

J. SWAYGER.

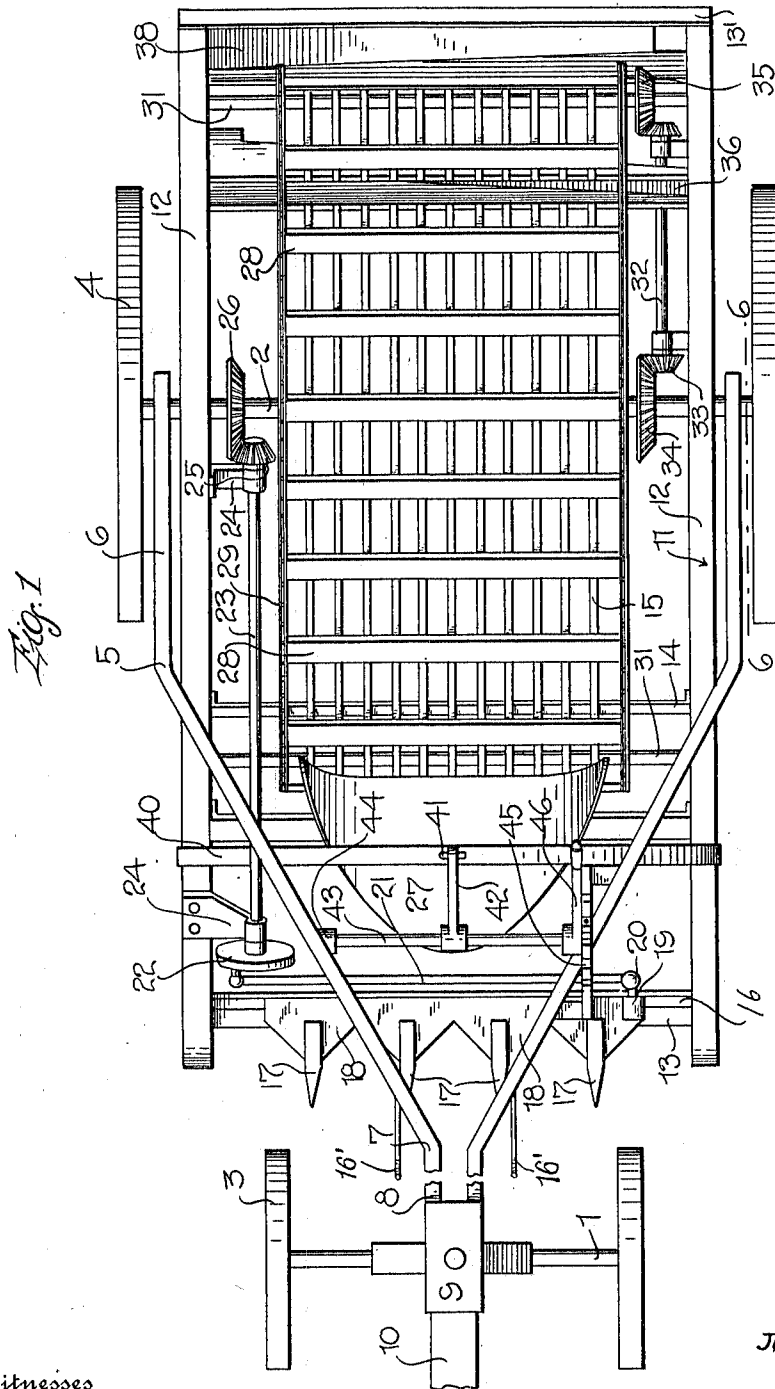
HARVESTER.

APPLICATION FILED JUNE 27, 1913.

Patented June 9, 1914.

1,099,407.

3 SHEETS—SHEET 1.



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Fig. 2

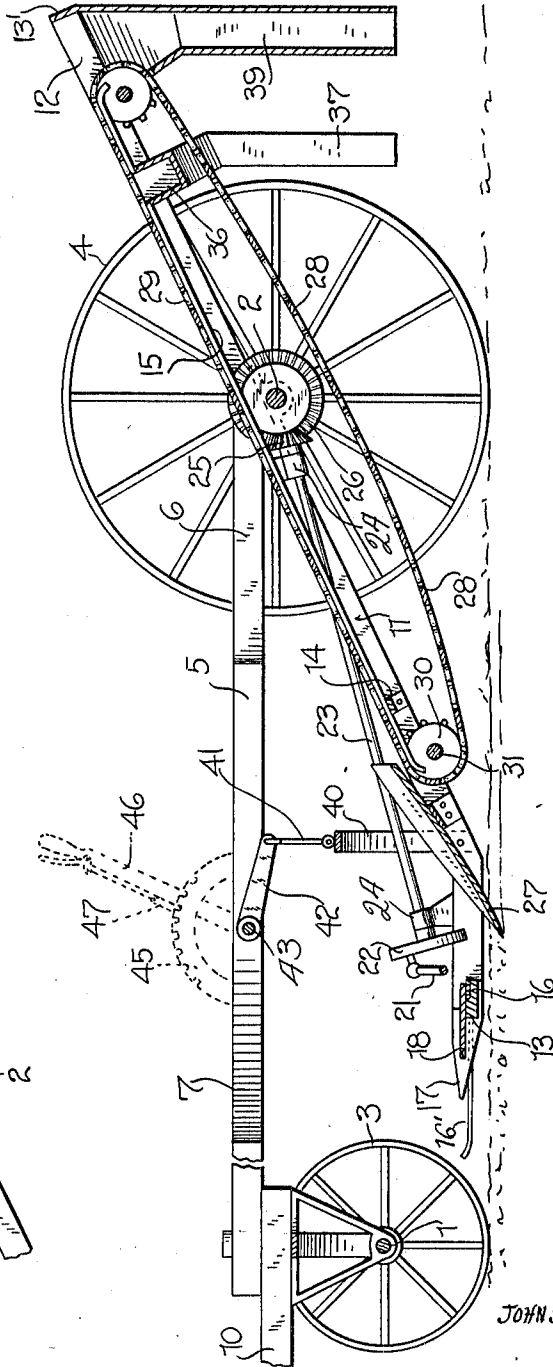
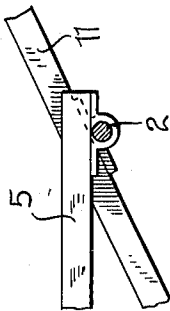


Fig. 6



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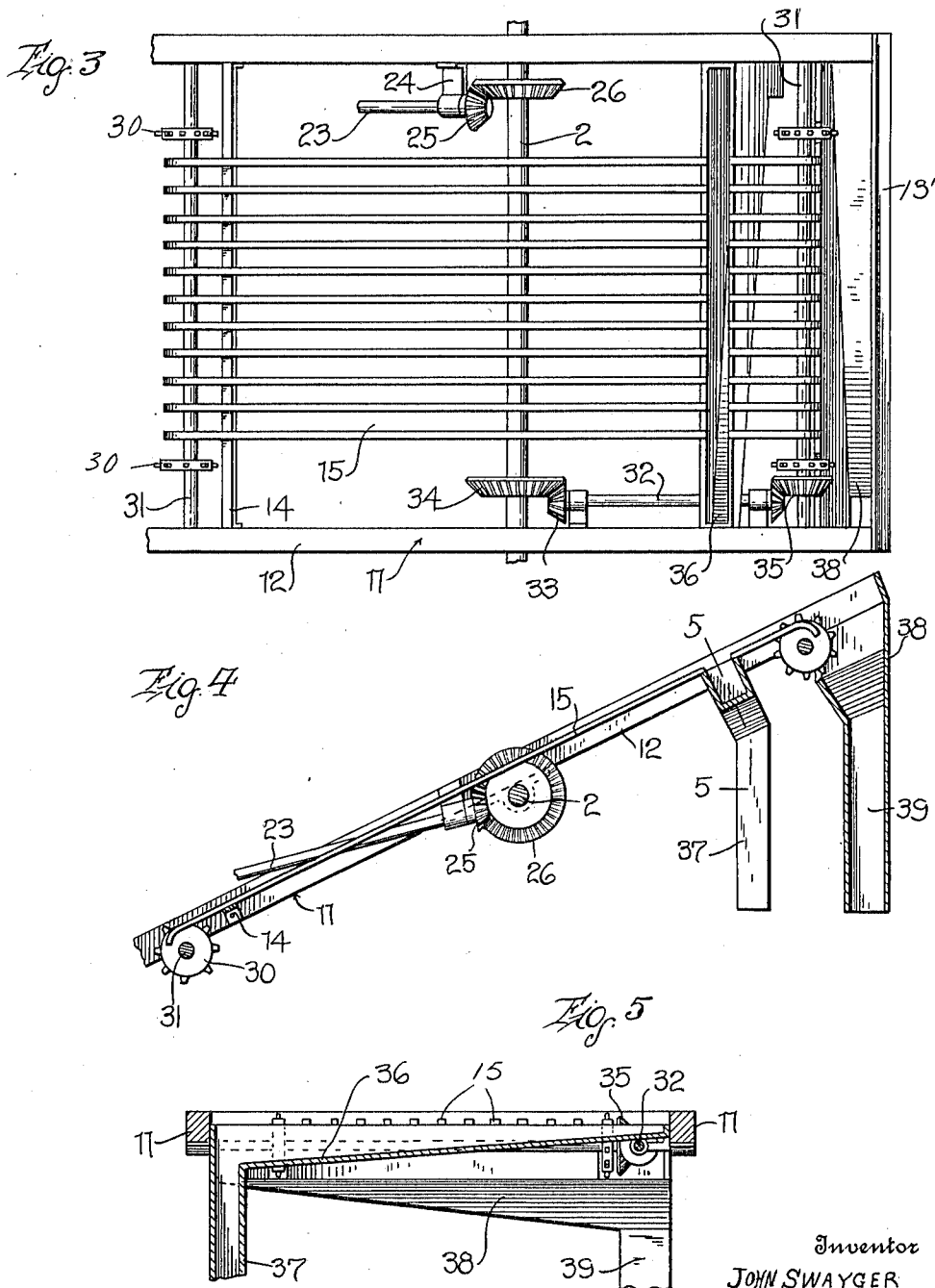
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UNITED STATES PATENT OFFICE.

JOHN SWAYGER, OF EAST DEERFIELD, MASSACHUSETTS.

HARVESTER.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN SWAYGER, a citizen of the United States, residing at East Deerfield, in the county of Franklin and State of Massachusetts, have invented certain new and useful Improvements in Harvesters, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to new and useful improvements in harvesters and more particularly to an onion harvester, the object of the invention being to provide a harvester of the above character whereby onions are harvested and placed within suitable receptacles as will be hereinafter set forth.

Another object of the invention is to provide a harvester of the above character which will possess advantages in points of efficiency and durability, is inexpensive of manufacture and at the same time is simple in construction and operation.

With the above and other objects in view, this invention consists in the novel features of construction and the combination and arrangement of parts to be hereinafter more fully described, pointed out in the claim and shown in the accompanying drawings in which—

Figure 1 is a top plan view of my improved onion harvester; Fig. 2 is a longitudinal sectional view; Fig. 3 is a top plan view of the rear end of the conveying member; Fig. 4 is a longitudinal sectional view illustrating the relative positions of the discharge spouts; and Fig. 5 is a transverse sectional view taken on the line 5—5 of Fig. 4; Fig. 6 is a sectional view taken on the line 6—6 of Fig. 1, parts being broken away.

Referring more particularly to the drawings, 1 and 2 indicate the front and rear axles of my improved harvester, the front axle being provided with relatively small wheels as indicated at 3 and the rear axle 2 being provided with somewhat larger sized wheels, as indicated at 4. The axles 1 and 2 are suitably connected by means of a frame 5 which comprises the spaced parallel bars 6, the forward ends of which converge, as shown at 7, and the extreme forward ends thereof arranged in parallel relation, as shown at 8, the forward ends thereof being suitably connected by means of a block 9 which is bolted or otherwise secured to the forward axle. A suitable tongue 10 is secured to the forward axle whereby the ma-

chine may be readily drawn from place to place.

Pivottally mounted upon the rear axle 2 is the supporting frame 11 which comprises the spaced parallel longitudinal side bars 12 suitably connected at their ends by means of the transverse bars 13 and 13' respectively. The longitudinal side bars 12 are further connected by means of the transverse bars 14 upon which are mounted the longitudinally extending spaced rods 15 upon which the onions or other vegetables are mounted while being conveyed to the rear end of the machine. Mounted upon the forward transverse bar 13 is a cutter bar 16 which comprises the usual guard teeth 17 and the reciprocating knife 18. Formed on one end of the reciprocating knife 18 is a bearing 19 in which is mounted an outwardly projecting lug 20, said lug being pivottally connected to one end of the pitman 21. The other end of the pitman 21 is suitably connected to the wheel 22 which is mounted upon the forward end of the longitudinal shaft 23, said shaft being suitably supported in the bearings 24 which are carried by one of the longitudinal side portions 12. Secured to the cutter bar 16 and projecting forwardly therefrom are the parallel arms 16' which are adapted to engage beneath the onion stalks which have fallen toward the ground or become dried and massed upon the ground above the surface of the earth. Mounted upon the rear end of the shaft 23 is a suitable gear 25 which is adapted to mesh with a beveled gear 26 mounted upon the rear axle 2 and which is adapted to rotate with said axle so as to operate the cutting knife 18.

In the operation of my improved machine, the cutting knife 18 is adapted to be disposed sufficiently near the ground to readily sever the tops of the onions close to the body of the same. After the tops of the onions have been cut therefrom, the onions are removed from the ground by means of the plow member 27 which is supported upon the pivoted frame 11 and arranged directly in the rear of the cutter bar 16. This plow member 27 is preferably in the form of a scoop, as clearly illustrated in Fig. 1 and the rear end thereof disposed directly above the longitudinal rods 15 so that as the onions are removed from the ground they will be readily dropped upon the rods 15 and conveyed to the rear of the machine by means of the transverse slats 28 which are drawn

over the rods by the side chains 29, said chains being rotatably mounted upon the sprockets 30.

The sprockets 30 are rotatably mounted upon the transverse shafts 31 which are operated through the medium of the longitudinal shaft 32 upon each end of which is mounted a beveled gear 33, the gear upon one end of the shaft meshing with the gear 34 which is mounted upon the rear axle 2. The gear upon the opposite end of the shaft is adapted to mesh with a similar gear 35 which is mounted upon the rear of the shafts 31 to transmit power thereto and to the chains 29. From this it will be seen that as the onions are removed from the ground through the medium of the plow member 27, they will be readily conveyed to the rear of the machine by the transverse slats 28 which are operated through the medium of the side chains 29 and the shaft 32.

Arranged adjacent the rear ends of the rods 15 is a transverse opening which communicates with a suitable trough 36, said trough being inclined and the lower end thereof communicating with a suitable spout 37 beneath which is adapted to be arranged a receptacle of any suitable type to receive the onions as they drop from the trough 36. It will be readily apparent that the opening above the trough 36 is to be of such size that only the smaller grade of onions will drop into the trough, the larger grade of onions being carried to the rear of the machine where they are deposited into a similar trough 38 inclined in an opposite direction to the trough 36 and communicating at its lower end with a spout 39 through which the onions are adapted to pass into a suitable receptacle.

The forward end of the frame 11 is adapted to be raised and lowered through the medium of an arch bar 40, the ends of which are connected to the longitudinal side portions of the frame, and connected to the intermediate portion thereof is a link member 41, the upper end of said link member being loosely connected to an outwardly projecting arm 42 mounted upon the transverse shaft 43. The ends of the transverse shaft 43 are mounted in suitable bearings 44 arranged upon the inner sides of the convergent portions of the frame 5. Arranged at one end of the shaft 43 is a rack 45 and mounted upon the shaft is a lever 46 which is provided with the usual spring pawl 47 adapted to engage the rack 45 to retain the frame 11 in various adjusted positions. It will be readily apparent from the above that the forward end of the frame 11 may be quickly raised and lowered through the medium of the lever 46 and held in any desired position by the spring pawl 47 which engages with the teeth of the rack 45.

From the above description taken in connection with the accompanying drawings, the operation of my improved harvester will be readily understood from the following. The machine is to be pulled along each row, the cutting knife 18 being reciprocated through the medium of the shaft 23 and the pitman 21 so that the tops of the vegetables may be quickly and readily severed from the body. The onions or other vegetables are then removed from the ground by means of the plow member 27, the onions and the earth which is dug up with them passing rearwardly on to the rods 15, the onions being conveyed to the rear of the machine by means of the slats 28 while the dirt which is removed with the onions is dropped down between the rods 15. The onions, in being conveyed to the rear of the machine, are separated by means of an opening which communicates with the trough 36, the smaller onions dropping through the opening into the trough 36 where they pass down the inclined bottom of the trough through the spout 37 into a suitable receptacle or they may be dropped upon the ground and picked up later. It will be apparent that the larger onions are conveyed to the rear of the rods and dropped into the trough 38 where they are deposited through the spout 39 upon the ground or any suitable receptacle.

From the above description taken in connection with the accompanying drawings, it will be readily apparent that I have provided a simple and durable harvester whereby onions and various other vegetables of like character may be readily topped, dug from the ground and separated as to size when they reach the rear of the machine where they are conveyed by suitable conveying mechanism. It will be also apparent that the machine is extremely simple in construction and can be manufactured at comparatively low cost.

While I have shown and described the preferred form of my invention it will be obvious that various changes in the details of construction and in the proportions may be resorted to for successfully carrying my invention into practice without sacrificing any of the novel features or departing from the scope of the appended claim.

What I claim is:—

A device of the class described including a suitably supported frame, spaced separating rods mounted on said frame and disposed longitudinally thereof, a trough extending transversely of the frame below said rods, such rods being cut away to afford an unobstructed entrance to said trough, a second trough at the outer ends of the rods, said troughs having their bottoms inclined toward opposite sides of the frame and pro-

vided with discharge spouts at their lower portions, the first mentioned trough being narrower than the second named trough, transverse members in contact with the rods
5 and movable thereon toward the troughs, and means for imparting movement to such transverse members.

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

JOHN SWAYGER.

Witnesses:

PAUL NICHERRSON,
ARTHUR SICARD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."