(No Model.) 3 Sheets—Sheet 1.

J. RADERMACHER.

POTATO HARVESTER.

No. 488,948. Patented Dec. 27, 1892.

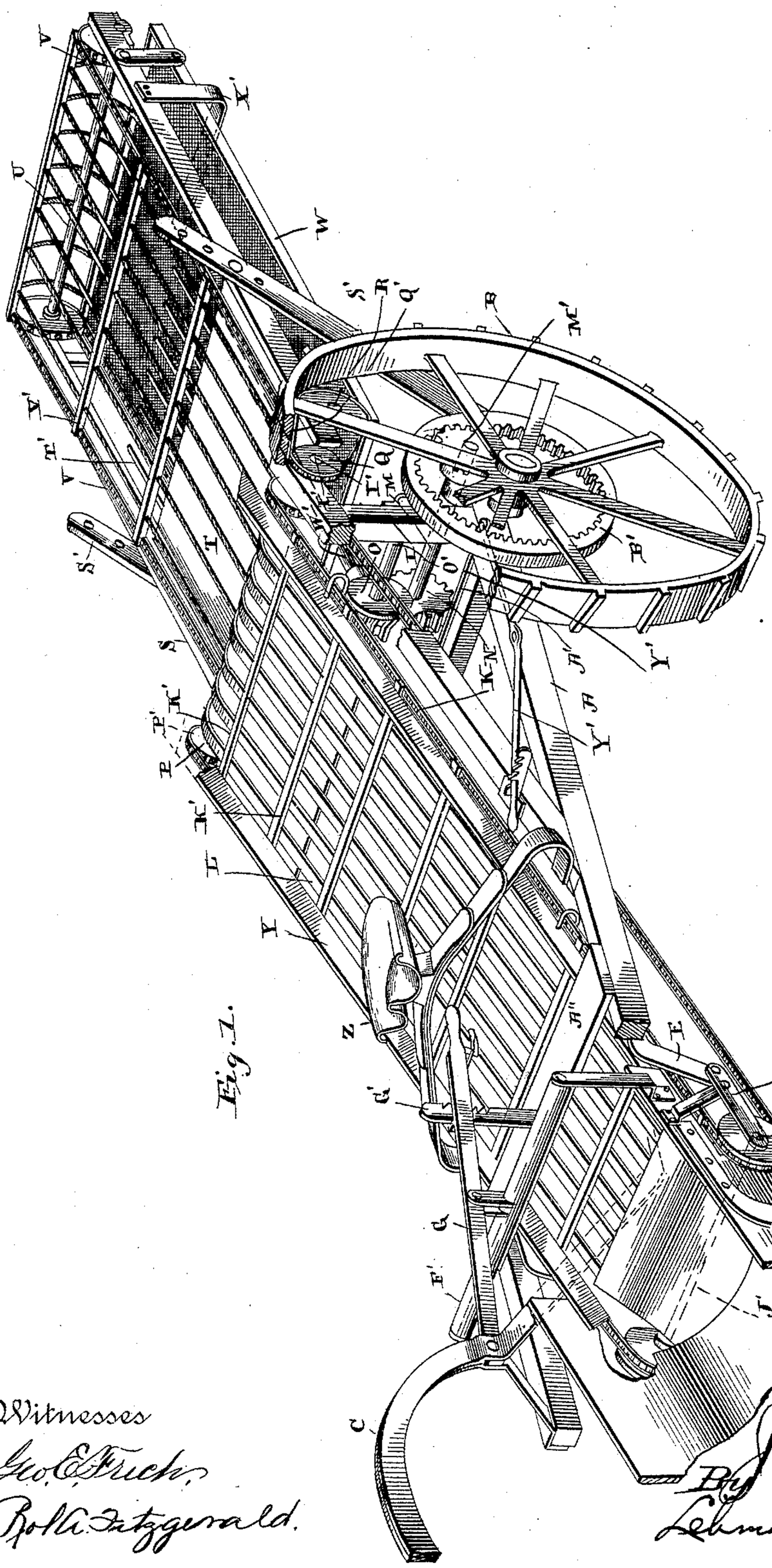

Fig. 1.

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(No Model.)

3 Sheets—Sheet 2.

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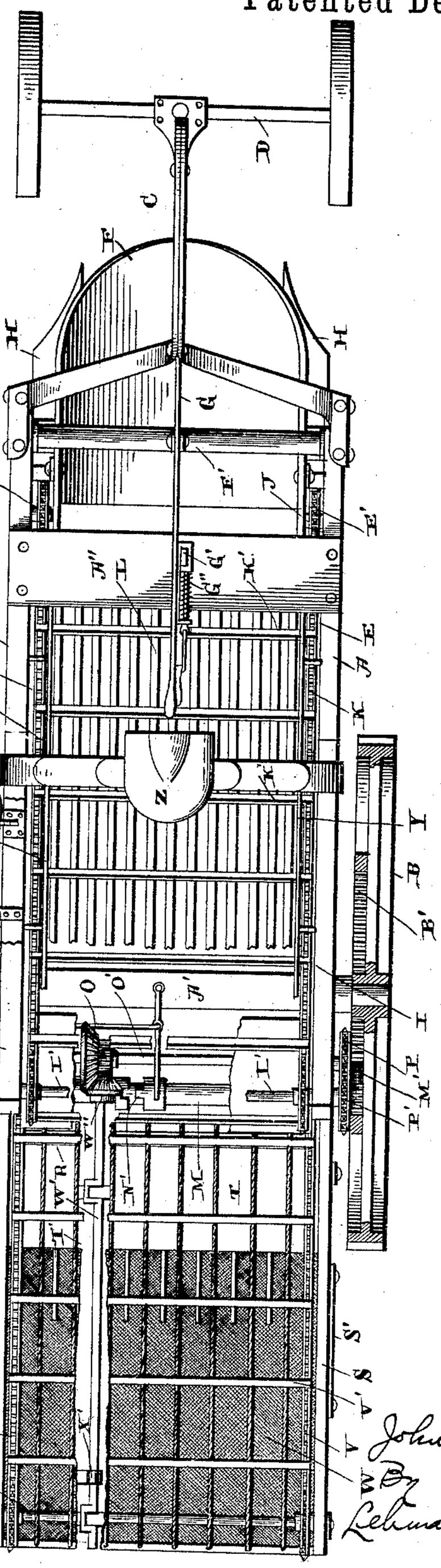

Fig. 2.

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(No Model.) 3 Sheets—Sheet 3.

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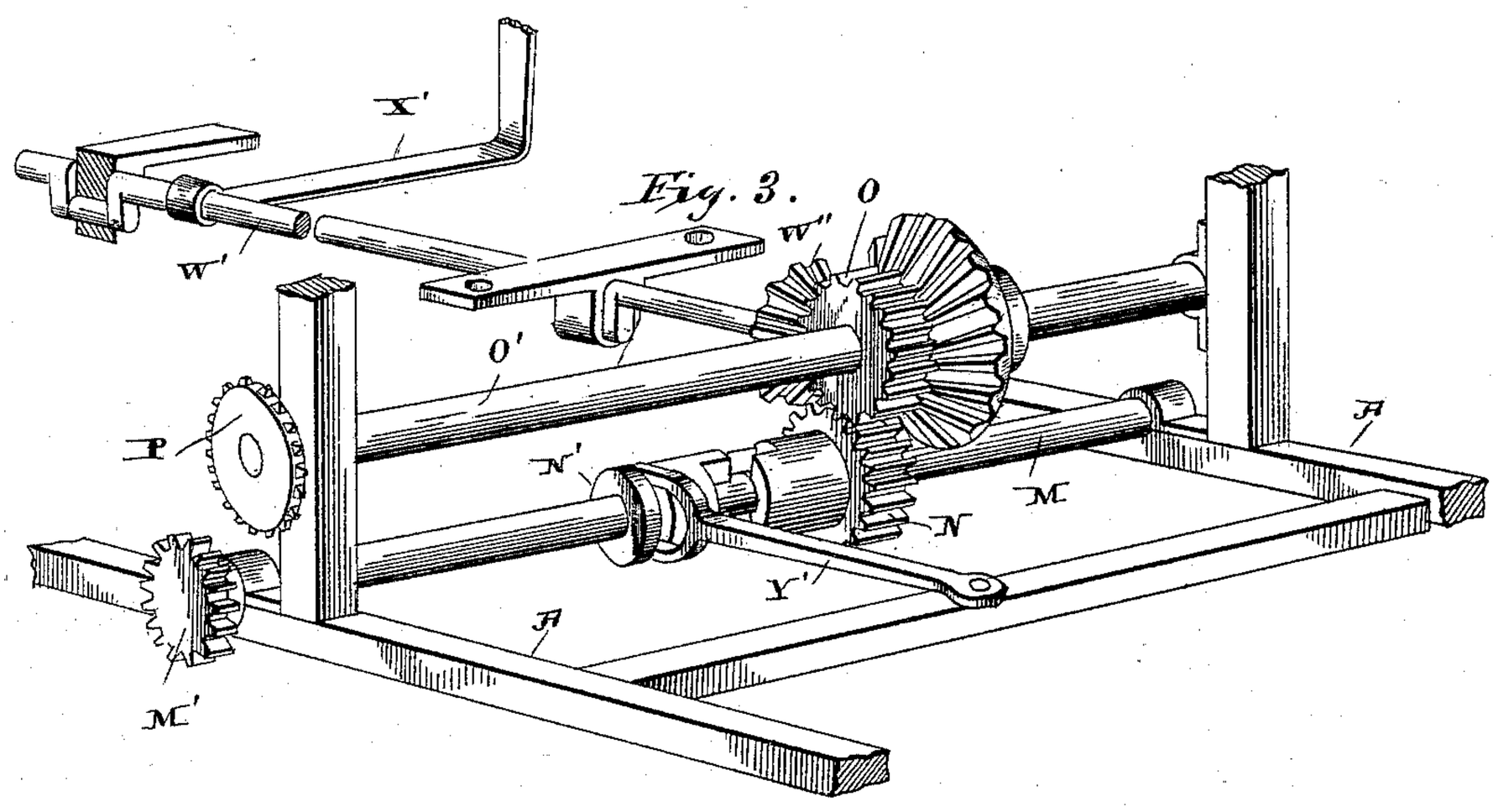
Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN RADERMACHER, OF KAUKAUNA, WISCONSIN.

POTATO-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 488,948, dated December 27, 1892.

Application filed May 2, 1892. Serial No. 431,494. (No model.)

To all whom it may concern:

Be it known that I, JOHN RADERMACHER, of Kaukauna, in the county of Outagamie and State of Wisconsin, have invented certain new and useful Improvements in Potato-Harvesters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in potato harvesters; and it consists in certain novel features of construction which will be fully described hereinafter and more particularly referred to in the claims.

The object of my invention is to construct an improved machine which will effectually dig and separate potatoes from the dirt and vines, discharging the former into a basket provided for their reception.

Referring to the accompanying drawings,—Figure 1, is a perspective view of my improved machine. Fig. 2, is a plan view. Fig. 3, is a detached view of a portion of the gearing.

A represents the parallel side beams of the machine provided with the stationary axle A′, upon which are journaled the driving wheels B. The forward end of these beams are secured to the arch C, which is supported on a suitable truck D.

E represents arms which are pivoted at their rear ends to the inner sides of the beams A, and which are curved downward between their ends to form depending bearings, and to the outer ends of the arms is secured the scoop or shovel F. Projecting upward from the scoop is the yoke F′, which is connected to the lever G, which is fulcrumed at its outer end to the arch C.

Projecting upward from the cross piece A″, of the frame is the notched casting G′, upon which the inner end of the lever G is vertically adjustable by means of the spring latch G″. By this construction it will be seen that the scoop can be adjusted vertically, and the depth at which it works regulated with ease.

H represents shovels which are arranged at opposite sides of the scoop for the purpose of cleaning away superfluous dirt and vines or weeds which might otherwise obstruct the work. Projecting upward and rearward of the said frame A, are the arms I, and journaled in their upper end are the sprocket shafts I′. Projecting forward from the depending curves of the arms E, are the strap bearings J, and journaled in their outer ends is the shaft J′, carrying wheels E′, having flanges formed on their outer edges as shown.

K represents the endless carrier which travels around the shafts I, J, passing up over the slanting frame L, which may be supported in any suitable manner in line with the said shafts. The flanges on the wheels E′, hold the endless carrier in position thereon, preventing it from moving to either side. The carrier K, consists of the side drive chains which are connected by the cross bars K′. The frame L, being formed of parallel slats it will be seen that as the contents of the scoop are discharged on its lower end the bars K′ will carry the same on the said frame, the dirt dropping through between the slats and the potatoes continuing their upward movement with the carrier.

M represents a horizontal shaft which is journaled to the rear end of the frame A, and to the ends of this shaft are secured the pinions M′, which mesh with the gears B′, on the inner sides of the driving wheels B. Mounted on this shaft M, is the gear N, which is made to turn therewith by the clutch N′, and by this means the mechanism for operating the endless carriers may be thrown in and out of gear at will. The gear N, meshes with a gear O, mounted on the horizontal shafts O′, and secured to the extended end of this shaft is the sprocket P, which communicates motion to the sprocket shaft J′, by means of the drive chain P′, and by this arrangement the carrier K, is set in motion. Upon the opposite end of the shaft I′, is the sprocket Q, which rotates the sprocket shaft R, through the medium of the chain Q′. This last named shaft is journaled at the inner end of the rearwardly slanting frame S, which is supported above the rear end of the frame A, by the supports S′. The inner portion of this frame is constructed with a solid bottom T, which terminates in the projecting fingers T′. Journaled at the outer end of the frame S, is the shaft U, and

adapted to move around the shaft R, U, is the endless carrier V, formed of parallel ropes which extend through the cross slats V′, arranged at intervals on the carrier.

The potatoes are deposited on the solid bottom portion T, by the carrier K, which terminates immediately above it and from this point they are moved rearward by conveyer V, to the fingers T′, through which they drop upon the screen W. The latter is suspended beneath the frame S, upon spring arms and is adapted to be vibrated laterally. This lateral motion is communicated to it by the crank shaft W′, which carries a pinion W″, at its inner end which meshes with the bevel portion of the gear O. The outer or rear end of this shaft is supported in the depending bearing X′. The cranks of this shaft are connected to the bottom of the screen frame by straps or any other suitable means. The potatoes are thus subjected to a thorough shaking which removes all dirt and from this screen they drop into a receptacle of any suitable kind supported on the rear end of the frame A, immediately beneath the inner end of the screen.

When the ground is very wet the receptacle may be removed allowing the potatoes to drop on the ground where they will be thoroughly dried before gathering.

The vines and weeds which have been elevated are carried rearward by the conveyer V, and discharged at the end of the machine away from the shaking screen and potatoes.

The frame S is vertically adjustable on the standards S′, so that its angle as well as the angle of the screen may be regulated at will.

The drive wheels are provided with angular projections on their peripheries as shown, so that a secure hold is obtained on the ground being traversed.

Secured to the sides of the frame L, are the vertical guides Y, which prevent the potatoes from rolling off the carrier K.

The clutch N′, is operated by the lever Y′, which extends forward within easy reach of the operator for whom is provided the seat Z.

Having thus described my invention, I claim,—

1. In a potato harvester, the combination with a frame and driving wheels therefor, of arms pivoted to said frame which are bent downward between their ends, a scoop secured to the forward ends of the arms, means for vertically adjusting the frame, a shaft journaled to the bends of the arms, an elevated sprocket shaft above the main frame, an endless carrier which moves around said shafts and a driving mechanism, substantially as shown and described.

2. In a potato harvester, the combination with a main frame, driving wheels therefor, and a scoop, of an endless elevator which conveys the potatoes from the scoop, a rearwardly projecting frame, an endless conveyer supported thereby which receives the potatoes from the first named elevator, a solid bottom in said frame terminating in fingers over which said conveyer works, a depending shaking screen, and a suitable operating mechanism, substantially as shown and described.

3. In a potato harvester, the combination with a frame, drive wheels, a scoop, the endless conveyer and a shaking screen, of shafts M and O′, engaging gears on said shafts, a connection between the first named shaft and the driving wheels, a means for operating the conveyers from the shaft O′, a bevel gear on said shaft, a rearwardly extending crank shaft having a pinion, and a connection between the said cranks and the screen, whereby the latter is vibrated, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN RADERMACHER.

Witnesses:
C. H. L. HAMER,
THEO. M. ROY.