No. 677,473. Patented July 2, 1901.

R. E. ROYAL.

VEGETABLE CUTTER.

(Application filed Oct. 8, 1900.)

(No Model.)

Fig. 1.

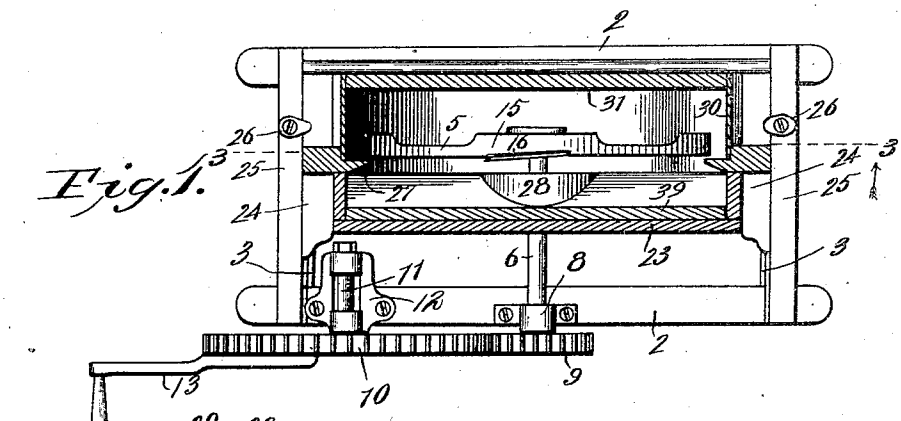


Fig. 2.

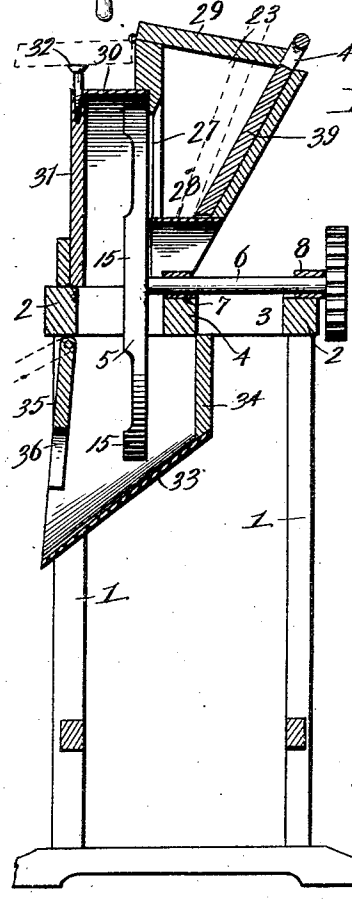


Fig. 3.

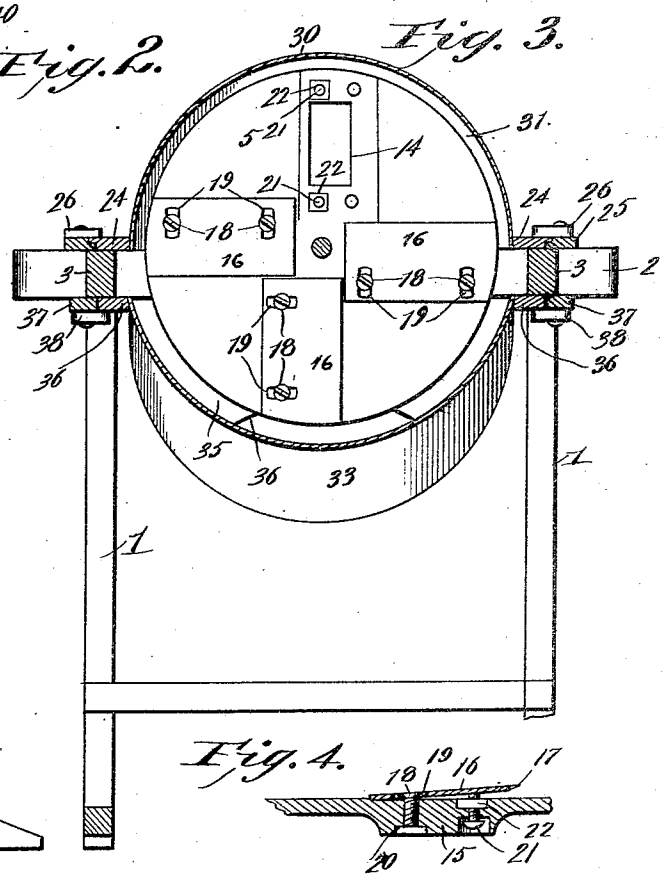


Fig. 4.

Witnesses
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UNITED STATES PATENT OFFICE.

RICHARD E. ROYAL, OF TELL CITY, INDIANA.

VEGETABLE-CUTTER.

SPECIFICATION forming part of Letters Patent No. 677,473, dated July 2, 1901.

Application filed October 8, 1900. Serial No. 32,425. (No model.)

To all whom it may concern:

Be it known that I, RICHARD E. ROYAL, a citizen of the United States, residing at Tell City, in the county of Perry and State of Indiana, have invented a new and useful Vegetable-Cutter, of which the following is a specification.

This invention relates to vegetable-cutters, and has for its object to provide an improved device of this character which is especially designed as a kraut-cutter, although it is capable of cutting vegetables of various kinds for feeding stock and for domestic purposes. It is furthermore designed to facilitate the application of the vegetables to the revolving knives, to discharge the cuttings in a simple and efficient manner, and to arrange for the convenient adjustment of the knife-blades without removing the latter from the device.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a transverse horizontal sectional view taken just above the top of the supporting-frame of a vegetable-cutter constructed and arranged in accordance with the present invention. Fig. 2 is a vertical transverse sectional view taken centrally through the device and at right angles to Fig. 1. Fig. 3 is a vertical longitudinal sectional view taken on the line 3 3 of Fig. 1. Fig. 4 is a detail sectional view illustrating the manner of adjusting one of the knife-blades.

Corresponding parts are designated by like characters of reference in all of the figures of the drawings.

Referring to the drawings, it will be seen that I provide a supporting-frame having the corner uprights or standards 1, which are connected at their upper ends by means of the opposite longitudinal bars 2 and the end cross-bars 3, there also being an intermediate longitudinal frame-bar 4 for the support of the knife-wheel.

The knife-wheel 5 is located between the front and intermediate longitudinal frame-bars and is carried at the end of a suitable shaft 6, the latter being journaled in bearing-boxes 7 and 8, provided upon the intermediate and rear longitudinal frame-bars, respectively. At the rear end of the shaft and upon the rear side of the frame there is provided a gear-wheel 9, which is in mesh with a larger gear 10, which is carried by a stub-shaft 11, that is mounted in a suitable bearing 12, provided upon the upper side of the rear longitudinal frame-bar and adjacent to one end of the frame. A suitable operating crank-handle 13 is provided for the master-gear 10, or the latter may be operated by any suitable power, as may be convenient or desired.

The knife-wheel is provided with a plurality of radial openings 14, and at the outer end of each opening the marginal edge of the wheel is thickened, as indicated at 15, which thickened portion is entirely upon the front side of the wheel, so that the rear side thereof is free from projections. At the rear side of each opening there is provided a knife-blade 16, which has its rear edge let into a notch in the rear face of the wheel and its front cutting edge 17 in alinement with the front edge of the opening, which latter is entirely covered by the knife-blade. As best indicated in Figs. 3 and 4 of the drawings, the rear portion of the blade is secured to the wheel by means of screw-fastenings 18, which pass through the respective slots 19, which extend in a direction transversely of the cutting edge of the blade. Each fastening passes entirely through the blade and engages a nut 20, let into a suitable recess in the opposite side of the wheel. By this means the blade may be adjusted laterally toward and away from the front edge of the opening, so as to take up wear. To vary the thickness of the cut of the knife, I provide an adjusting set-screw 21, the head of which is accessible from the outer side of the wheel, and its shank passes through the wheel and also a nut 22, let into the rear face of the wheel, the extremity of the screw bearing against the inner side of

the blade at the front cutting edge and adjacent to the end thereof, so as to adjust the inclination or set of the blade with respect to the wheel. It will be observed that the fastening devices and the adjusting device are accessible from opposite sides of the wheel, the fastening devices from the rear side and the adjusting device from the front side.

A hopper 23 is located adjacent to the rear side of the wheel, extends for the entire length of the frame, and is supported upon the opposite transverse end sills 24, which rest upon the respective end cross-bars 3 of the frame, and is held against endwise displacement by means of the respective transverse cleats 25, secured to the upper sides of the end cross-bars, the meeting edges of the sills and the cleats being rabbeted, as shown in Fig. 3 of the drawings. Each cleat is provided with a turn-button 26, which is designed to overlap the adjacent sill, and thereby hold the hopper against accidental displacement. The inner side of the hopper is provided with a comparatively large semicircular opening 27, so that the contents of the hopper may be readily fed to the knife-blades. Also the bottom portion of the outer side of the hopper is provided with an opening to receive the shaft 6, and an arched hood 28 extends inwardly from the opening, so as to form a cover therefor, and thereby prevent the contents of the hopper from dropping through said opening. The open top of the hopper is provided with a lid or cover 29, which is hinged to the upper edge of the inner side of the hopper. An arched metallic casing 30 is secured to the front side of the inner wall of the hopper, embraces the discharge-opening 27 of the hopper, and extends from one sill to the other, and a flat plate 31 is secured to the outer edge of the arch and completes the knife-wheel casing, so as to effectively house the upper half of the wheel. A suitable stop projection 32 is provided upon the top of the wheel-casing, so as to support the lid in its open position.

Located below and housing the lower half of the knife-wheel is a scoop-shaped metallic chute 33, the rear end of which is closed by means of a segmental plate 34, while the front end is partly closed by means of a segmental plate 35, having its upper edge hinged or pivoted between the sides of the chute, so as to swing outwardly and upwardly, the lower free edge being provided with a segmental recess 36. The opposite sides of the chute are provided with the cleats 36^a, which fit snugly against the under sides of the respective end cross-bars 3 of the frame, and the latter have understop-cleats 37 to bear against the outer longitudinal edges of the cleats 36^a, and thereby prevent endwise displacement of the chute. Suitable turn-buttons 38 are provided upon the under sides of the stop sills or cleats and are designed to overlap the cleats 36, and thereby suspend the chute upon the frame of the device.

In the operation the vegetables to be cut are placed in the hopper, and the knife-wheel is turned by means of the master-gear and its connections, whereby the knives successively travel across the discharge-opening of the hopper and cut the vegetables, the cuttings passing forwardly through the openings in the wheel and being then discharged through the chute. To force the vegetables against the knife-wheel, I employ a follower 39, in the form of a flat plate loosely resting upon the bottom of the hopper and having a central segmental opening in its lower edge to accommodate the hood 28, the upper end of the follower projecting above the top of the hopper and provided with a hand-opening 40 or other suitable handle to swing the plate toward the wheel.

As best indicated in Figs. 1 and 2, it will be seen that the wheel-casing is wide enough to permit of the hopper being moved laterally toward and away from the wheel, so as to prevent the latter from being choked and to accommodate the device to vegetables of different sizes. In order that this adjustment may be had, the sills 24 are slidable endwise upon the end cross-bars 3 and the cleats 25, as will be readily understood. Moreover, the manually-operated driving means and the hopper are located upon one and the same side of the knife-wheel, so as to give convenient access to the hopper while the operator is manipulating the driving means, and the chute is arranged to discharge beneath the knife-wheel and away from the driving means and the operator.

What is claimed is—

1. In a vegetable-cutter, the combination with a supporting-frame, having transverse end cleats upon the top thereof, of a knife-wheel mounted between the cleats, a hopper having opposite end sills abutting against the respective cleats, a wheel-casing carried by the hopper and housing the upper half of the wheel, turn-buttons carried by the cleats and overlapping the respective sills, and a chute housing the lower half of the wheel.

2. In a vegetable-cutter, the combination with a supporting-frame, of a knife-wheel, a shaft therefor, means for turning the shaft, and a hopper supported upon the frame at one side of the wheel, the inner side of the hopper having a discharge-opening adjacent to the wheel, and the outer side having an opening for the shaft, and a hood extending inwardly from the opening and arching over the shaft.

3. In a vegetable-cutter, the combination of corner-uprights, longitudinal side bars, opposite end cross-bars, an intermediate longitudinal bar, transverse end cleats upon the upper and lower sides of the frame, a knife-wheel located between the intermediate bar and one of the side bars, a hopper located adjacent to one side of the knife-wheel and having a discharge-opening communicating with the wheel, opposite end sills abutting against the respective end cleats, a casing carried by

the hopper and housing the upper half of the wheel, turn-buttons carried by the cleats and overlapping the sills, and a chute, having external end cleats abutting against the under cleats of the frame, and turn-buttons carried by the latter cleats and overlapping the cleats of the chute, the latter housing the lower half of the knife-wheel.

4. In a vegetable-cutter, the combination with a supporting-frame, having opposite transverse cleats, of a knife-wheel mounted between the cleats, and an adjustable hopper, having opposite transverse end sills, which are longitudinally slidably mounted upon the transverse cleats, whereby the hopper is adjustable toward and away from the knife-wheel.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

RICHARD E. ROYAL.

Witnesses:
JAMES H. MILLS,
LOUIS ZOERCHER.