D. B. HART.

Potato Digger.

No. 64,218. Patented April 30, 1867.

Fig. 1

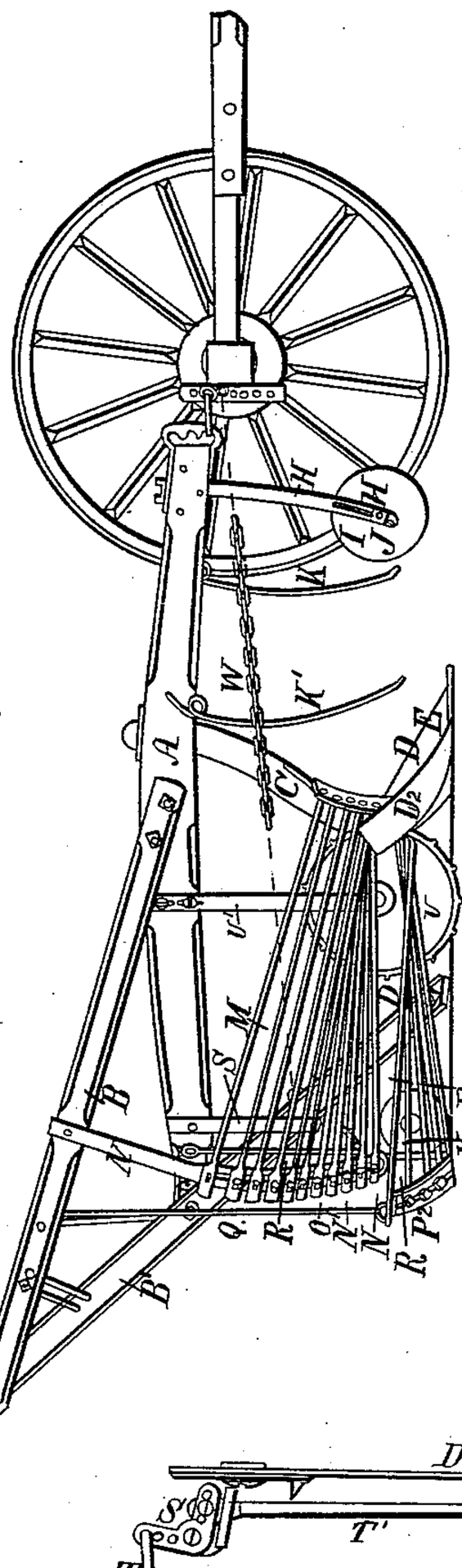


Fig. 2

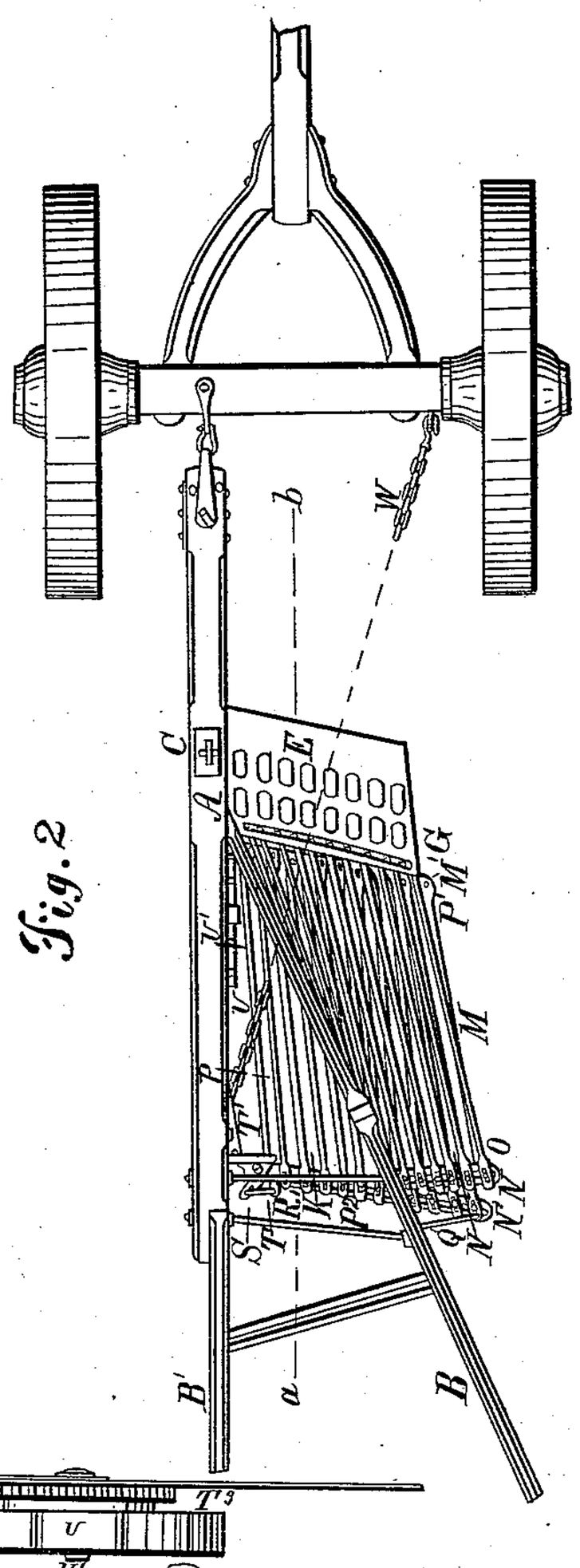
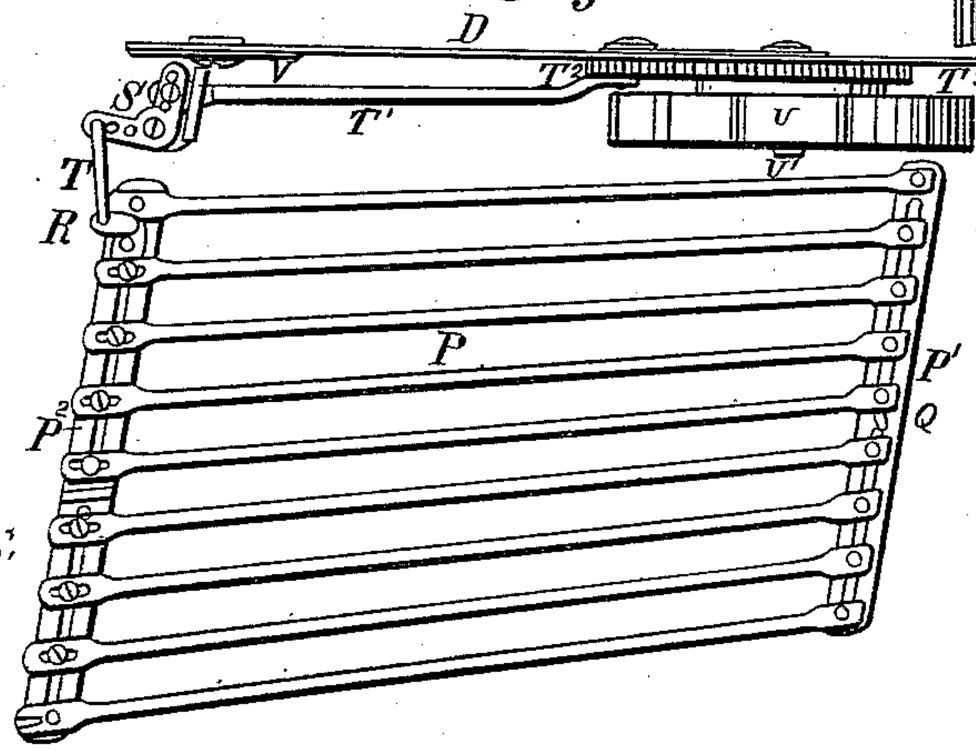


Fig. 3



Witnesses:
J. F. Single
Asa Childs

Inventor:
D. B. Hart

United States Patent Office.

D. B. HART, OF MENTOR, OHIO.

Letters Patent No. 64,218, *dated April* 30, 1867.

IMPROVEMENT IN POTATO-DIGGER.

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, D. B. HART, of Mentor, in the county of Lake, and State of Ohio, have invented a new and improved Machine for Digging Potatoes; and I do hereby declare that the following is a full and exact description of the construction and operation thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation thereof.

Figure 2, a top or plan view of the same; and

Figure 3, a top or plan view enlarged of the vibrating screen and mechanism for operating it.

This invention relates to a new and improved machine by which potatoes may be expeditiously dug, and with much less labor than is required by hand, the constructuction and arrangement of the operating parts being such as to be adapted to the body of the common plough form.

The main features of my said invention are, first, a digger ploughshare, constructed with open spaces or perforations; second, a screen "mould-board," composed of rods or bars arranged so as to be adjustable with regard to the spaces between them; third, an auxiliary screen, hung and pivoted below the said screen mould-board, and vibrated by mechanism arranged to be operated by a driver-wheel placed on the land-side; and, fourth, a rotary stalk-cutter, with accompanying clearing-rods placed in advance of the digger-share.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A is a plough-beam, somewhat of the ordinary form, and B B′ are the handles. C is a standard, curved as represented in the figure, and secured to the said beam as shown A land-side, D, is supported on the said standard and handle B′, and is extended beyond the digger, hereafter mentioned, so as to form a fence or border, D^1. E is the digger, before mentioned, which I term the share-digger. It is constructed with a broad scoop or shovel-shaped form, and provided with a number of open spaces or perforations, as seen in the figure. It is to be properly secured to the standard C. D^2 is another fence or border, placed opposite the other, D^1. The upper edge of the said digger has a number of slotted holes, G, and is used in connection with the rods of the screen mould-board hereinafter mentioned. H is a circular disk-knife or cutter, made of steel plate, rotating on a standard, H′, provided with a slot, I, and set-screw, J. K K′ are two clearing-rods, of spring steel, each having a single coil. They are secured to the beam A in the location seen. M is the screen mould-board before referred to. It consists of a number of long bars or rods, supported at their forward ends in the slotted holes G of the digger E by set-screws M^1. The other ends rest on a long strap-plate, N, which is secured to the handle B. Said plate N is curved to the concave form of the mould-board, as seen, and is constructed with a number of slotted apertures, N^1. The near ends of each of the said bars have slots N^2, which lie across the slots N^1 of the strap-plate N, and are supported thereon by set-screws O. The said rods are, therefore, independent of each other, and capable of being adjusted so as to present suitable spaces between them. The longitudinal position of the said rods, it will be noticed, is angling with respect to the direct line of the draught *a b*, fig. 2. Below the said screen mould-board is an auxiliary screen, P. It is composed of a number of similarly-constructed rods as those of the said screen mould-board, before spoken of, and are adjustable with regard to the spaces between each in like manner. It is supported on two slotted strap-plates, P^1 P^2; the strap-plate P^1 being hung on a pivot hanging, Q, fig. 3, secured on the back of the upper part of the share-digger E. The other strap-plate, P^2, is supported from the handle B by a swing-rod, Q^1, and a standard, R, which standard is supported from the beam A by a swing-rod, R^1.

The auxiliary screen just described is a vibrating one, and is operated by the following arrangement of parts; A bell-crank lever, S, provided with graduated holes, as seen, is supported from the beam A by a pendent standard, S^1. From one arm of the said bell-crank lever is a link, T, connecting it with the standard R before mentioned. A rod, T^1, connecting with a crank pinion-wheel, T^2, takes into the other arm of the said bell-crank lever. The said crank pinion-wheel gears into a spur-wheel, T^3, secured to a driver-wheel, U, supported in bearings in the land-side D, and a strap, U^1, fastened to the beam A, as seen in the figure. The bearing of the driver-wheel in the land-side is slotted, as also is the upper part of the strap U^1, both of which are regulated by set-screws, as seen. V is a guide-wheel, supported on the said land-side in a slotted bearing

therein, and secured by a set-screw. W is a chain, one end of which is fastened to the handle B', and the other end is attached to the axle-bar of the truck, as shown in fig. 1.

My said described machine is operated as follows: After the rods of the mould-board and vibrating screen are properly adjusted by means of the slots and set-screws, so as to have the required spaces between each, and the stalk-cutter H, guide-wheel V, and driving-wheel U elevated or lowered by means of their several slotted bearings and set-screws to suit the work required, the machine is attached by the usual clevis arrangement to the axle-tree of a common farm truck, as shown in fig. 1. The end of the chain W is then hitched to said axle-tree on a staple-hook, seen in the figure. The intention of the said chain is to prevent the swaying of the machine and to hold it to its work. The guide-wheel V will also aid in this respect. It is intended that the centre of the digger ploughshare shall be in line with the centre of the hill, its downward penetration being gauged by the clevis arrangement. As the machine moves forward the stalk-cutter divides or cuts off the portion of stalks or tops lying on the left-hand side of the hill, so as not to be taken up by the digger. The contents of the hill is received on the digger, and is partially screened by it as it passes up on to the screen mould-board, where it is further screened, the angular position of the screen-rods favoring the breaking up of the whole as it passes on, as is apparent. Then what falls between is received on the vibrating screen below, so that the screened potatoes are conveyed to its end and deposited on the ground to the left.

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

1. The digger ploughshare E, provided with open spaces or perforations, as and for the purpose set forth.

2. The screen mould-board M, provided with adjustable screen-rods, as and for the purpose specified.

3. The auxiliary screen P, in combination with the digger ploughshare E and screen mould-board M, supported and vibrated by means of the combined arrangement of parts specified, viz, the graduated bell-crank lever S, standard S^1, link T, standard R, connecting-rod T^1, crank pinion-wheel T^2, spur-wheel T^3, adjustable driver-wheel U, slotted strap U^1, swing-rods R^1 and Q^1, pivoted hanging Q, beam A, and land-side D, all operating as and for the purpose specified.

4. The rotary stalk-cutter H and standard H^1, slot I and set-screw J, in combination with the clearing-rods K and K^1 and beam A, as and for the purpose set forth.

5. The use of the chain W, in combination with the truck, as represented, and the employment of the guide-wheel V, both operating as and for the purpose specified.

D. B. HART.

Witnesses:

J. F. SINGLE,

M. S. HARVEY.