March 18, 1924.

1,487,642

G. W. WISEMAN

POTATO HARVESTER

Filed Feb. 20, 1920

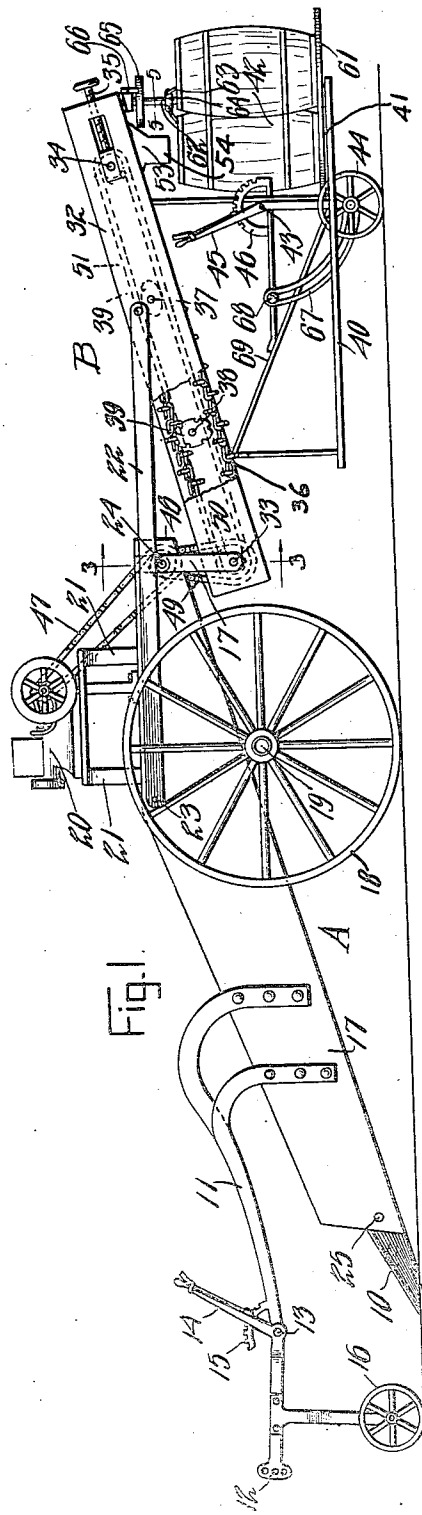

Fig. 1.

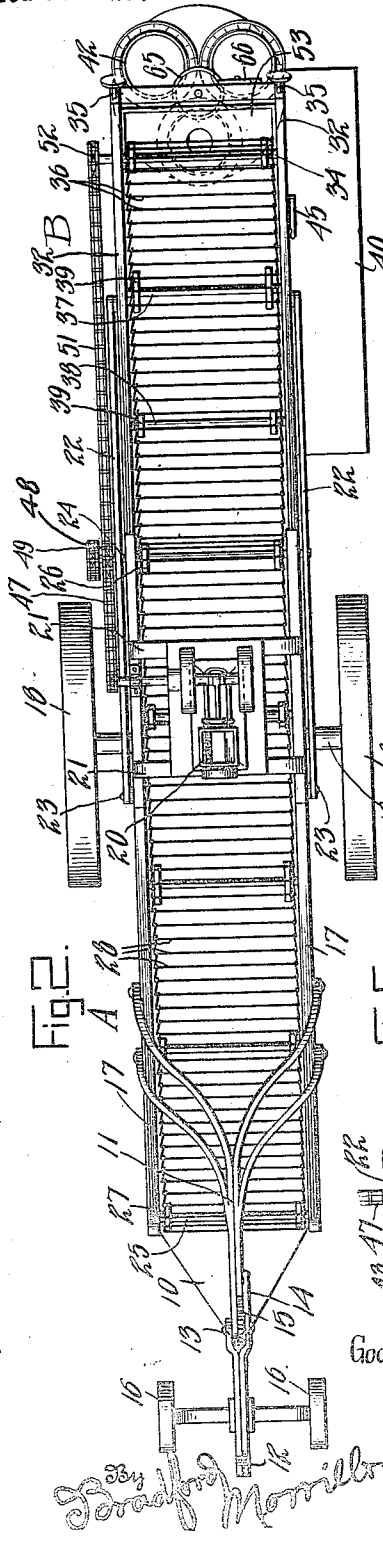

Fig. 2.

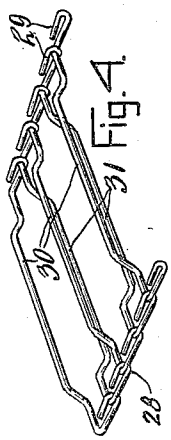

Fig. 4.

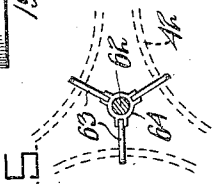

Fig. 5.

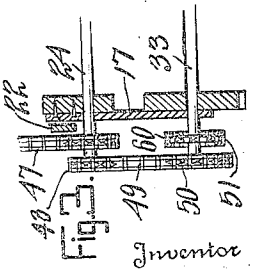

Fig. 3.

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UNITED STATES PATENT OFFICE.

GOODWIN W. WISEMAN, OF WATERVILLE, MAINE, ASSIGNOR TO DOMINICK M. SUSI AND NATHANIEL H. BARROWS, BOTH OF WATERVILLE, MAINE.

POTATO HARVESTER.

Application filed February 20, 1920. Serial No. 360,091.

To all whom it may concern:

Be it known that I, GOODWIN W. WISEMAN, a citizen of the United States, residing at Waterville, in the county of Kennebec and State of Maine, have invented certain new and useful Improvements in Potato Harvesters, of which the following is a specification.

This invention relates to potato diggers and cleaners and has for an object to provide a structure combining mechanical and manual means for digging, collecting and cleaning potatoes by a continuous operation and in an expeditious and comparatively inexpensive manner all as will be hereinafter more particularly pointed out and claimed.

Referring to the accompanying drawings which are made a part hereof, and on which similar reference characters indicate similar parts,

Figure 1 is a view of the device in side elevation, parts being broken away to show interior construction,

Figure 2 a top plan view of the device,

Figure 3 a sectional view taken on line 3—3 of Figure 1, showing the manner of driving the endless belts,

Figure 4 a perspective view of a fragment of the lag chain, and

Figure 5 a detail on dotted line 5—5 in Figure 1.

The improved potato digger and cleaner comprises a digger unit A and an auxiliary cleaner unit B. The digger unit comprises a point 10 connected with a beam 11 to which draft is applied at the clevis 12. The beam is articulated at 13 and controlled by a lever 14 and segment 15 with caster wheels 16 for controlling the depth of the point 10. The point 10 is connected with a body comprising the side walls 17 supported by the wheels 18 carried upon axle 19. Upon the body a motor 20 of any approved type is mounted in any approved manner, as by the U-shaped bars 21.

To the rear of the body of the digger A arms 22 extend, pivoted at 23. Shafts 24 and 25 are journaled in the side wall members 17, the former extending beyond the walls sufficiently to support the arms 22 when the arms are permitted to drop from normal position as shown at Figures 1 and 3. The shafts 24 and 25 are respectively provided with sprockets 26 and 27 over which passes the lag chain 28, interengaged, with cross bars 30 and 31, extending transversely between such links. As shown, the cross bars 30 are curved upwardly from the plane of the links while the cross bars 31 are bent downwardly so that cross bars 30 and 31 are staggered and travel in different planes.

To the rear of the arms 22 the cleaner unit B is attached and comprises side rails 32 journaling shafts 33 and 34, the latter being adjustable by means of manually controlled screws 35. The shafts 33 and 34 carry sprockets over which passes the lag chain 36, similar in all respects to the lag chain 28. Intermediate the shafts 33 and 34 shafts 37 and 38 are journaled. In the drawings two of these shafts are shown, but it is to be understood that the number of such shafts is immaterial to the present invention. Each of these shafts 37 and 38 carries an elliptical sprocket 39, the lag chain passing over these elliptical sprockets for giving local agitation at those points for further loosening and discharging dirt or adhering matter.

Below and at one side of the side rails 32 a running board 40 is erected, carried in any approved manner, as by the bracing shown.

Beneath the structure supporting the running board 40 and platform 41 means are provided for supporting the cleaner structure in operation. These comprise a shaft 43 extending across the structure and provided with bearing wheels 44. A lever 45 and segment 46 are employed for drawing and holding the wheels temporarily up out of supporting position, whereupon the arms 22 will drop onto and into engagement with the shaft 24 and the cleaner structure be supported from the digger structure for turning purposes. A slotted segmental brace 67 connects with the axle of wheels 44 and with a pin 68 on a frame part 69 to limit its swing in rearward direction and afford a support therefor.

The lag chains 28 and 36 receive power from the motor 20 by means of a chain 47 engaging a sprocket 48 upon the shaft 24. The rotation of this shaft operates the lag chain 28. From a smaller sprocket on the same shaft with sprocket 48, a chain 49 passes to a sprocket 50 of larger diameter upon the shaft 33. A sprocket 60 on said

shaft 33 carries the sprocket chain 51 extending the length of the cleaner and operating upon the sprocket 52 on the shaft 34. The lag chain 36 is therefore driven at both ends through the rotation of the shafts 33 and 34, and at a speed considerably slower than lag chain 28.

At the upper and rearward end the apron, consisting of lag chain 36 discharges into a hopper 53, positioned to discharge into the receptacles 42. Said receptacles 42 are mounted on a platform 61 mounted to rotate around a shaft 62 to bring said receptacles 42 under the discharge chute of hopper 53 one after another in succession. By this means as one receptacle is filled another may be brought to position without stopping and the filled receptacles may be set off platform from time to time and empty ones put in their places while the machine in is motion. Hooks 63 are hinged to a ring 64 on shaft 62 to retain said receptacles in place. A disk 65 with notches in its edge to engage a pivoted latch 66 serves to position the platform to bring the receptacles in proper relation to the hopper.

In operation the lag chains 28 and 36 are actuated by and from the motor 20, wholly independently of the traction or motion of the structure over the ground. The depth to which the point 10 is to travel is regulated by manipulating the lever 14, whereupon the potatoes, together with the adjacent soil, are delivered upon the lag chain 28. This lag chain 28 is of such length as to properly elevate the potatoes and the adhering vines, dirt and the like, and to discharge by dropping through the chain a considerable portion of the dirt not adhering to the potatoes. The adhering dirt, however, together with the potatoes, vines and the like are dumped upon the lag chain 36, where they are subjected to the agitation produced by the elliptical sprockets 39. Also the operator stands upon the running board 40 and manually removes from the material traveling along the lag chain such matter as is to be separated from the potatoes, as for instance, vines, stones or the like which are thrown to one side as the device travels. The potatoes cleaned and separated from extraneous matter are dumped into the hopper 53 and guided by the chute 54 into the receptacle 42, which is removed and replaced as circumstances may require.

Having thus fully described my said invention, what I claim as new and desire to secure by Letters Patent, is:

1. In combination a potato digger, a cleaner, means for supporting the digger unit, means for independently supporting the cleaner unit at times, and means to withdraw the independent support of the cleaner unit and support the cleaner unit from the digger unit when desired.

2. In combination, a potato digger supported by wheels, a normally wheel-supported cleaner unit trailing therefrom, means for withdrawing the supporting wheels of the cleaner unit, and means for supporting the cleaner unit from the digger unit.

3. The combination of a potato digger, a cleaner trailing from the digger, means for supporting said cleaner from the ground, means for raising the cleaner supporting means off the ground, and other means for supporting the cleaner from the digger.

4. In a potato digger mounted upon wheels, a cleaner unit trailing therefrom and normally wheel-supported, a slotted segment extending upwardly from the axle of the cleaner unit, means for guiding the segment upwardly to withdraw the supporting wheels of the cleaner unit from the ground, and other means for supporting the cleaner unit from the digger when the said wheels are withdrawn.

In witness whereof, I have hereunto set my hand and seal at Washington, D. C. this 18th day of February, A. D. nineteen hundred and twenty.

GOODWIN W. WISEMAN. [L. S.]

Witnesses:

E. W. BRADFORD,

E. K. REICHENBACH.