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William Cousens'
Improved Potato-Digger

No. 119,577. Patented Oct. 3, 1871.

Fig. 1

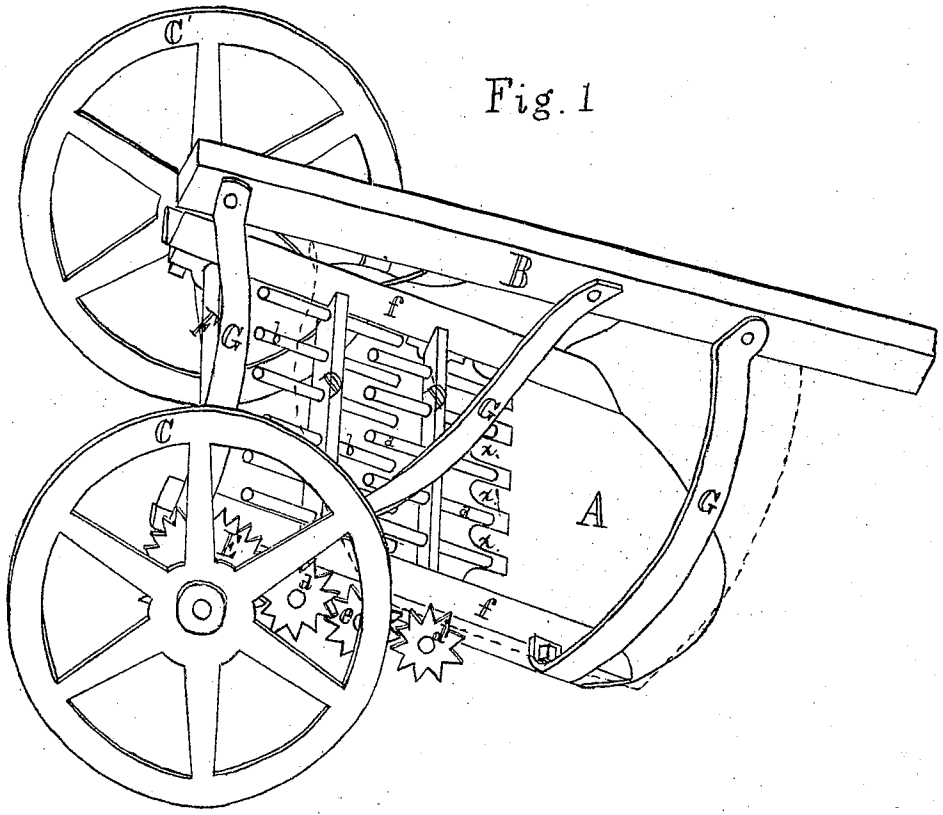
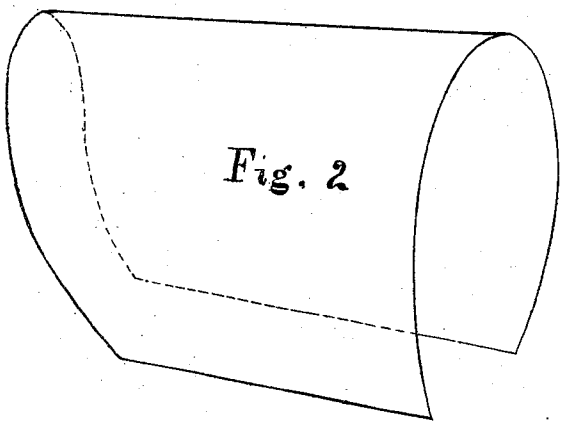


Fig. 2



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UNITED STATES PATENT OFFICE.

WILLIAM COUSENS, OF ORONO, MAINE.

IMPROVEMENT IN POTATO-DIGGERS.

Specification forming part of Letters Patent No. 119,577, dated October 3, 1871.

To all whom it may concern:

Be it known that I, WILLIAM COUSENS, of Orono, in the county of Penobscot and State of Maine, have invented certain new and useful Improvements in Potato-Diggers; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

The nature of my invention consists in running under the potatoes with a scoop or shovel-point, and then passing the earth and potatoes under a hood over two toothed rollers revolving toward the rear of the machine, by means of which rollers the earth is separated from the potatoes and the potatoes thrown to the rear.

In the accompanying drawing, Figure 1 is a perspective view of the potato-digger without the hood or shield. Fig. 2 is a view of the hood or shield, which, in operation of this machine, is put on over the rollers to prevent the dirt and potato-tops from flying and getting against the braces in Fig. 1.

A is the scoop or shovel-point. B is the beam. C C are the wheels upon which the machine runs. D D′ are the two toothed rollers. E is a geared wheel attached to the axle F. G G G are the braces by which the beam is attached to the body of the machine. *d* is a geared wheel attached to the roller D. *d′* is a geared wheel attached to the roller D′. *e* is a geared wheel interposed between *d* and *d′* to so transmit the motion as to cause them to revolve in the same direction. *d d* and *b b* are the teeth of the rollers, and *f f* are the sides of the scoop or shovel-point, which support and hold together the whole machine.

To enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation.

I provide a scoop or shovel-point, A, and attach it to the sides *f f*, both the scoops and sides being made of iron or other suitable material. This scoop A is at its rear end provided with broad flat tongues *x x*, which project backward into the spaces between the teeth of the first roller and terminate before reaching the axis or roll in which the teeth are inserted. These tongues thus serve to support the potatoes while they are receiving the first action of the roller-teeth, and prevent their falling through to the ground prior to such action. I provide wheels C C′, fixed rigidly on the axle F, causing the axle to revolve with the wheels. I fix a geared wheel, E, upon the axle in such a manner as to revolve with the axle, and attach the axle to the sides *f f*. I provide the toothed rollers D D′ with the geared wheels *d d′* attached, and fasten them suitably to the sides *f f*. I place the roller D so that its geared wheel *d* will engage with the wheel E, and I fix the roller D′ so that a geared wheel, *e*, may be interposed between the geared wheels *d* and *d′* and cause them both to revolve in the same direction. I attach the beam B by suitable braces G G G, and I provide a hood or cover, shown in elevation in Fig. 2, which I place over the rollers to keep the dirt and potato-tops from flying or getting entanged in the braces.

In operation the machine is started forward; the scoop A passes under the potatoes, allowing the earth and potatoes to pass over onto the roller D′; the wheels C C′ revolve toward the front of the machine, carrying the geared wheel E; the wheel E engages the geared wheel *d* and causes it to revolve toward the rear of the machine, carrying the roller D in the same direction. At the same time the geared wheel *d* engages the intermediate wheel *e*, causing it to revolve toward the front of the machine, and the wheel *e* being engaged with *d′* causes that to revolve toward the rear, or in the same direction as the roller D. The earth and potatoes pass over the scoop A and are received on the roller D′ and thrown backward onto the roller D, which in turn throws them to the rear of the machine. The scoop A is made so short that the earth will pass over it until taken up by the roller D′, the teeth in the rollers being only sufficiently near together to catch the potatoes, the earth will fall through and the potatoes be deposited free from dirt in the rear. The hood is made narrow behind, and is intended to cause the potatoes to fall in a compact row behind the machine. The wheel *d* is intended to be made of such a size as to revolve faster than the wheel *d′*, and to cause the roller D to revolve faster than D′, and thus clear the tops of the potatoes from the machine. The depth to which the scoop A shall run into the ground is regulated in a well-known manner

by a guide-wheel (not shown) located under the forward end of the beam B.

I do not claim the rollers in themselves, nor the shovel-point, as new; but

What I do claim as my invention, and wish to secure by Letters Patent, is—

In combination with the beam B, braces G, and rollers D D′, the hood, formed and applied as set forth.

WILLIAM COUSENS.

Witnesses:
FRED. H. COOMBS,
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