(No Model.)

P. F. WELLS.

POTATO DIGGER.

No. 534,417. Patented Feb. 19, 1895.

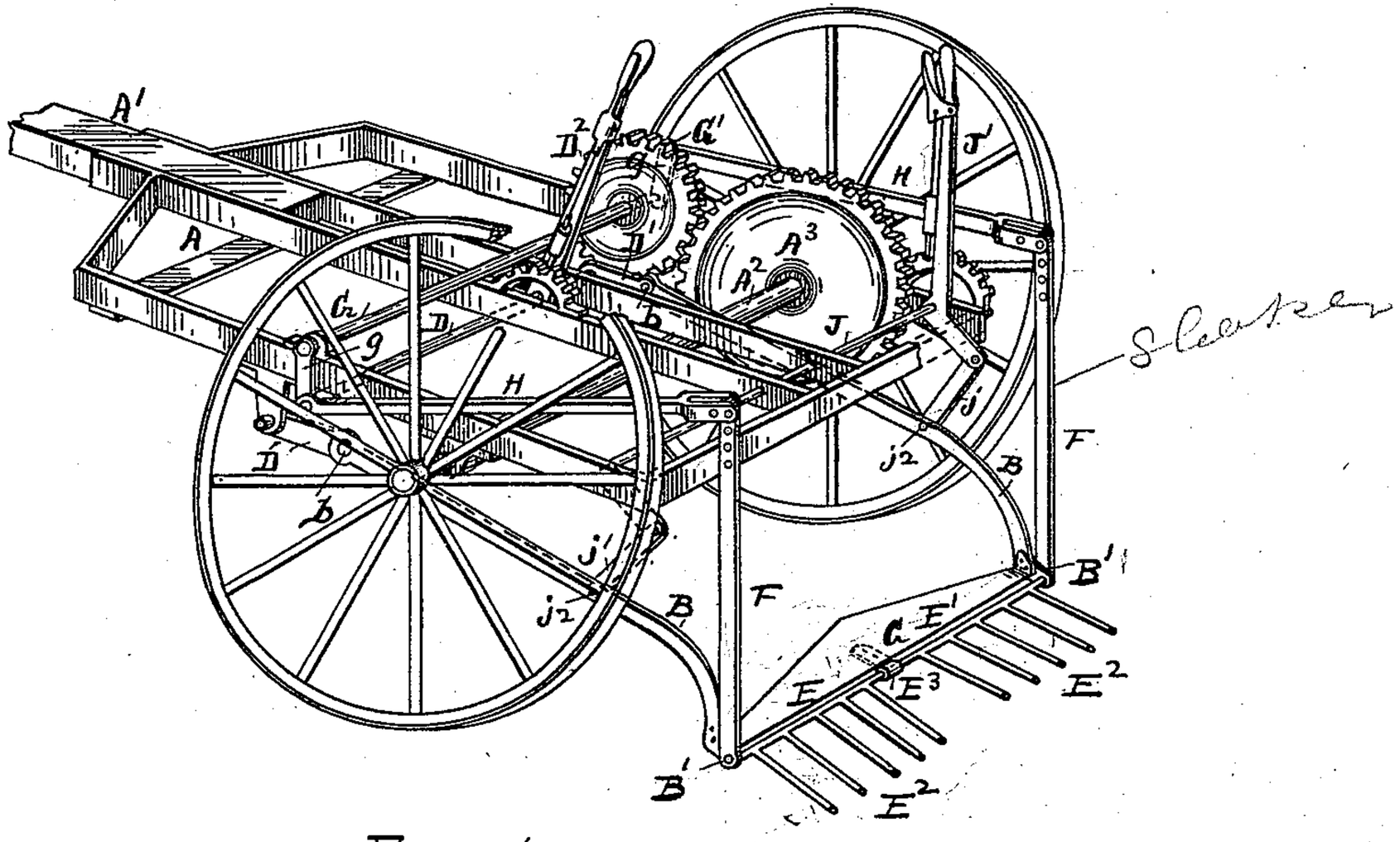

Fig. 1.

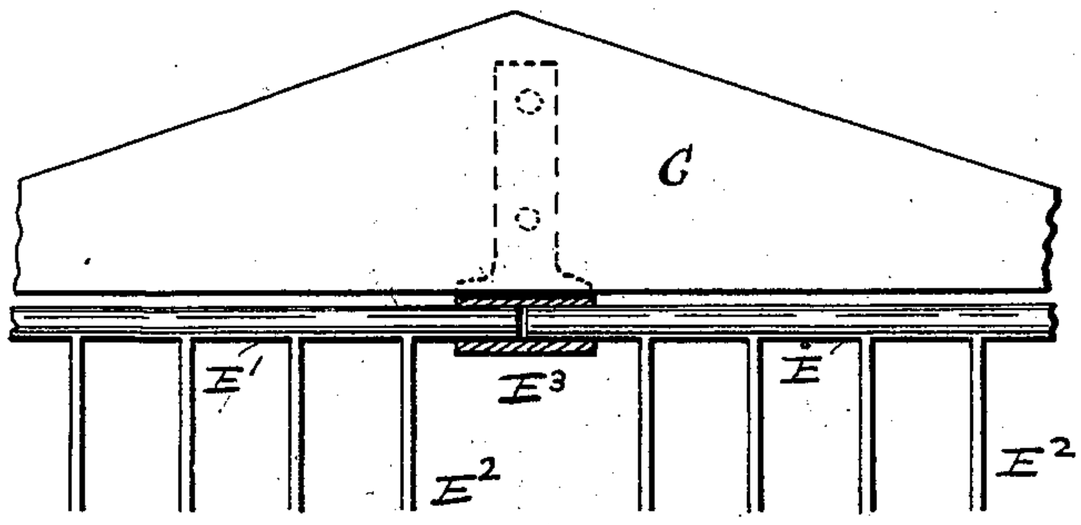

Fig. 2.

WITNESSES

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PHILIP F. WELLS, OF MILFORD, MICHIGAN.

POTATO-DIGGER.

SPECIFICATION forming part of Letters Patent No. 534,417, dated February 19, 1895.

Application filed May 7, 1894. Serial No. 510,432. (No model.)

To all whom it may concern:

Be it known that I, PHILIP F. WELLS, a citizen of the United States, residing at Milford, county of Oakland, State of Michigan, have invented a certain new and useful Improvement in Potato-Diggers; and I 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 appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to certain new and useful improvements in potato-diggers, and it consists of the construction, combination and arrangement of the devices and appliances hereinafter specified and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a view in perspective of a device embodying my invention. Fig. 2 is a view in vertical longitudinal section and inverted plan showing the manner in which the shafts E, E′, are journaled at their inner ends.

I carry out my invention as follows:

A indicates any suitable wheel frame.

A′ is the tongue.

A^2 is the axle.

B denotes beams extending longitudinally of the machine, carrying a digger blade C at their rear ends and having a vertical oscillatory movement at their forward ends. To effect said oscillatory movement, I engage upon the wheel frame, toward its forward end, a transverse bar D constructed with crank arms D′ having a jointed engagement with the forward ends of the beams B, as shown at "*b*."

D^2 is a lever arm engaged with the transverse bar D, for rocking said bar and thereby lifting or rolling the crank arms D′ as may be desired. This lever D^2 is engaged with the transverse bar D midway its extremities in a position to be readily grasped by the driver from the driver's seat (not shown). The lever D^2 is provided with a pawl to engage a suitable rack bar, as shown, to hold the bar D in any given position of adjustment.

The beams B are curved downward toward their rear ends to engage the digger blade C.

It will readily be seen that by manipulating the crank shaft D by means of the operating lever D^2, the forward ends of the beams B may be raised or lowered in a simple and convenient manner, as may be required to give the required pitch to the blade C. The rear extremities of the beams B are extended past the union of the digger blade therewith, as shown at B′, said extensions forming bearings for rotatable shafts E and E′, each carrying a series of finger or grate bars E^2. The shafts E and E′ are independently rotatable in any suitable manner. Thus for example, their adjacent extremities may be independently journaled in a suitable bearing E^3 toward the center of the digger blade.

F denotes vertical shaker bars engaged respectively at their lower ends with the rotatable shafts E and E′. These shaker bars F are oscillatory at their upper ends. This may be accomplished in any suitable manner.

As shown, G denotes a transverse shaft engaged upon the wheel frame provided with a gear G′ meshing with a gear A^3 upon the axle A^2. The shaft G is constructed with crank arms "*g*" arranged at an angle the one to the other at the opposite ends of the shaft G, each crank arm "*g*" being connected by a pitman H with the upper end of the corresponding shaker bar F. It will thus be evident that as the crank shaft G is rotated, an alternating vibration will be given to the finger or grate bars upon each of the shafts E and E′ thereby effectually sifting the potatoes from the earth.

Toward the rear end of the wheel frame, I locate a transverse crank shaft J, provided with an operating handle J′ for lifting the blade and the grate bars from the ground. The lever J′ is connected with one of the beams B by means of a pivotally connected arm "*j*," the opposite extremity of the shaft J being also cranked, as indicated in dotted lines, and connected with the other beam B by a jointed connecting arm *j*′. The beams B are fulcrumed upon the lower ends of the arms "*j*" and *j*′, as shown at j^2.

Inasmuch as the digger blade ofttimes requires to be frequently tilted, it is of much importance that the means for tilting it should be readily accessible to the driver from his seat, and so constructed and arranged as to permit the blade to be tilted quickly, without stopping the machine or requiring the driver to leave his seat. By locating the lever D^2 upon the bar D, as above

described, and providing the pawl and rack bar to hold the lever in any given position, the desired end is obtained in a simple and convenient and most satisfactory manner.

What I claim as my invention is—

1. In a potato digger the combination of a wheel frame, a transverse crank shaft D journaled upon said wheel frame, beams B connected at their forward ends respectively with the cranks of said crank shaft, a digger blade engaged with the rear ends of said beams, and a lever D^2 engaged with the crank shaft mid-way of its extremities and provided with a pawl and rack bar to hold said lever in a given position whereby the forward ends of said beams may be vertically oscillated by the driver from the driver's seat, substantially as set forth.

2. In a potato digger the combination of a wheel frame, oscillatory shaker bars F, means to alternately oscillate said shaker bars, independent shafts E and E′ engaged with said shaker bars respectively, finger bars engaged with each of the shafts E and E′, whereby each of said shafts may be alternately operated to alternately vibrate their respective finger bars, a digger blade, beams B engaged at their rear ends with said digger blade, a transverse bar D journaled upon said wheel frame having crank arms D′ engaged with the forward ends of said beams, and a lever D^2 engaged with said crank shaft mid-way its extremities whereby the digger blade may be adjusted by the driver from the driver's seat, said lever D^2 provided with means to hold it in a given position, substantially as set forth.

3. In a potato digger the combination of a wheel frame, beams B, a rotatable crank shaft D journaled upon said wheel frame having a crank arm engaged with each of said beams, and a lever D^2 engaged with the crank shaft midway of its extremities and provided with a pawl and rack bar to hold said lever in a given position, a digger blade carried by said beams at their rear extremities, shaker bars F, independent rotatable shafts E and E′ engaged with said shaker bars respectively, each carrying a series of finger or grate bars, and a rotatable crank shaft G having a pitman connection with each of said shaker bars, said crank shaft G arranged to alternately vibrate the finger bars upon the shafts E and E′, substantially as set forth.

4. In a potato digger the combination of a wheel frame, beams B, a digger blade carried by said beams at their rear extremities, a crank shaft D journaled upon said frame having a crank arm engaged with each of said beams, and a lever D^2 engaged with the crank shaft midway of its extremities and provided with a pawl and rack bar to hold said lever in a given position, a crank shaft J and connecting arms "*j*," *j*′ upon which said beams are fulcrumed respectively, shaker bars F, independently rotatable shafts E E′ engaged with said shaker bars, each carrying a series of finger bars, a rotatable crank shaft G, a pitman connecting each of the shaker bars F with the shaft G, said latter shaft arranged to alternately vibrate the finger bars, substantially as set forth.

In testimony whereof I sign this specification in the presence of two witnesses.

PHILIP F. WELLS.

Witnesses:
N. S. WRIGHT,
OTTO B. BAENZIGER.