J. GUZOWSKI.

CUTTING APPARATUS.

APPLICATION FILED MAY 13, 1908.

972,852. **Patented Oct. 18, 1910.**

2 SHEETS—SHEET 1.

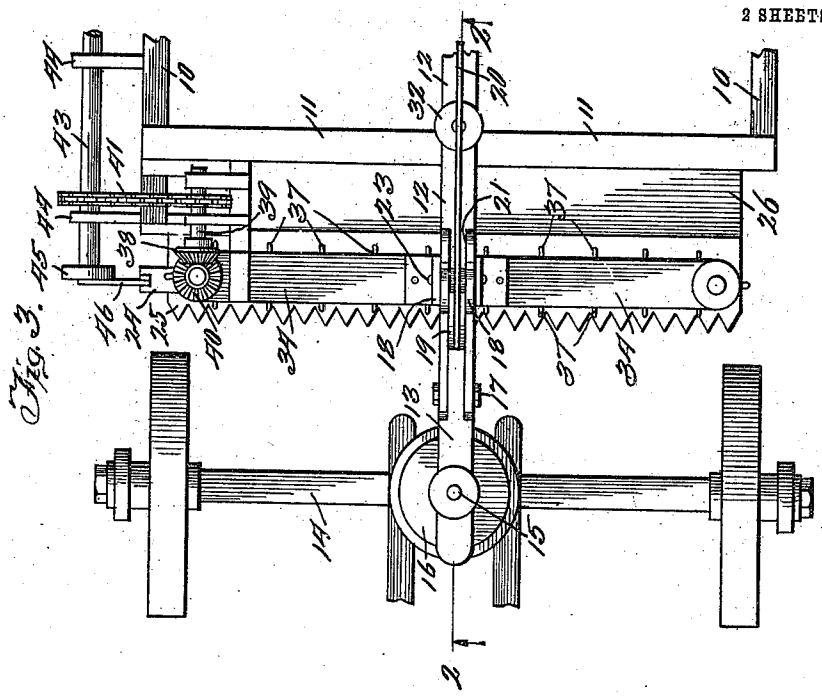

Fig. 3.

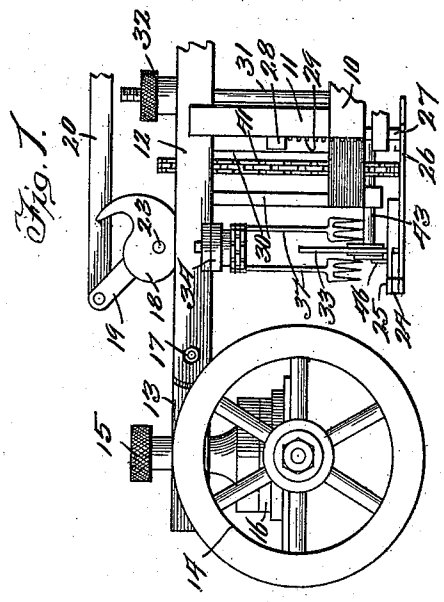

Fig. 1.

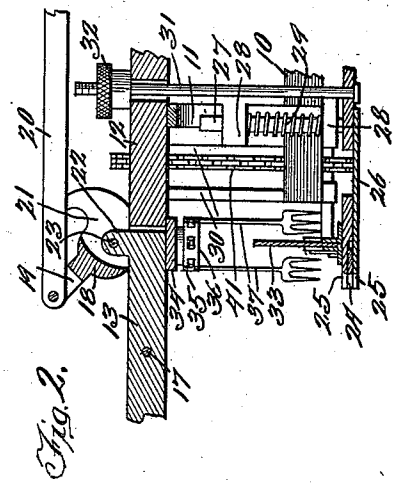

Fig. 2.

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2 SHEETS—SHEET 2.

Fig. 4.

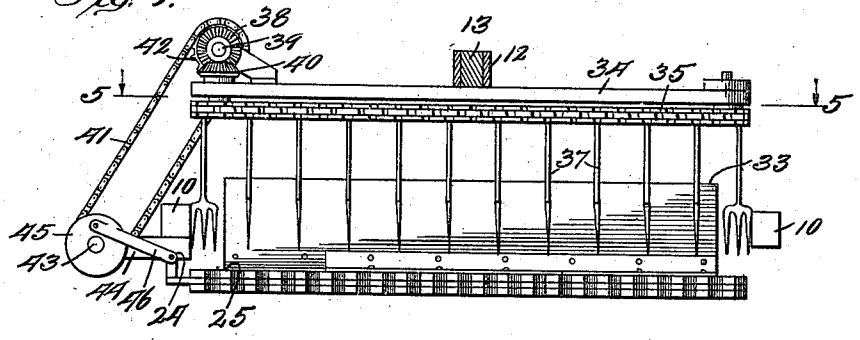


Fig. 5.

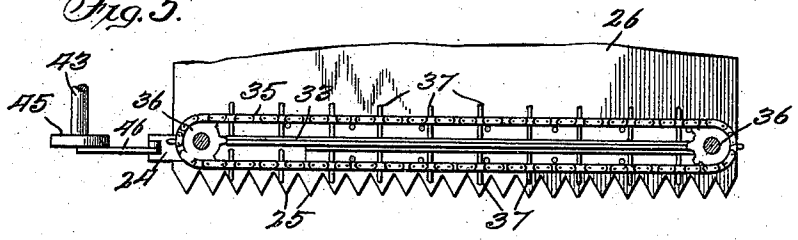
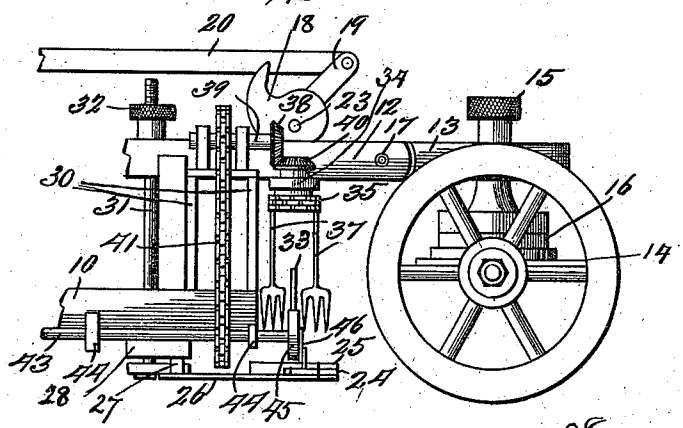


Fig. 6.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOSEPH GUZOWSKI, OF CHICAGO, ILLINOIS.

CUTTING APPARATUS.

972,852. Specification of Letters Patent. Patented Oct. 18, 1910.

Application filed May 13, 1908. Serial No. 432,576.

To all whom it may concern:

Be it known that I, JOSEPH GUZOWSKI, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Cutting Apparatus, of which the following is a specification.

This invention relates to improvements in cutting apparatus, particularly, though not necessarily, adapted for use in machines for digging potatoes and the like, and is especially designed for cutting off the vines or tops of the vegetables and for removing and conveying or forcing them to the side of the machine and out of the way.

A further object is to provide an improved device of this character which will be compact in arrangement, simple and durable in construction, and efficient and effective in operation.

To the attainment of these ends and the accomplishment of other new and useful objects, as will appear, the invention consists in the features of novelty in the construction, combination and arrangement of the several parts hereinafter more fully described and claimed, and shown in the accompanying drawings illustrating an embodiment of the invention, and in which—

Figure 1 is a side elevation of an apparatus of this character constructed in accordance with the principles of this invention, and showing the same as applied to a portion of a machine, the portion being shown in elevation. Fig. 2 is a sectional view on the line 2—2 of Fig. 3. Fig. 3 is a top plan view of Fig. 1. Fig. 4 is a front elevation of the rack mechanism for displacing the vines after being cut from the vegetables, and conveying them to one side of the machine and out of the way of the cutting apparatus. Fig. 5 is a sectional view on line 5—5 of Fig. 4, with parts omitted. Fig. 6 is a view similar to Fig. 1 of the opposite side of the mechanism.

Referring more particularly to the drawings, and in the present exemplification of the invention, the numeral 10 designates the side beam of a supporting frame or portion of a machine to which this improved apparatus is applied. A suitable upright 11 is arranged at the front of the beams 10 and is preferably arched or extends over the frame formed by the spaced beams 10, as shown more clearly in Figs. 2 and 3, and secured to this upright, preferably at the center thereof, is a beam 12, which extends beyond the forward end of the machine and is preferably provided with a hinged section 13, which section is supported preferably by a truck 14 and is connected thereto by means of a king pin or bolt 15 passing through a suitable fifth wheel construction 16. The section 13 is hinged to the beam 12, preferably by means of a transverse pin or bolt 17, and pivotally connected to the extremity of the section 13, so as to rest upon the top edge of the beam 12, is a cam designated generally by the reference numeral 18, which is provided with an arm 19, to which is connected an operating link 20, which latter is connected to any suitable controlling arm or lever on the machine, and which latter is arranged in a convenient position for the operator. When the link 20 is adjusted, the cam 18 is adjusted to move the section 13 about its point of pivotal support 17 to raise and lower the forward end of the support. The cam 18 is preferably bifurcated, as at 21, shown more clearly in Figs. 2 and 3, and the section 13 of the support is provided with an ear or lug 22 adapted to stand within the bifurcated portion 21, and is pivotally connected to the cam by means of a pivot pin 23.

The cutting apparatus is preferably arranged in the rear of the wheels of the truck 13, and is provided for cutting the vines or tops off of the vegetables. This cutting apparatus may be of any desired construction, and in the exemplification of the invention shown, is comprises a vibrating cutter knife 24, which is adapted to reciprocate between the guard fingers 25 in the ordinary and usual manner. Extending to the rear of the cutting apparatus and preferably supported thereby, is a platform 26, and the cutting apparatus may be supported from the frame work in any desired or suitable manner, preferably by means of uprights 27 which pass through suitable spaced bearings 28, and arranged between these bearings and surrounding the uprights are elastic members 29, such as coil springs or the like. Any desired or suitable number of these uprights 27 and their coöperating bearings may be provided, and if desired, additional uprights 30 may be provided, which are adapted to move in suitable guides for supporting the cutting apparatus, and the platform 26 in position, as shown more clearly in Fig. 2 of the drawings.

The cutting apparatus and its associated parts may be adjusted vertically with respect to their support in any desired or suitable manner, preferably by means of a stem 31, one extremity of which engages the supporting mechanism for the cutting apparatus, and the other extremity is adapted to pass through and beyond the beam 12. This extremity is preferably provided with screw threads adapted to receive a suitable collar or nut 32, which latter rests upon the top of the beam 12 so that by rotating the nut or collar 32, the stem 31, together with the cutting apparatus may be adjusted vertically to any desired position.

Adjacent the knife 24 and guard fingers 25, but preferably spaced a short distance to the rear thereof, is an upright partition 33, which may be of any desired height, and which extends substantially the entire length of the cutting apparatus, as shown more clearly in Figs. 4 and 5 of the drawings. A suitable support 34 is secured to extend transversely of the frame work or support 12, and above the partition 33. An endless flexible cutter 35 is supported by this support and said member passes over suitable sprocket wheels 36, shown more clearly in Figs. 2 and 5 of the drawings, and which sprocket wheels are preferably arranged at the ends or extremities of the support 34. Secured to and depending from the flexible member 35 are a plurality of fingers or rakes 37, which are of a length to stand in proximity to and above the cutting apparatus. These rakes or fingers 37 are so arranged that when the flexible member 35 is rotated through the medium of the sprocket wheels 36, they will travel around the partition 33, passing from one side and around the ends thereof to the other side, so that the vines or tops of the vegetables which have been cut while the machine is being advanced will be moved laterally with respect to the machine and discharged at one side thereof to prevent the vines and tops from accumulating on the top of the cutting apparatus.

Motion may be imparted to the flexible member 35 to move the rakes or fingers in any desired or suitable manner, preferably by means of a gear 38 on the shaft 39, which gear meshes with a gear 40 supported for rotation with one of the sprockets 36, and this shaft 39 may receive its motion by means of a sprocket chain 41 passing over a suitable sprocket wheel 42 on the shaft 39 and a corresponding sprocket wheel on the shaft 43 supported by suitable bearings 44, preferably on one of the beams 10. This latter shaft 43 may be given motion from any moving part of the machine, not necessary to illustrate. Suffice it to say that as the machine advances or is in operation, motion will be imparted to the shaft 43. The cutter 24 may also receive its motion in any desired or suitable manner, but preferably by means of a crank 45, which is secured for rotation with the shaft 43, and this crank is connected to the cutter 24 by means of a suitable connecting link 46.

With this improved mechanism, it will be apparent that the cutting apparatus may be adjusted vertically with respect to its support and with respect to the fingers or rakes 37 to vary the position of the cutting apparatus with respect to the surface of the ground, without affecting the operation of the rakes, and furthermore, the cutting apparatus will be yieldingly supported from the frame or support. As the mechanism advances, the vines will be cut by the cutter and would tend to accumulate upon the upper face of the guard faces, but this accumulation is prevented by the traveling rakes or fingers which engage and shove the cut vines off to one side of the mechanism and out of the way of the cutting apparatus.

What I claim as new is:

1. The combination with a support and cutting apparatus carried thereby, of an upright projecting above and extending substantially the entire length of the cutting apparatus, and means movable around said upright and across said apparatus for removing the cut portions.

2. The combination with a support and a cutter reciprocably mounted on said support, of an upright projecting above the cutting apparatus, and means movable around said upright and across said apparatus for removing the cut portions.

3. The combination with a support and a cutting apparatus carried thereby, of an upright projecting above and extending substantially the length of the cutting apparatus, means movable around said upright and across said apparatus for removing the cut portions, and means for adjusting said apparatus with respect to the support.

4. The combination with a support and a cutting apparatus carried thereby, of an upright projecting above and extending substantially the length of the cutting apparatus, means movable around said upright and across said apparatus for removing the cut portions, and means for adjusting said apparatus with respect to the last said means, and also with respect to the support.

5. The combination with a support and cutting apparatus carried thereby, of an upright projecting above the cutting apparatus, an endless belt movably supported above said cutting apparatus, and means depending from said belt for removing the cut portions.

6. The combination with a support and cutting apparatus carried thereby, of an endless belt movably supported by said support above said cutting apparatus, and means de-

pending from said belt for removing the cut portions.

7. The combination with a support and cutting apparatus carried thereby, of means vertically disposed above said cutting apparatus and movable thereacross for removing the cut portions.

8. The combination with a support and cutting apparatus carried thereby, of an upright partition projecting upwardly from said apparatus and an endless conveyer moving about said partition and provided with vertically disposed means for removing the cut portions of the plants.

9. The combination with a support of a reciprocating cutter, a guard for said cutter upon which cut portions of the plants are deposited, and a pendent rake element bodily movable across said guard for removing said cut portions.

10. The combination with a support of a reciprocating cutter, a guard for said cutter upon which the cut portions of the plants are deposited, a partition projecting upwardly from said guard, and an endless chain of rake elements moving about said partition across said guard.

11. The combination with a support, of a reciprocating cutter, a guard for said cutter upon which the cut portions of the plants are deposited, a partition projecting upwardly from said guard, an endless flexible member disposed above and traveling around said partition, and a plurality of rake elements depending from said flexible member and approximately reaching to said guard.

12. The combination of a support, a cutting apparatus supported thereby, said apparatus including a guard member, an upright projecting above and extending substantially the length of the cutting apparatus, a rake element supported by the support and movable across the cutting apparatus and around the said upright, and means for imparting movement to the said element.

13. The combination of a support, a cutting apparatus supported thereby, said apparatus including a guard member, an upright projecting above and extending substantially the length of the cutting apparatus, an endless flexible member supported by the support and extending across the cutting apparatus, rake elements supported by and movable with the flexible member, and means for imparting movement to the flexible member to move the said rake elements across the cutting apparatus and around said upright.

14. The combination of a support, a cutting apparatus yieldingly supported thereby, means for adjusting said cutting apparatus with respect to the support and for holding the apparatus in its adjusted position, said apparatus including a guard member, an upright projecting above and extending substantially the length of the cutting apparatus, a rake element supported by the support and movable across the cutting apparatus and around said upright, and means for imparting movement to said element.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 8th day of May A. D. 1908.

JOSEPH GUZOWSKI.

Witnesses:

J. H. JOCHUM, Jr.,

M. W. CANTWELL.