(No Model.)

C. S. TORREY.

ROOT DIGGER.

No. 326,462. Patented Sept. 15, 1885.

Fig. 1

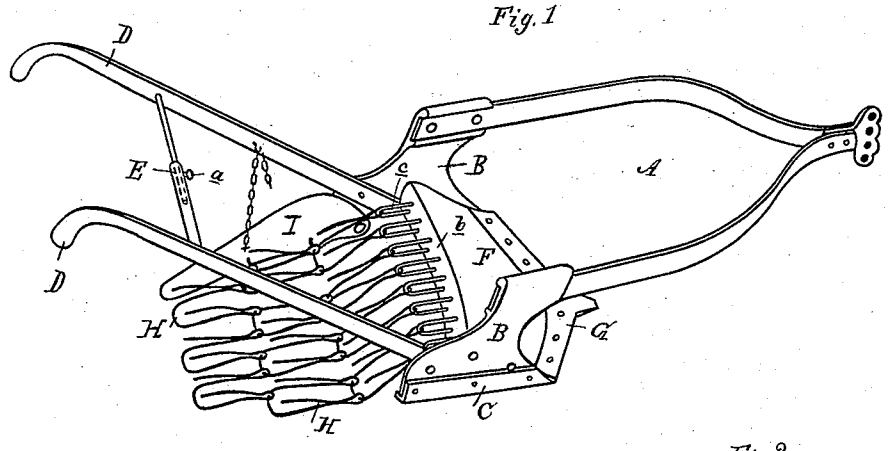


Fig. 2

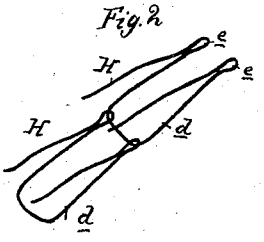
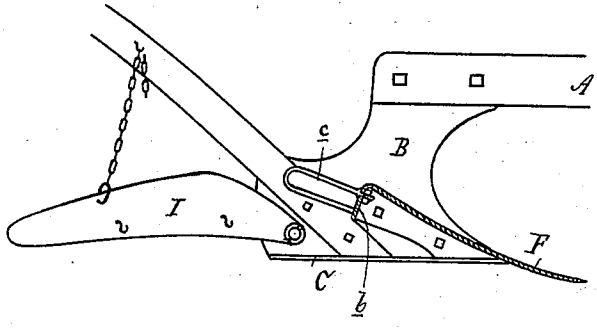


Fig. 3



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by his Atty
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N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

CHARLES S. TORREY, OF DIMONDALE, MICHIGAN.

ROOT-DIGGER.

SPECIFICATION forming part of Letters Patent No. 326,462, dated September 15, 1885.

Application filed February 7, 1885. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. TORREY, of Dimondale, in the county of Eaton and State of Michigan, have invented new and useful Improvements in Root-Diggers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and useful improvements in the construction of root-diggers, and is so constructed as to be adapted to successfully dig round roots, like potatoes, the longer roots, such as beets, and the smaller roots, like peanuts.

The invention consists in the peculiar construction of the parts and their combination, whereby the various adjustabilities by which the device is adapted to the various kinds of work to be performed are obtained, as more fully hereinafter described.

Figure 1 is a perspective view of my improved device, as arranged for digging the longer roots. Fig. 2 is a detached perspective view of a pair of the links of which the separating-apron is formed. Fig. 3 is a vertical longitudinal section through the mold-board proper, and showing the method of securing the apron thereto.

In the accompanying drawings, which form a part of this specification, A represents the frame proper of my device, which is made of bar iron or steel, the latter being preferred on account of its greater elasticity. The two bars of which this frame proper is made run nearly parallel with each other, as shown, the forward ends curving toward each other and meeting at a common center, where they are secured together in any convenient way, and at this point the usual clevis may be attached for draft purposes. To the rear ends of this frame A are secured the standards B, the bottom of each of such standards terminating in a shoe, C.

Secured to and projecting rearward and upward from the standard are the handles D, connected together by a spreader-bar, E, which is shown in the drawings as made of a round bar telescoping within a piece of gas-pipe or hollow bar to allow the handles to be adjusted to various widths, and is secured in the desired position by a set-screw, *a*.

I employ what is ordinarily termed a "double mold-board," F, provided with a detachable point, G, secured in any convenient manner to and between the standards B, and these mold-boards I make of different lengths to accommodate the work to be done, and although the mold-boards are of different lengths otherwise they are of precisely the same construction and secured between the standards, the adjustability of the spreader-bar allowing longer or shorter mold-boards between the standards. The rear upper edge of this mold-board is provided with a downwardly-projecting flange, *b*, through which, and at regular intervals, are perforations to receive the links of hooks *c*, which are made of round iron rods, each link being bent back upon itself, as shown, so that the parallel arms of the link differ in length, the longer being designed to pass through one of the perforations in the flange of the mold-board, and provided with a thread, so that the engagement of a nut with such thread will draw the shorter arm of the links against the rear face of the flange, as shown in the sectional drawing. By this construction the link when drawn to place is rigid and not easily accidentally displaced or turned, and secures the flexible apron to the mold-board. This flexible apron is made of links H, which are constructed of round iron or spring-wire (the latter being preferred) in the form shown in Fig. 2, wherein will be seen a loop, *d*, having formed at one end thereof the eyes *e*, and terminating in free ends folded rearwardly upon the parallel sides of the loop. The eyes *e* of one of these links is engaged with two adjoining hooks, *c*, and so on through the whole series of hooks, such hooks being for this purpose arranged in pairs. To the loops of this first series of links are hooked another series of links by means of the eyes *e*, and as many of these series of links are attached as may be desired, so that these links when woven together in this way form a flexible apron which, when the device is employed for digging the longer roots, like beets or carrots, has the loops of the links below, leaving the free return-bend ends projecting upwardly

and rearwardly at an angle sufficient that in the forward progress of the device they will let the earth pass down through the apron while the roots will be carried over the projecting points of the links.

When the device is employed for digging potatoes or the more round roots, the position of these links should be reversed, so that the loops will be presented upward, while the free projecting ends thereof will rest upon the ground. The flexibility of the apron and its vibrations as it passes over the uneven ground compels the earth to fall through the interstices while the roots are carried over and to the rear.

In the employment of devices of this kind it is essential that the roots excavated should be so deposited upon the surface that at the next round of the team there will be no danger of their being tread upon by the team; hence I pivot a curved sweep, I, to one of the standards, such sweep curving rearwardly and inwardly, and with its free end supported by means of an adjusting-chain or other suitable device attached to the handles, or to a spreader-bar, so that at the option of the operator, and as occasion may require, it may be raised or lowered; and to the inner face of this sweep the adjacent series of links forming a part of the flexible apron are secured, so that this side of the apron will be raised above the plane of the opposite edge thereof, giving a tendency to discharge the roots toward the lower side of the apron and opposite the sweep. This construction will entirely remove the roots from the path of the team in the next round, and thereby preserve the roots from all danger of being mutilated or tread upon by the team.

What I claim as my invention is—

1. In a root-digger, a frame carrying standards, in combination with handles which are secured together by an adjustable spreader-bar, whereby a longer or shorter mold-board may be secured between said standards, substantially as and for the purposes described.

2. In a root-digger, a double mold-board having at its rear edge a downwardly-projecting flange which is perforated, in combination with the hooks or loops *c*, extending rearwardly as a means of attaching a dirt-separator to said mold-board and forming itself a stationary grate, substantially as specified.

3. In a root-digging device, a dirt-separator or flexible apron composed of interwoven and reversible links H, secured to the rear edge of the mold-board, substantially as and for the purposes set forth.

4. In a root-digger, the sweep I, pivotally secured to the frame thereof, and means, substantially as described, for adjusting said sweep, as and for the purposes specified.

5. In a root-digging device, constructed substantially as described, the combination of the sweep and flexible apron or dirt-separator, substantially as and for the purposes specified.

6. A root-digging device consisting of the frame A, carrying the standards B, with shoes C attached thereto, handles D, connected by an adjustable spreader-bar, E, mold-board F, having point G, sweep I, and a flexible and reversible apron or dirt-separator attached to said mold-board, the parts being constructed, combined, and operating substantially as and for the purposes set forth.

CHAS. S. TORREY.

Witnesses:
H. S. SPRAGUE,
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