing off any stones or other obstructions in the path of the wheels.

These plows are made adjustable up and down, so as to work at any height desired.

Directly above the frame A, and in the rear edges of the cam-boards E E, is secured a metal plate, O, which extends between the cylinder-heads H H, close to the cylinder I, and acts as a scraper to clean the cylinder of all adhering dirt, which is especially necessary in damp weather, when considerable dirt will adhere to the cylinder after the potatoes have fallen off the cylinder.

Near the front edge of the scraper C is pivoted a series of rake-teeth, *n n*, some of which are bent in zigzag shape, as shown partially in fig. 1, said teeth extending downward and toward the rear, and pass through holes in a bar, *p*, confined by staples to the under side of the scraper.

The potatoes, dirt, &c., carried up by the rakes to the top of the cylinder fall onto this rake, and are deposited on the ground, to be afterward gathered.

By a rod or lever, *t*, attached to one end of the bar *p*, the driver can change the position of the teeth *n n*, so as to deposit the potatoes either to the right or left of the machine, as the case may require, so as to have them out of the way when the machine comes back again.

The depth that the rakes *e f* are to work in the ground may be readily regulated by changing the point where the cam-boards E E are pivoted to the posts D D. This may be done in various ways, and I deem it not necessary here to specify any particular mode to accomplish that object.

The machine is thrown out of gear by raising the front ends of the cam-boards by the use of a lever, P, as shown in fig. 2.

On the outer side of the cam-board I may attach projecting flanges to protect the pinions C G from any dirt that might fall down from the wheels.

Having thus fully described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the perforated cylinder I with its heads H H, the rakes *e f*, slots *d*, rods *h*, and cams J K, all constructed and operating substantially as set forth.

2. The bonnet L, with its flanges *m m*, and the extensions M M, in combination with the cylinder I with its rakes and heads, and the cam-boards E E, all substantially as set forth.

3. In combination with a potato-digger, the scraper O and oscillating rake-teeth *n n*, constructed and arranged substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing, I have hereunto set my hand this 7th day of October, 1870.

NICHOLAS VANDENBURGH

Witnesses:
A. N. MARR,
A. A. YEATMAN.