

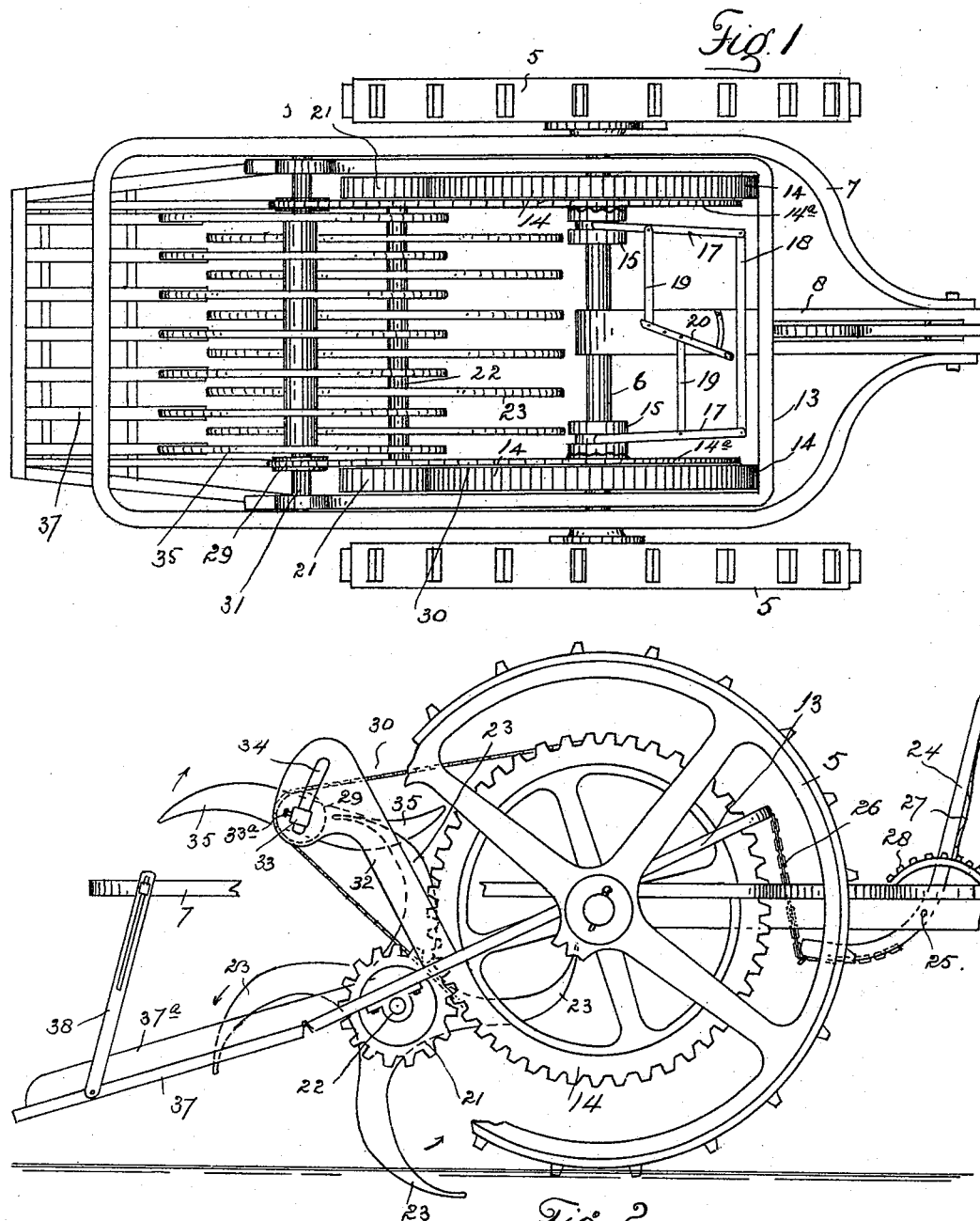
(No Model.)

3 Sheets—Sheet 1.

L. S. STREPEY.
POTATO DIGGER.

No. 494,533.

Patented Mar. 28, 1893.



WITNESSES:
G. J. Rollander.
Wm. M. Connell.

Fig. 2.
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(No Model.)

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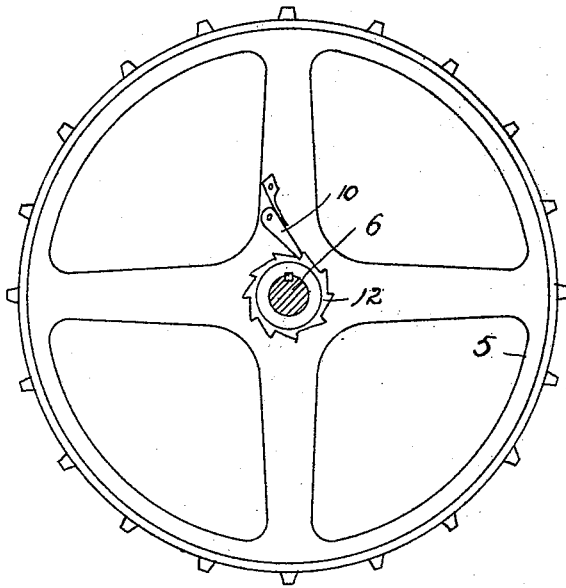


Fig. 3.

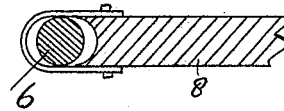


Fig. 5.

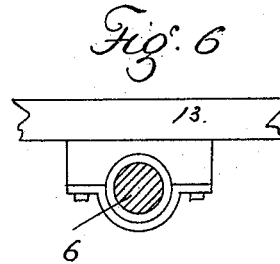


Fig. 6.

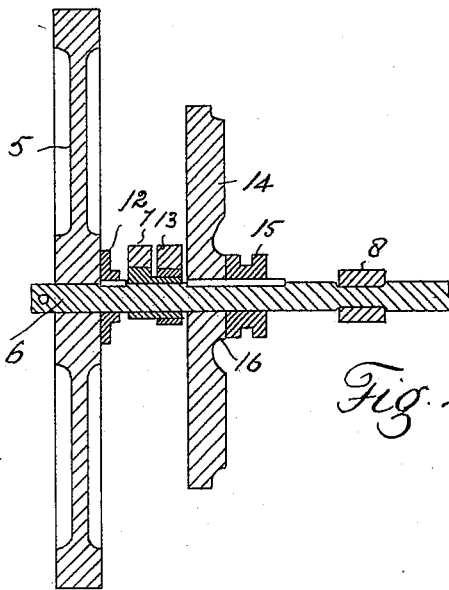


Fig. 4.

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(No Model.)

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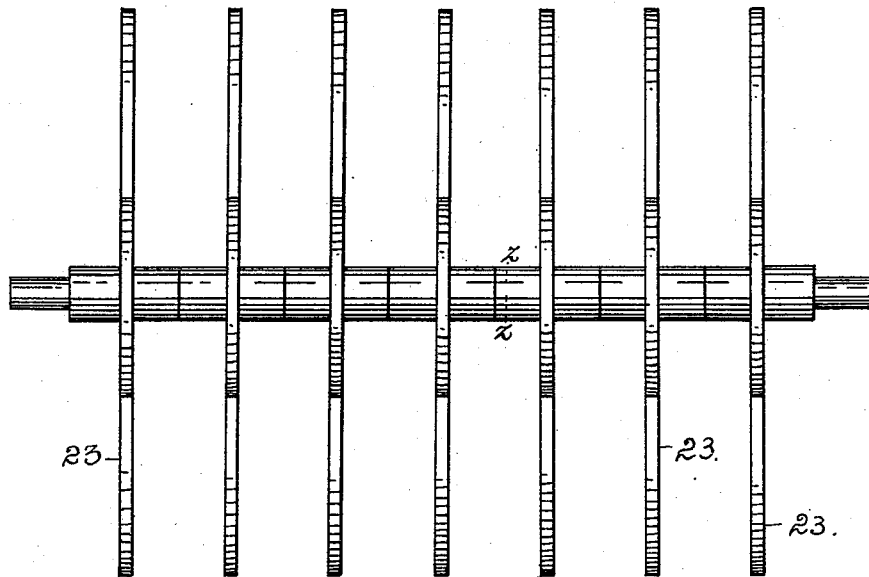


Fig. 9

Fig. 7

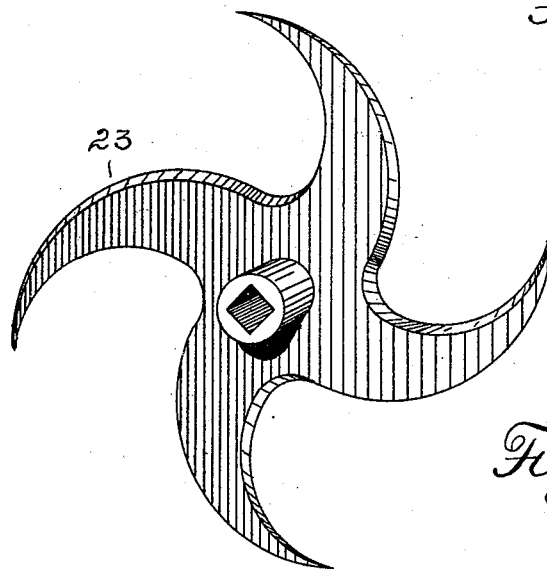


Fig. 8.

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UNITED STATES PATENT OFFICE.

LINDSAY S. STREPEY, OF ASPEN JUNCTION, ASSIGNOR OF ONE-HALF TO
HENRY B. GILLISPIE, OF ASPEN, COLORADO.

POTATO-DIGGER.

SPECIFICATION forming part of Letters Patent No. 494,533, dated March 28, 1893.

Application filed October 10, 1892. Serial No. 448,480. (No model.)

To all whom it may concern:

Be it known that I, LINDSAY S. STREPEY, a citizen of the United States of America, residing at Aspen Junction, in the county of Eagle and State of Colorado, have invented certain new and useful Improvements in Potato-Diggers; and I do 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, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in potato diggers and the object of the invention is to provide a machine of the class stated which shall be simple in construction, economical in cost, reliable, durable and efficient in use.

The invention consists of the features, arrangements and combinations hereinafter described and claimed, and will be fully understood by reference to the accompanying drawings in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a top or plan view of the machine. Fig. 2 is a side elevation of the same, one of the traction wheels being partly broken away to better illustrate the mechanism. Fig. 3 is a section taken through the axle showing one of the traction wheels in elevation together with the ratchet pinion and locking pawl whereby the axle is made to rotate with the wheel when the machine is making the forward movement. Fig. 4 is a fragmentary section taken through the axle and the mechanism connected therewith. Fig. 5 is a section taken through the rear end of the tongue and the supporting axle. Fig. 6 is a transverse section taken through the digger shaft showing a fragmentary view in elevation of the supporting frame. Fig. 7 illustrates the sectional digger, each set of teeth lying in the same vertical plane having a separate hub. Fig. 8 is a detail view in perspective showing one section of the digger in detail. Fig. 9 is a section taken through the shaft and hub of one of the digger sections.

Similar reference characters indicating corresponding parts or elements of the mechanism in the several views let the numeral 5 designate suitable traction wheels journaled on the axle 6 which in turn is journaled in the main frame 7 extending around the mechanism between wheels 5 and bolted to the tongue in front. Wheels 5 are locked on the shaft during the forward movement of the machine by a spring pawl 10 pivoted on each wheel and engaging a ratchet wheel 12 splined on the shaft. Hence during the forward movement of the machine the axle is made to rotate with the traction wheels. During its backward movement, however, the axle does not rotate as the pawl yields and slips over the ratchet teeth. Just inside the outer frame 7 is located a forked frame 13 pivoted upon the axle. Between the arms of the last named frame and located on the axle are the loose gear wheels 14 which are locked on the axle during the operation of the machine by clutches 15 splined on the axle and adapted to engage clutch-faced collars 16 formed integral with the gear wheels. When it is desired to throw the machine out of gear these clutches are disengaged from the gear wheels by sliding them toward each other on the axle. This is accomplished by two arms 17 pivoted to the extremities of a cross bar 18 made fast to the tongue. These arms are attached to the clutches by means of circumferential grooves formed in the latter. These arms are actuated for the purpose stated by a centrally located lever 20 and connecting bars 19 leading therefrom to the arms, the extremities of the bars being respectively pivoted to the connecting parts. The gear wheels 14 mesh with smaller similar wheels 21 made fast on a shaft 22 journaled in the pivoted frame 13 in the rear of the axle and carrying the diggers 23 which consist of curved teeth pointing in the direction of rotation and arranged in sets upon the shaft between the gear wheels. As shown in the drawings there are four teeth in each set, all lying in the same vertical plane and formed integral with a hub made fast on the shaft. There may be a separate hub or collar for each set of teeth, or all the sets may be formed upon a continuous hub or sleeve made fast on the shaft. Or this hub may constitute the shaft having its reduced extremities journaled in the frame 13. Hence the diggers rotate

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tate as the machine moves along and they are vertically adjustable whereby they may be made to enter the ground any desired depth. This adjustment of the teeth is accomplished
 5 by the use of a lever 24 fulcrumed on the tongue at 25 its short arm being connected with the forward extremity of frame 13 by a chain 26. The lever 24 is retained in any desired position by a spring actuated dog 27
 10 engaging a segmental rack 28 secured to the tongue. The rear extremity of the tongue is held in position by a clasp 8^a surrounding the axle 6 and bolted to the tongue as shown in detail in Fig. 5. On the inner surface of each
 15 gear wheel 4 and somewhat smaller than the cogged periphery of the wheel is formed a sprocket rim or wheel 14^a connected with a smaller sprocket wheel 29 by a suitable chain 30. The wheels 29 are made fast upon a shaft
 20 31 journaled in the upper extremities of standards 32 having their lower extremities made fast to frame 13. The extremities of shaft 31 are journaled in movable boxes 33 located in curved slots 34, the arc of the curve
 25 being determined by using a radius extending from the center of axle 6. Shaft 31 carries pulverizing teeth 35 arranged in sets between the sprocket wheels 29 and so located as to pass between the diggers from the rear
 30 when they have passed upward with their load thus breaking up or pulverizing the dirt and causing it to separate readily from the potatoes and at the same time separate the vines therefrom. As shown in the drawings
 35 each set of teeth 35 consists of two teeth oppositely curved and oppositely disposed on the shaft. These teeth may be adjusted vertically independently of the diggers by moving the journal boxes 33 in their curved slots
 40 34, the boxes being held in any desired position by set bolts 33^a.

Hinged to the rear extremity of the pivoted frame 13 is a coarse screen 37 having vertical
 45 side pieces 37^a. The forward extremity of this screen is hinged to the pivoted frame, while it is further supported in the rear by slotted bars 38 pivoted at their lower extremities to the sides of the screen and supported
 50 above by the rear extremity of frame 7 to which the bars are attached by set bolts 39 passing through the slots into the frame.

My improved machine is called a potato digger because this title is supposed to indicate
 55 its widest field of usefulness. It is evident, however, that it may be advantageously employed in digging or harvesting all vegetables

wholly or partly concealed in the earth when matured, as beets, turnips, carrots, onions, &c. The machine may also be employed to excellent
 60 advantage as a cultivator, the diggers being employed to loosen or stir up and pulverize the ground between the plant rows and at the same time up-rooting the weeds and leaving the earth level. In this case the rear separating screen would not be necessary and the
 65 upper or so called pulverizing teeth would probably not be necessary in ordinary cases.

In using the machine as a digger it should be drawn by a pair of horses which are made
 70 to straddle the row of vegetables so that one of the traction wheels shall run upon either side thereof. The diggers are then set to enter the ground a suitable depth by the adjustment of frame 13. Then as the machine
 75 moves along the diggers enter the earth and raise the vegetables therefrom and carry them upward and over upon the rear screen, the pulverizing teeth passing between the diggers from the rear as and for the purpose heretofore explained.
 80

When the machine is not in use and it is desired to move it from place to place the clutches 15 should be disconnected from the
 85 gearing wheels, when the shaft will turn without imparting motion to the operating parts.

Having thus described my invention, what I claim is—

In a potato digger the combination with the axle, traction wheels and stationary frame of the movable frame pivoted on the axle and
 90 extending both in the front and rear of the same, the shaft journaled on the movable frame in the rear of the axle, the diggers supported upon said shaft, upwardly extending
 95 arms attached to the movable frames, a shaft journaled in the upper extremities of said arms which are provided with curved slots to receive the journals, pulverizing teeth made
 100 fast to said shaft and adapted to pass between the digger teeth as both shafts are rotated, and means for adjusting the movable frame, said means being attached to the same forward of the axle whereby the diggers and
 105 pulverizers may be raised and lowered at pleasure, substantially as described.

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

LINDSAY S. STREPEY.

Witnesses:

WM. MCCONNELL,
 HENRY DEITZ.