

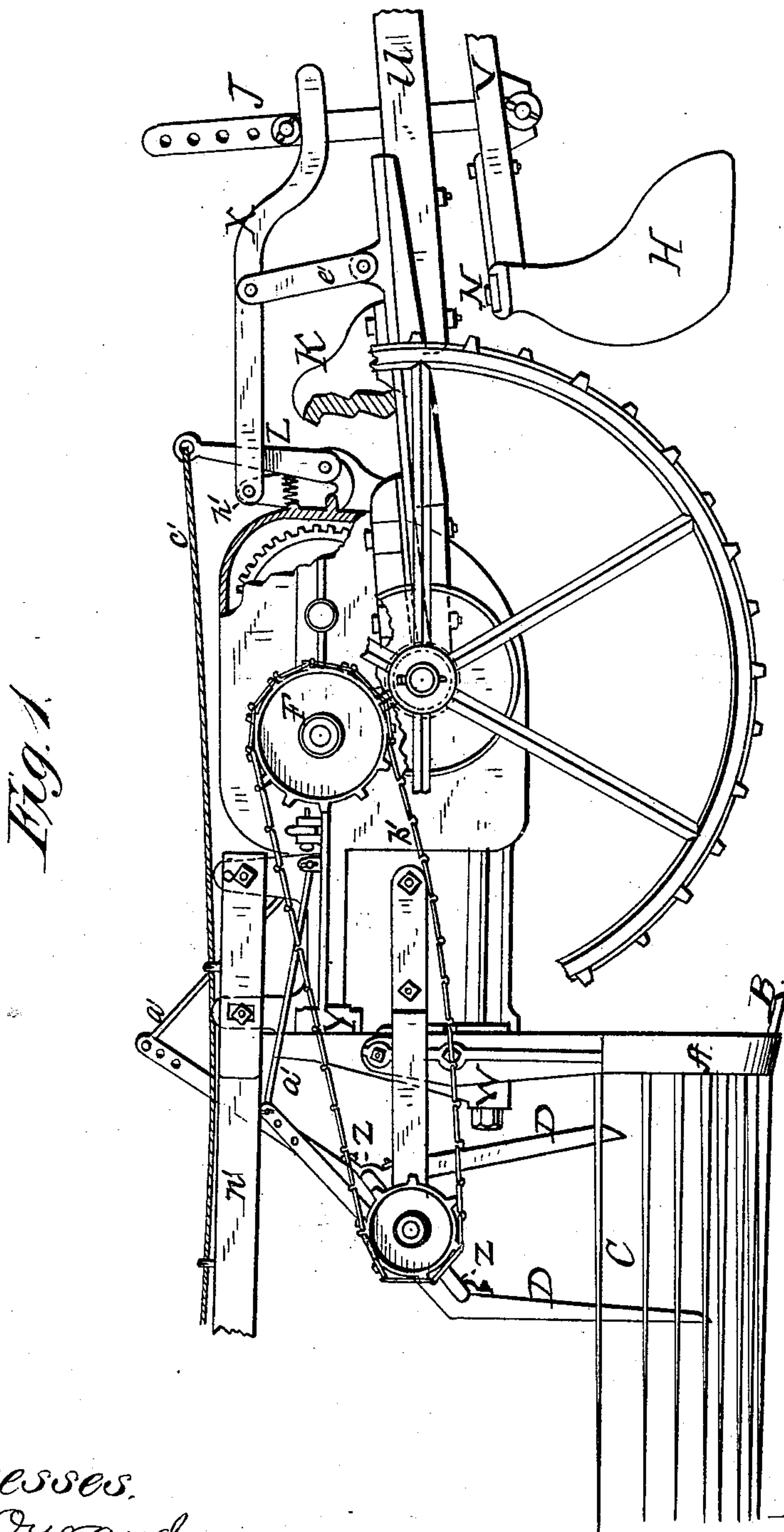
(No Model.)

3 Sheets—Sheet 1.

H. D. HERRINGTON.  
POTATO DIGGING MACHINE.

No. 253,602.

Patented Feb. 14, 1882.



Witnesses.  
F. L. Ouraud  
A. S. Kane.

*Inventor.*  
H. D. Herington,  
per St. Davenport, Atty.

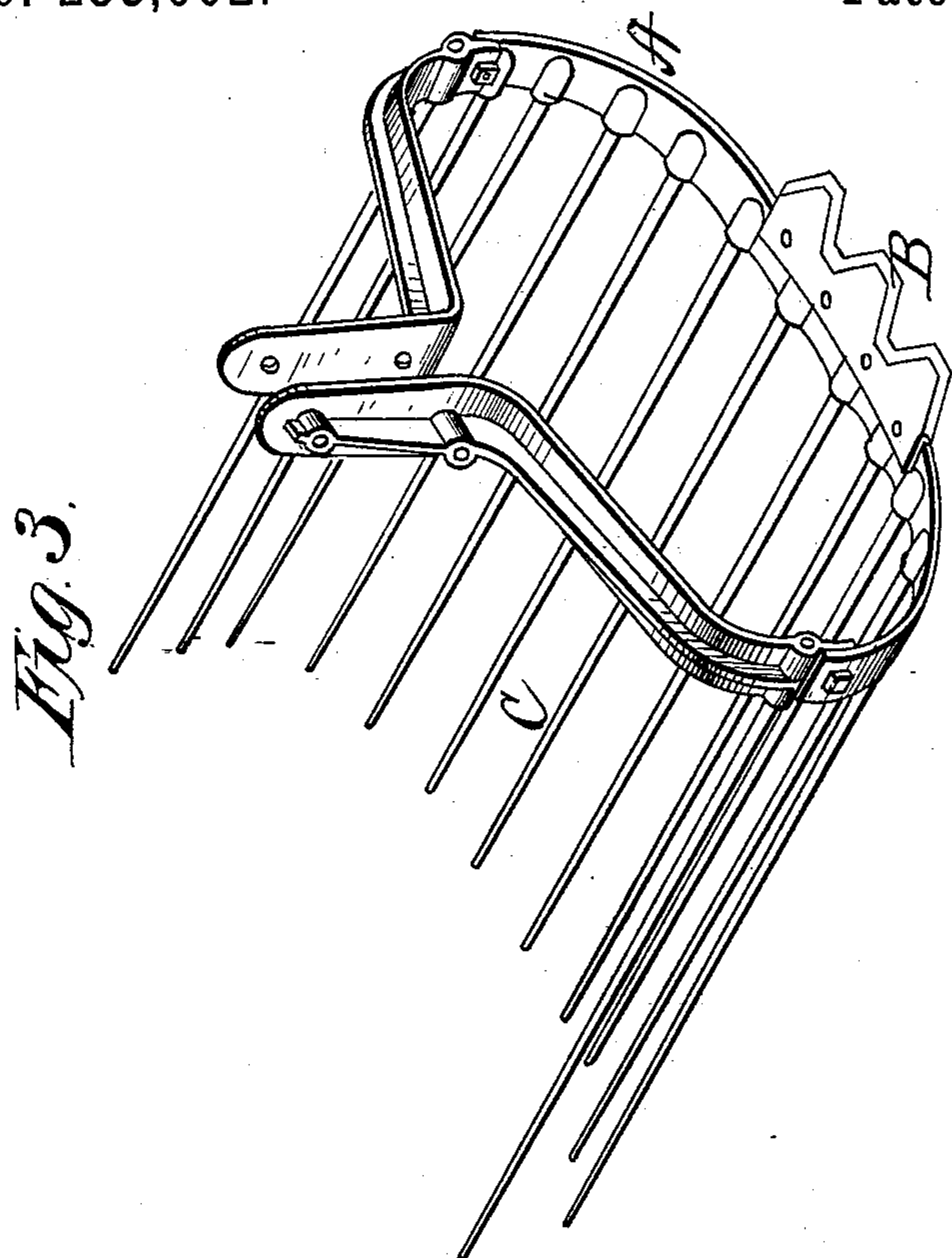
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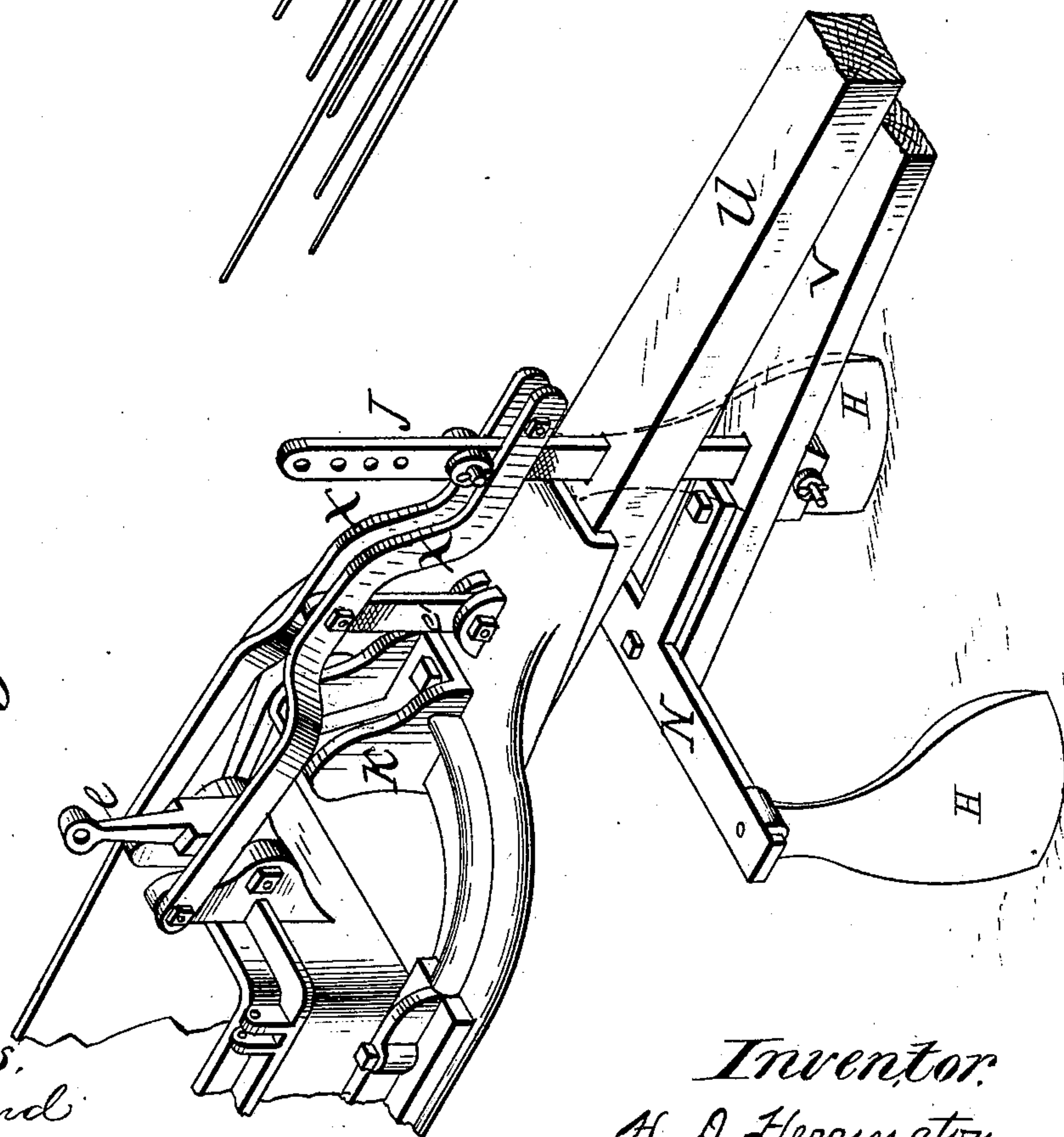
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*Fig. 2.*



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*A. A. Kane*

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*H. D. Herrington.*  
*per N. Davenport, atty.*

(No Model.)

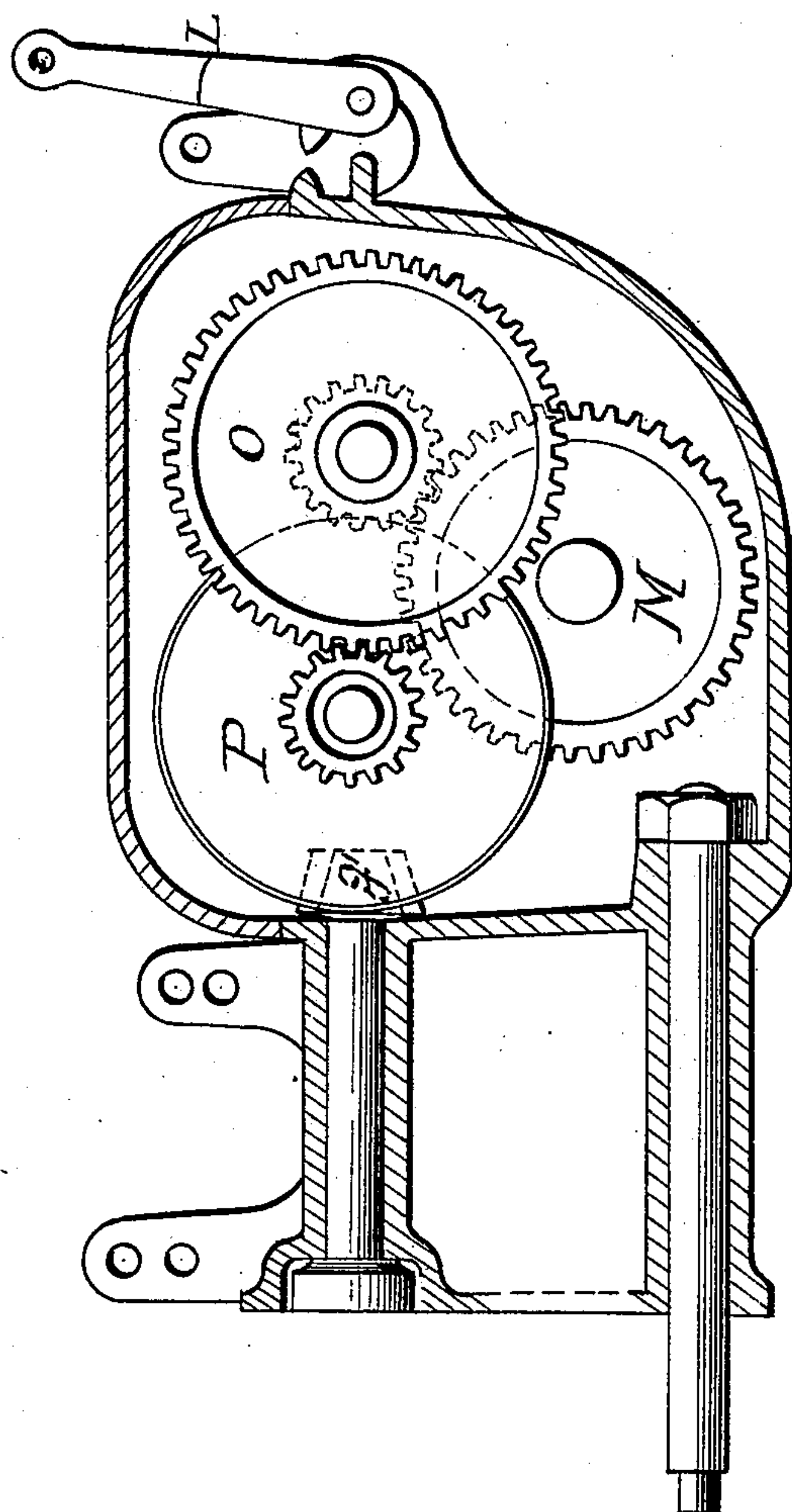
3 Sheets—Sheet 3.

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*Fig. 4.*



*Witnesses,*  
*P. L. Ourand,*  
*D. S. Kane*

*Inventor*  
*H. D. Herrington,*  
*per H. Davenport, Atty.*



# UNITED STATES PATENT OFFICE.

HENRY D. HERRINGTON, OF HOOSAC, NEW YORK.

## POTATO-DIGGING MACHINE.

SPECIFICATION forming part of Letters Patent No. 253,602, dated February 14, 1882.

Application filed August 10, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY D. HERRINGTON, of Hoosac, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Potato-Digging Machines, of which the following is a specification, reference being had to the accompanying drawings and letters of reference marked thereon, which form a part of this specification.

My invention consists in constructing and uniting together the digging-blade, cutting-blades, and separating-fingers, so that they will oscillate on a horizontal axis as a single device; also, in combining therewith adjustable plows and a device for elevating and depressing the digging-blade and the plows at the same time and by a single movement; also, in combining therewith clearing-arms connected with the driving-shaft in such manner that with the aid of the plows the potato-vines will be thoroughly cleared from the digging-blade and separated from the potatoes.

My invention is more particularly an improvement upon a device described in my Letters Patent No. 157,991, dated December 23, 1874.

In my drawings, Figure 1 is a side elevation of the machine, showing the clearing-arms and the device for operating them, also the adjustable plows and the device for elevating and depressing them, also other parts of the machine. Fig. 2 is an isometrical projection of the parts composing the device for elevating and depressing the digging-blade and plows at the same time and for holding them above the soil when desired. Fig. 3 is a view of the digging-blade and its cutting-blades and separating-fingers. Fig. 4 is a side elevation of the gear-wheels, which are inclosed in the box T, Fig. 1.

The various parts of this machine are assembled upon a strong and suitable frame located upon and supported by the axle, and may be thrown in and out of gear in the ordinary manner.

Attached to the frame-work of the machine is the usual pole, U, to which the team is attached for drawing the machine, and to this pole is hinged the plow-beam V, which can be elevated and depressed, as hereinafter de-

scribed. The plows H are attached to the cross-beam N in such position that a plow will run at each side of the row of potatoes to be dug, cutting away the sides of the row and straightening and partially clearing the vines and other obstacles. These plows are placed in front of the wheels, while the digging-blade is placed in rear of the wheels. This digging-blade A is semicircular in form, and has on its inner edge three or more cutting-blades, B, which materially aid in opening the hills and penetrating the soil beneath the potatoes.

On the outer edge of the digging-blade are the separating-fingers C, which separate the potatoes from the dirt and carry them back and deposit them in a row behind the fingers, while the dirt drops between such fingers.

The digging-blade is suspended from the arm W, and has an oscillatory motion imparted to it by means of a crank or eccentric at Y, connected with the gear P. The clearing-arms D are for the purpose of clearing the vines from the separating-fingers, and have a downward and outward motion, commonly called a "kicking motion," which is accomplished by means of the short crank Z, pivoted at or near the knee of the clearing-arm and the pivoted arms a'.

Motion is imparted to the clearing-arms by means of an endless chain or belt, b', carried around the toothed wheel d' and the toothed wheel F, the shaft of which wheel F is geared into the gear-wheel P, and P into the gear-wheel O, and O into the gear-wheel M upon the axle. The above-described parts can be thrown in and out of gear by the usual means.

The plows H and the digging-blade A are so arranged and connected that they can be elevated to the necessary height to clear the ground and all ordinary obstacles, and can also be elevated and depressed at the same time, so as to make a shallow or deep cut, as the character of the soil may require.

The arrangements and connections of the digging-blade and plows are as follows:

The plows are secured to the cross-bar N, attached to the plow-beam V, hinged to the pole. To this beam V is bolted an adjustable upright, J, which passes through a slot in the pole U and up between the arms X X, where it is supported by a pin through the upright



and resting on the arms X X. This upright has several slots or holes through its upper end for adjusting and securing the plow at proper height. The arms X X are fulcrumed on the support *e'*, resting on the frame at the base of the pole U, the rear ends of such arms being pivoted to the hub *h'*, cast on the frame.

To the frame of the machine is secured the handle *n'*, and the frame being hung and supported on the axle as its fulcrum, the elevation or depression of the handle elevates or depresses that part of the frame and digging-blade and other appliances thereto attached located in rear of the axle. As the handle is elevated the digging-blade is elevated, and at the same time the hub *h'*, located in front of the axle, is correspondingly depressed, carrying the ends of the arms X X pivoted thereto and elevating the outer end of the arms, and thereby elevating the plows. As the handle is elevated the pawl L drops down and catches into the ratchet K, holding the digging-blade and plows above the surface of the ground and balanced on the axle and pole, so that the machine can be easily and readily moved about. The ratchet K has a slot down its center for the handle of the pawl to pass into when the pawl engages with the ratchet. By means of the cord *c'*, running along the handle *n'* and attached to the upper end of the pawl L, the pawl is readily disengaged from the ratchet and the plows and digging-blade allowed to resume their positions upon the ground ready for work.

In operation the axle revolves with the wheels, and the gear-wheel M upon the axle working into the gear-wheel O, and that into the gear-wheel P, and that into the bevel-wheel *g'*, revolves the shaft which drives the digging-blade A, an oscillatory motion being given thereto, as hereinbefore described. At the same time the toothed wheel F is driven by the shaft of the wheel P and runs the endless chain around the toothed wheel *d'*, giving motion to the clearing-fingers D, as hereinbefore described. As the digging-blade passes under the hills of

potatoes, the earth and potatoes are carried over the blade and upon the separating-fingers C, when the oscillatory motion sifts the earth between the fingers and deposits the potatoes in a row at the ends of such fingers, while the clearing-fingers D kick away the loose vines and prevent the clogging of the separating-fingers.

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

1. The combination, with a semicircular digging-blade, A, of a potato-digger, of a series of cutting-blades, B, attached to the circular blade A, as shown, and for the purpose stated.

2. The combination, with the plows of a potato-digging machine, of the adjustable upright J, secured to the plow-beam V, arms X, and fulcrum-support *e'*, substantially as described, and for the purpose set forth.

3. The combination, with digging-blades and means for oscillating said blades, of plows arranged in advance of the digging-blade and arranged to run at each side of the row of potatoes to be dug, cutting away the sides of the row and aiding in removing the vines, substantially as described, and for the purpose set forth.

4. In a potato-digger, the combination, substantially as hereinbefore described, of the digging-blade A with the series of cutting-blades B and separating-fingers C, having an oscillating motion, cleaning-fingers D, and mechanism for operating the fingers, substantially for the purpose set forth.

5. The combination, in a potato-digger, of the digging-blade A, separating-fingers C, cleaning-fingers D, endless sprocket-chain, sprocket-wheels *d'* F, cranks Z, and pivoted arms *a'*, substantially as described, and for the purpose set forth.

In witness whereof I have hereto set my hand this 8th day of August, 1881.

HENRY D. HERRINGTON.

Witnesses:

DANIEL L. HITCHCOCK,  
J. O. JOSLIN.