(No Model.)

W. L. HENRY.

POTATO DIGGER.

No. 344,106. Patented June 22, 1886.

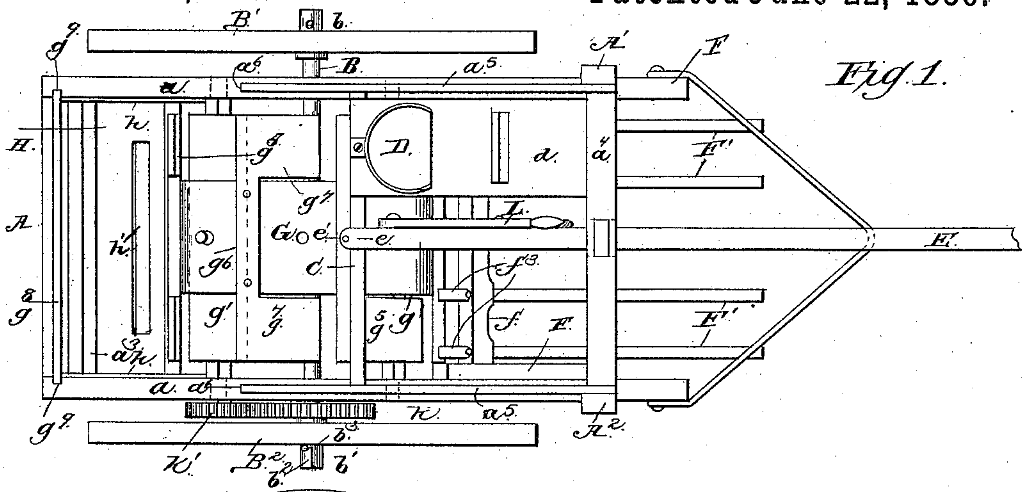

Fig. 1.

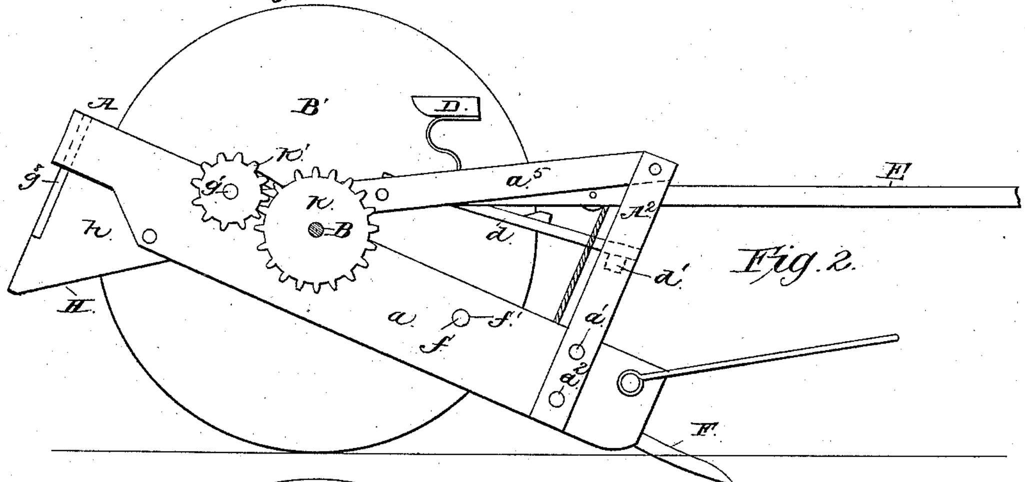

Fig. 2.

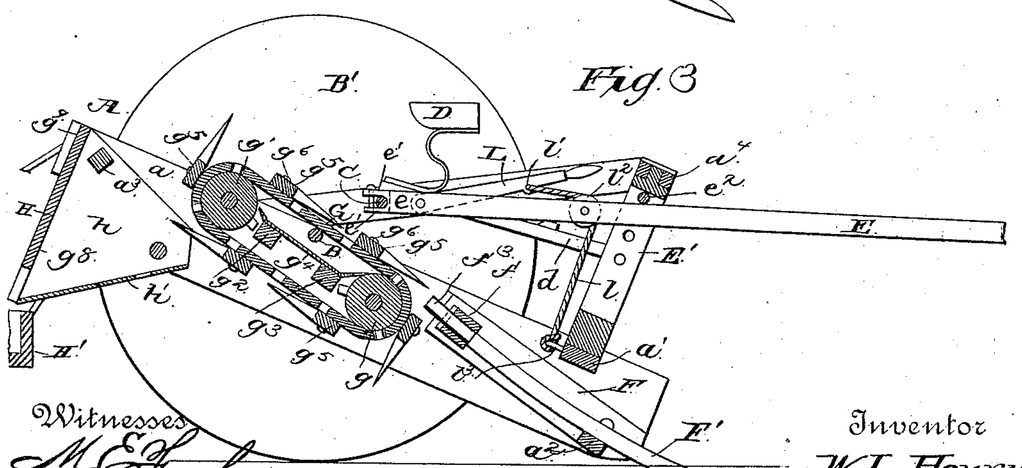

Fig. 3

Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM LEWIS HENRY, OF ATLANTIC, PENNSYLVANIA.

POTATO-DIGGER.

SPECIFICATION forming part of Letters Patent No. 344,106, dated June 22, 1886.

Application filed February 9, 1886. Serial No. 191,350. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LEWIS HENRY, a citizen of the United States, residing at Atlantic, in the county of Crawford and State of Pennsylvania, have invented a new and useful Improvement in Potato-Diggers, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in potato-diggers; and the novelty consists in the construction, arrangement, and combination of the several parts for service, substantially as hereinafter described, and specifically pointed out in the claims.

In the drawings, Figure 1 represents a top plan view of a potato-digger embodying my improvement. Fig. 2 represents a side elevation, one of the wheels removed to show details of construction. Fig. 3 represents a longitudinal section on the line *x x* of Fig. 1.

Referring to the drawings, in which similar letters of reference denote similar parts, A designates the frame of the machine, consisting of broad side rails, *a*, that support the operative parts of the machine, and is mounted upon an axle, B, journaled at its opposite ends, *b b'*, in wheels B' B^2, one of which, B^2, operates as a driving-wheel to give motion to the several operative parts of the machine, while the other merely fulfills the function of a bearing and supporting wheel. The former of said wheels, B^2, is rigidly secured to the axle, preferably by a squared end, b^2, formed upon the end of the axle that takes or extends into a square aperture formed through the wheel, and is held in position therein by a pin, b^3, that passes through an aperture formed through said square part b^2, outside of the wheel B^2. The sides or rails *a* are spaced and held in parallel planes by transverse rails *a' a² a³*, that extend from one to the other of said side rails at the ends thereof. The former of said rails—to wit, *a' a²*—is located at the forward end of the machine, each having their opposite ends formed into projecting studs that pass through apertures formed in the side rails to and into the lower ends of upright studs A' A^2, placed at each side of the machine, and connected at their upper ends by a transverse rail, a^4.

a^5 designates braces that extend from the upper ends of the uprights A' A^2 to points a^6 upon the upper surface of the rails *a*.

C designates a transverse rail that extends from one to the other of the braces a^5, near their lower ends, a^6, and supports at one end the rear end of a board or plank, *d*, having a seat, D, secured to its upper surface for the driver's use.

E designates the pole or tongue of the machine, the rear end, *e*, of which is provided with lugs or ears *e'*, that embrace the rail C at the middle thereof. The pole E extends forward through a slotted standard, E', the sides of which are apertured to receive a pin, e^2, by which the forward ends of the rails *a* and digger-forks between said rails are held at different desired distances from the ground. The forward end of the seat-board *d* rests upon a rail, *d'*, that extends from the standard E' to the upright A' for its reception.

F designates the side rails of the digger tines or teeth, said rails being located within the rails *a* of the frame A, at the forward ends thereof, and extending from the lower transverse rail, a^3, rearwardly and upwardly, and held in position by an apertured bar or rail, *f*, the ends of which enter apertures *f'*, formed in the side rails, *a*.

F' designates tines or teeth, preferably formed of steel rod or wire, the rear ends of each of which are provided with parts f^3 of less diameter than the body of the tines that enter and are secured in the apertures of the bar *f*, as shown. The teeth extend forward beyond the rail a^2, and when the machine is in motion pass below the potatoes, raising the same, together with the earth surrounding them, upon the upper surface of the tines or teeth F', between which the earth falls, while the continued forward movement of the machine carries the potatoes to a traveling carrier-belt, G, mounted upon and operated by rollers *g g'*, the former of which is journaled in the side rails, *a*, near the rear transverse rail or bar, *f*, while the latter, *g'*, is journaled in said rails *a* in rear of the axle B.

g^2 g^3 designate rails that extend from one to the other of the rails *a*, between the rollers *g g'*, to support a scraper-plate, g^4, the opposite ends of which impinge against the surfaces of the rollers *g g'*, to prevent dirt passing between the rolls and the belt thereon.

G designates an endless carrier-belt that is mounted upon and operated by the rolls g g', as above set forth.

g^5 designates cleats secured transversely of the belt G to the outer surface thereof, and projecting at each edge of said belt, as shown at g^6. The projecting ends g^6 are provided with forwardly-projecting portions g^7, which extend nearly to the next adjacent cleat, thereby leaving openings between the ends of the cleats, (which project beyond the sides of the belt G,) through which the dirt may drop as it becomes loosened from the potatoes as they are carried rearwardly.

H designates an inclined chute having ends h secured to the side rails, a, at the inner surfaces and rear ends thereof, to receive the potatoes when they drop from the carrier and guide them to a box, H', at the rear end of the chute.

h' designates a slot formed in the chute transversely of the same, through which any remaining adhering earth may pass, while the potatoes, being too large to pass through the slot, pass over the same, and are delivered into the box H'.

D^8 designates a board held in slots g^9 in vertical position at the rear ends of the rails a.

Motion is imparted to the belt G in the following manner, viz: K designates a spur-gear wheel mounted upon the axle near the wheel B^2 and moving in unison therewith. K' designates a gear-pinion mounted upon the projecting journal of the rear roll, g', at one end thereof, and engaging with and rotated by the spur-wheel K.

The depth to which the digger-teeth enter the earth is regulated and determined by the pin e^2 and slotted standard E, as hereinbefore stated, the pin e, after being adjusted to the desired aperture in the standard E, resting upon the upper surface of the pole or tongue.

To raise the forward end of the rails a, I employ a lever, L, fulcrumed to the side of the tongue within easy reach of the driver, and a cord or chain, l, one end of which is secured at l' to the lever, and passes thence over a pulley, l^2, to an eye or staple, l^3, secured in the transverse rail a' of the frame A.

The operation of my device will be fully understood from the foregoing description, taken in connection with the drawings attached hereto.

I claim—

1. In a potato-digger, a frame, A, having side rails, a, transverse rails a' a^2 a^3, uprights A' A^2, and braces a^5, in combination with forwardly and downwardly projecting teeth or tines F', located at the forward part of the frame, carrier-belt G, chute H, and the axle and wheels whereon the machine is mounted, substantially as described.

2. In a potato-digger, a frame, A, having side rails, a, transverse rails a' a^2 a^3, uprights A' A^2, provided with transverse rail a^4 and braces a^5, in combination with rollers g g', journaled in said rails a, belt G, mounted upon said rollers and provided with transverse cleats g^5, teeth or tines F, secured to transverse rails fa^2, chute H, having slot h' and box H', and the wheels B' B, substantially as described.

3. In a potato-digger, the frame A, having rails a, transverse rails a' a^2 a^3, uprights A' A^2, braces a^5, transverse rail a^4, and slotted standard E', in combination with a tongue, E, lever L, cord l, and pulley l^2, substantially as described.

4. In a potato-digger, a carrier-belt, G, mounted upon rollers g g', and having transverse cleats g^5, in combination with a scraper-plate, g^4, located between and impinging upon said rollers, substantially as described.

5. In a potato-digger, a frame, A, having uprights A' A^2, slotted standard E', provided with transverse apertures and driver's seat D, in combination with the lever L, its cord l', pole or tongue E, axle B, and wheels B' B^2.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

WILLIAM LEWIS HENRY.

Witnesses:

R. MAXWELL,

GEO. STEVENSON.