

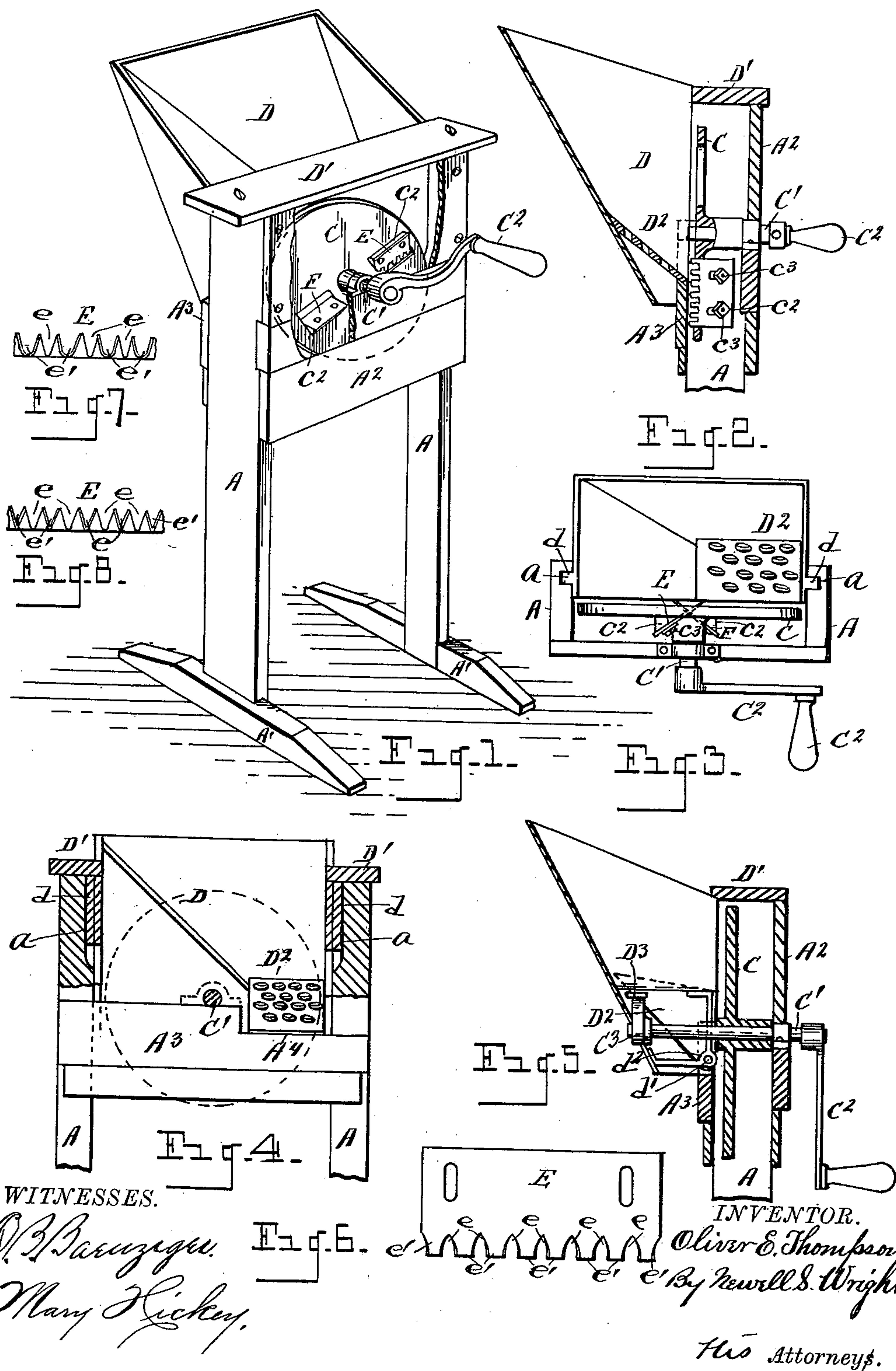
No. 635,450.

Patented Oct. 24, 1899.

O. E. THOMPSON.
ROOT CUTTER.

(Application filed Nov. 10, 1898.)

(No Model.)



WITNESSES.

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OLIVER E. THOMPSON, OF YPSILANTI, MICHIGAN.

ROOT-CUTTER.

SPECIFICATION forming part of Letters Patent No. 635,450, dated October 24, 1899.

Application filed November 10, 1898. Serial No. 696,015. (No model.)

To all whom it may concern:

Be it known that I, OLIVER E. THOMPSON, a citizen of the United States, residing at Ypsilanti, county of Washtenaw, State of Michigan, have invented a certain new and useful Improvement in Root-Cutters; and I 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, which form a part of this specification.

My invention has for its object an improved root-cutter; and it consists of the construction, combination, and arrangement of devices hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a view in perspective, showing portions of the case broken away. Fig. 2 is a vertical cross-section showing portions of the device. Fig. 3 is a plan view showing the top plate of the hopper removed. Fig. 4 is a view in vertical section and rear elevation, showing a modification of the invention. Fig. 5 is a vertical cross-section showing a modification of the invention. Fig. 6 is a plan view of the gouge. Fig. 7 is an elevation of the same, looking toward the cutting edge. Fig. 8 is a similar view illustrating a modification of the construction.

The object of my invention is to provide a root-cutter of superior efficiency, simplicity, and utility, and I carry out my invention as follows:

The device may be constructed with any suitable support, as that shown in the drawings, consisting of two legs A A, each provided with a transversely-extended foot A'. A² indicates the front framework or case of the device, and A³ is a transverse strip at the rear, connecting said legs.

C denotes a cutter-wheel mounted upon a shaft C', journaled in the front and rear portions of the case, as shown.

C² is a crank for actuating the cutter-wheel.

The particular construction and arrangement of the knives with which the cutter-wheel is provided will be further hereinafter explained.

D is a hopper having a removable engage-

ment with the support or legs A A. To this end said legs are recessed, as indicated at a a, and the hopper is provided with corresponding ribs *d d*, fitting into said recesses. The hopper is provided with a top plate D', secured thereto, set down upon the top of the legs A A when the hopper is in place and removable with the hopper from the support. The hopper is provided with a base, preferably made of imperforate metal, (indicated at D².) This base is located at the bottom of the hopper and is made removable therewith. This base forms a cutting or supporting edge, adjacent to which the cutters on the cutting-wheel operate. The base is preferably located on an incline at the bottom of the hopper, its lower edge extending below the center of the shaft of the cutter-wheel, as indicated in the drawings. To this end the rear connecting-strip A³ is cut down adjacent to the base, as indicated more particularly in Fig. 4 at A⁴. The dropping of this base below the center of said shaft is of great importance. The knives on the cutting-wheel are in the position below the center of said shaft in the act of cutting, by means of which a much better purchase is secured upon the knives in the act of cutting the vegetables. In other words, a better leverage upon the cutter-blades is thus secured in the act of cutting.

My invention contemplates providing the cutter-wheel C with a gouge cutting-tool, (indicated at E and shown in detail in Figs. 6, 7, and 8,) the cutting-wheel being also provided with a straight-edge cutting-tool or knife F, the gouge and the straight-edge knife being so arranged and located upon the cutter-wheel that the gouge shall precede the straight-edge knife in the act of cutting the vegetable, or, in other words, so that the straight knife shall follow the gouge in its cut. The gouge is made from a suitable plate of metal by slitting the cutting edge, as indicated at e, Figs. 6, 7, and 8, the slits extending back a sufficient distance in the plate to permit the portions intermediate the slits being shaped into gouge-teeth, (indicated at e'.) These teeth are furrowed by bending inward the lateral edges of each of the teeth. In this manner the teeth may either be shaped of circular or of angular form. The body of

the gouge is constructed of a flat metal plate preferably kerfed on straight transverse lines at one edge thereof, the lateral edges of each tooth being turned inward the one toward the other from the outer extremity of the tooth toward the inner extremity thereof, thereby forming flanges for each tooth projecting in a direction at right angles to the surface of the body of the gouge, said flanges extending on lines essentially oblique to the lines of the kerfs. Fig. 7 shows the teeth made curved, while in Fig. 8 they are shown of angular form. By slitting the plate it is evident that the teeth are formed independently one of the other and spaced one from the other. A gouge-cutter so formed will cut the vegetable in strips rather than in slices. By cutting the vegetable in strips the body of the vegetable is of course left correspondingly grooved when the gouge-teeth have cut out the corresponding strips therefrom. It is evident that by having the gouge followed by a straight-edged cutter the ribs or projections remaining on the body of the vegetable between the grooves formed by the gouge-teeth will also be cut off from the vegetable in strips. By this means each knife in succession will cut off strips rather than slices from the body of the vegetable, which is a much more desirable form for cutting the vegetable than simply to cut it in flat slices. When the teeth of the gouge are so made, they can be ground on the outside. The straight-edge knife will of course leave the face of the vegetable flat, permitting the vegetable to feed down against the surface of the cutting-wheel and into position for the teeth of the gouge again to enter and do their work. Were the gouge formed simply with a corrugated cutting edge the root would be liable to be cut off in a slice. This liability I overcome entirely by slitting the edge, as above described, and thus spacing and separating the cutting-teeth one from another. A cutting-wheel provided with a gouge-cutter and a straight-edge cutter, the one following the other, enables the roots to feed properly. Where a gouge is employed made by slitting the plate and separating the teeth, there is no liability to cut the vegetable in a slice, while, as above explained, the straight-edge knife leaves the face of the root in such a shape that it may feed down the cutting-wheel, ready for the gouge to take hold again.

In Fig. 5 I have shown a modification in the construction, arrangement, and operation of the base, in which figure the base is shown as made agitable, while in the form shown in Figs. 2, 3, and 4 it is secured rigidly to the hopper. As shown in Fig. 5, the base is provided with trunnions (indicated at d') journaled in suitable bearings d^2 , by which means the base is allowed to tilt or to be raised or

lowered. To agitate the base, the shaft C' of the cutting-wheel may be extended rearward and provided with a cam C^3 , arranged to contact with a laterally-extended arm D^3 of said base. In this manner a shaking base is provided, although I do not limit myself thereto. Both the gouge and the straight-edge cutters are preferably located at an angle to the plane of the cutting-wheel, and to this end the wheel may be provided with suitably-inclined bosses, (indicated at c^2), to which the knives are attached in any suitable manner, as by means of bolts c^3 .

What I claim as my invention is—

1. In a root-cutter, a cutting-wheel provided with a gouge-cutter, and a straight-edge cutter arranged the one to follow the other in the operation of the wheel, the gouge-cutter having one edge thereof kerfed or slitted at right angles to the edge forming a series of laterally-disconnected teeth, the marginal edges of each tooth turned inward the one toward the other, forming marginal inwardly-turned flanges on each edge of the tooth, said flanges widening from the inner end of the corresponding slits outward to the edge of the cutter, thereby forming an intermediate furrow deepening from the inner end of the tooth to the outer end thereof, substantially as described.

2. In a root-cutter, a cutting-wheel, having a gouge-cutter, and a straight-edge cutter arranged upon opposite sides of the driving-shaft, the gouge-cutter having one edge kerfed or slitted at right angles to the edge forming a series of laterally-disconnected teeth, the marginal edges of each tooth turned inwardly one toward the other, and forming marginal inwardly-turned flanges at each edge of the tooth, combined with a hopper provided with a base-pocket D^2 made of imperforate metal and which is removable with the hopper, and which base-pocket forms a cutting or supporting edge, substantially as shown.

3. The gouge-cutter herein described formed of a flat plate kerfed at its cutting edge at right angles to the edge to form teeth laterally separated the one from the other, each of said teeth having both its lateral edges bent inward the one toward the other from the outer extremity of the tooth toward its inner extremity, forming marginal flanges on both sides of the tooth tapering from the outer ends thereof toward the inner ends thereof and forming a corresponding intermediate furrow, substantially as set forth.

In testimony whereof I sign this specification in the presence of two witnesses.

OLIVER E. THOMPSON.

Witnesses:

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