(No Model.) 2 Sheets—Sheet 1.

E. H. CLARE.

VEGETABLE OR ROOT CUTTER.

No. 383,438. Patented May 29, 1888.

Fig. 1.

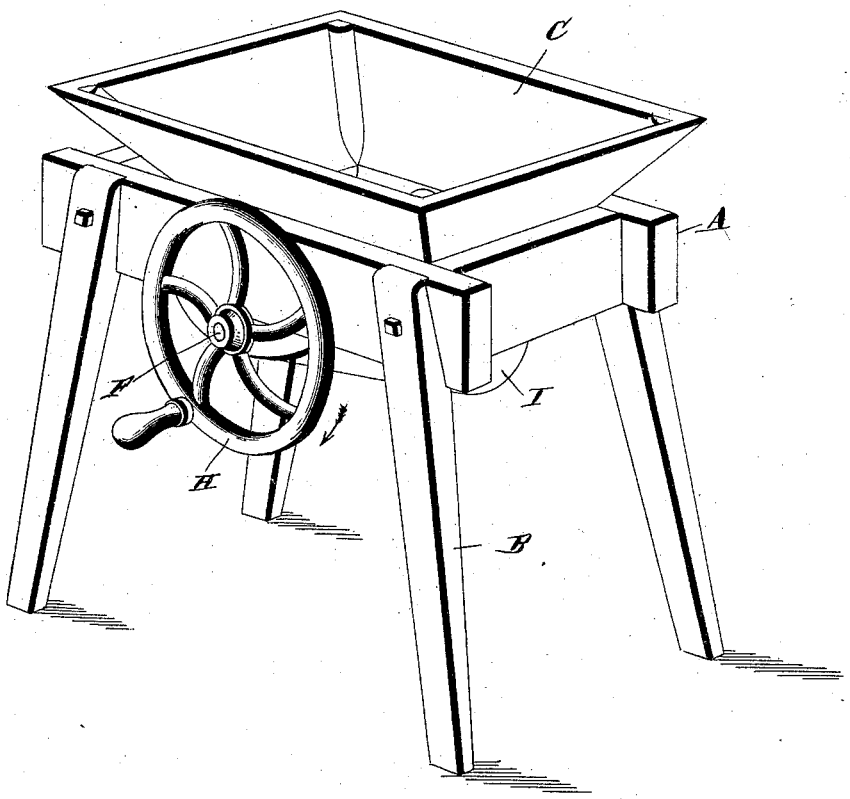
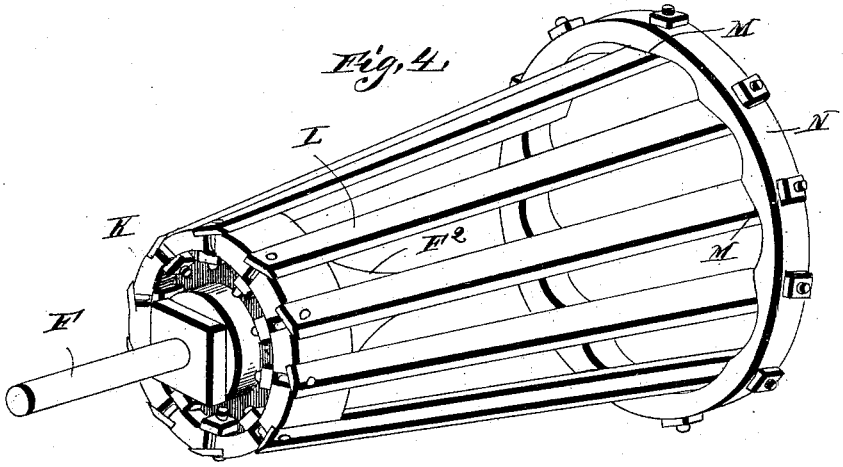


Fig. 4.



Witnesses.
C. L. Taylor,
J. W. Garner

Inventor
Edwin H. Clare,
By his Attorneys.
C. A. Snow & Co.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 1.

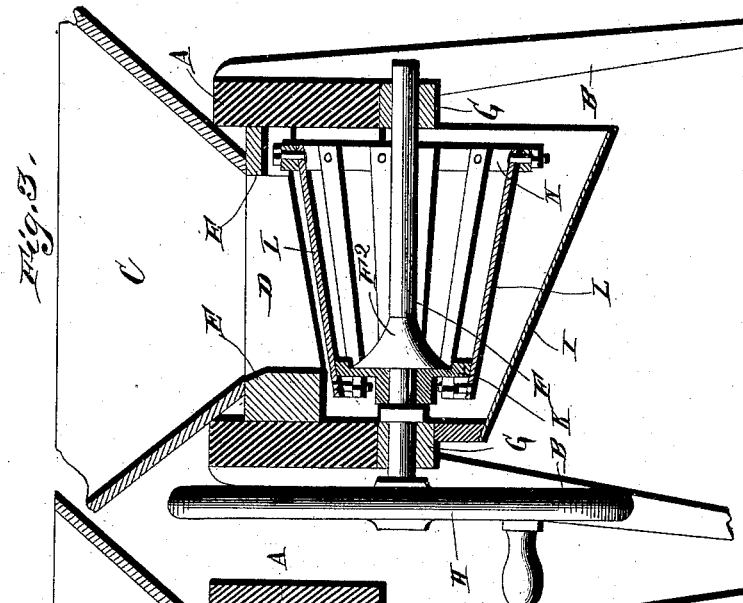
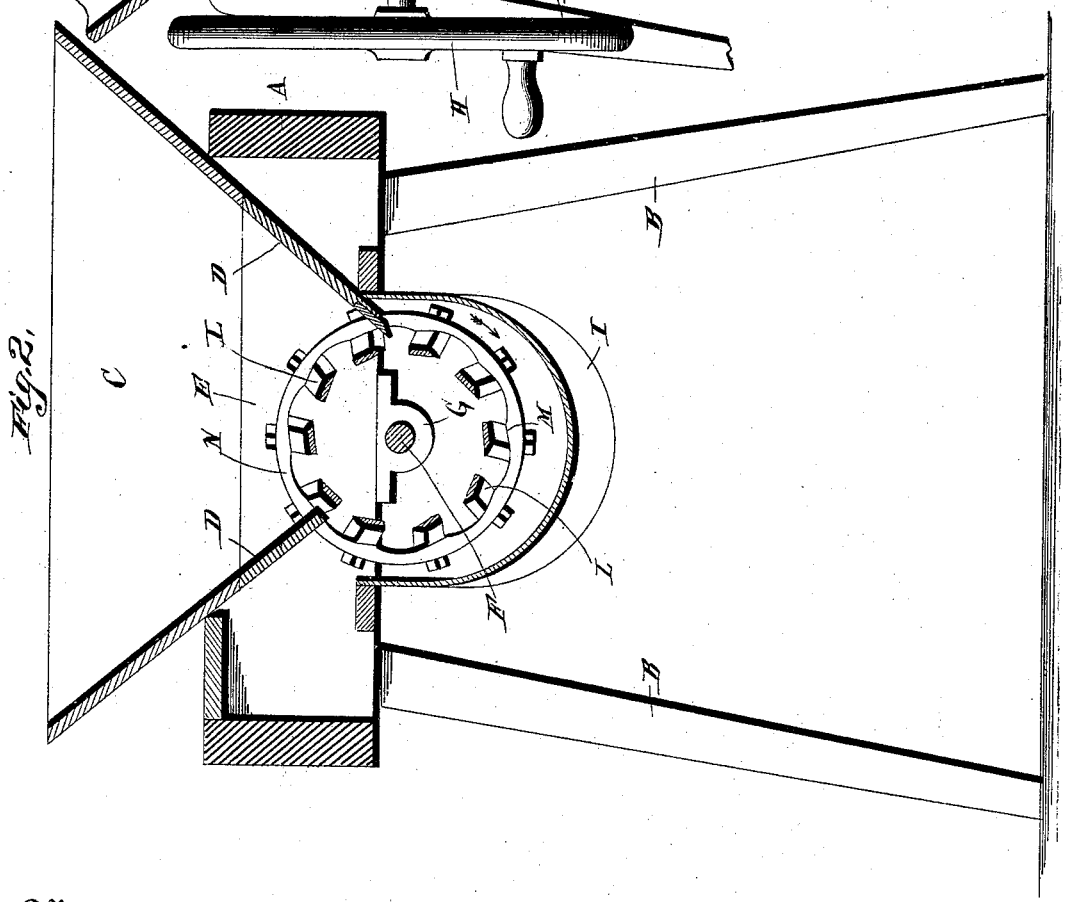


Fig. 2.



Witnesses.
P. B. Taylor,
J. W. Garner

Inventor.
Edwin H. Clare.
By his Attorneys.
C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

EDWIN HERBERT CLARE, OF L'ORIGINAL, ONTARIO, CANADA.

VEGETABLE OR ROOT CUTTER.

SPECIFICATION forming part of Letters Patent No. 383,438, dated May 29, 1888.

Application filed February 11, 1888. Serial No. 263,693. (No model.) Patented in Canada February 2, 1887, No. 25,902.

To all whom it may concern:

Be it known that I, EDWIN HERBERT CLARE, a citizen of Canada, residing at L'Original, in the county of Prescott, and Province of Ontario, Canada, have invented a new and useful Improvement in Vegetable or Root Cutters, (for which I have received Letters Patent in Canada, No. 25,902, dated February 2, 1887,) of which the following is a specification.

My invention relates to improvements in vegetable or root cutters; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

Heretofore, so far as I am aware, all other vegetable or root cutters have a cast side wheel or cylinder with slots, and projecting through these slots are knives, the machine acting on the same principle as the wood-plane blade used by carpenters. It has been found in practice that the slices in such a machine are rather torn than cut, and the machine thus requires the employment of considerable power. Furthermore, the knives have to be placed far enough apart so that only one will be cutting at a time, which leaves the root, after one blade is through and before the next blade starts to cut, free to roll and miss the slice. I claim to overcome these disadvantages to the present form of root-cutters by the present improvements, in which the knives cut independently, each knife following in its own cut. The slice in being cut is thus separated from the root by only the thickness of a thin steel knife. This requires so little power that the knives can be placed near together, and thus in a large root two or three knives are cutting at once. In this way there is always one knife in the root, and this prevents the root from rolling.

In the accompanying drawings, Figure 1 is a perspective view of a root-cutter embodying my improvement. Fig. 2 is a vertical longitudinal sectional view of the same. Fig. 3 is a vertical transverse sectional view. Fig. 4 is a detail perspective view of the series of knives and their connections.

A represents a rectangular frame, which is supported by suitable supporting-legs, B.

C represents a hopper, which is arranged on the upper side of the frame, and is provided with the downward-converging sides, as shown. In the bottom of the hopper is an opening, and in opposite ends of the hopper are inclined boards D, which form the ends of the said opening. The sides of the opening are formed by vertical boards E.

F represents a shaft, which is arranged transversely under the center of the frame, and is journaled in suitable bearings, G. To one end of the shaft outside the bearings is secured a crank-wheel, H, which is arranged beyond one side of the frame.

I represents a downwardly-inclined discharge-trough, which is arranged transversely under the bottom of the hopper and is semi-cylindrical in transverse section, as shown. One end of the trough is secured to one of the bearings G, while the sides of the trough are secured to the under side of the hopper. The other end of the trough is flared outward and left entirely open.

Near one end of the shaft F is rigidly secured a circular disk, K.

L represents a series of cutting-knives, which have their inner ends bolted tangentially to the outer periphery of the disk K in tangential recesses formed in said block. The said knives extend outward from the said disk, and are arranged at a suitable angle with relation to the shaft F. The outer ends of the said blades or cutters are secured by means of bolts to the tangential enlargements M, formed on the inner sides of a ring or band, N, which latter is of much greater diameter than the disk K, and thereby the blades form the sides of a truncated cone. Owing to the diagonal or tangential inclination of the blades or cutters, each of the said cutters is adapted to exert a shear or endwise movement with relation to the opposing edge of one of the inclined boards D, and the said blades or cutters are arranged sufficiently close together to prevent the roots from falling between them or rolling around without being cut.

The shaft F is provided with a rigid conical block, F^2, arranged on the inner side of the disk K and in close proximity thereto, the inclined side of the conical block facing the discharge end of the machine.

The operation of my invention is as follows: The potatoes or other roots are poured into the hopper, and are supported by the upper sides

of the conical cutter. The latter is rotated in the direction indicated by the arrow in Fig. 1, and causes the blades to slice off portions from the lower side of the roots in succession as the blades pass the lower edge of the inclined board D. The said board retains the roots in place and prevents them from slipping about on the cutter and holds them firmly while being sliced by the blades. The slices drop into the conical cutter and pass out at the discharge end of the same. The trough serves to catch any slices that may drop from the cutter.

It will be observed that one end of the blades is secured to the outside of the disk, while the other end of the blades is secured to the inner side of the band, whereby any tendency of the blades to become loosened is entirely obviated.

Having thus described my invention, I claim—

1. In a vegetable or root cutter, the combination of the hopper, the cutting-cylinder arranged under the same, and composed of the shaft F, the solid disk K, secured on the shaft near one end of the same, the open band N, arranged near the other end of the shaft, the cutting-blades arranged obliquely and tangentially to the shaft and having their opposite ends secured to the inner side of the band and the outer side of the disk, and the conical block F^2, rigidly secured on the shaft with its base resting against the disk, as set forth.

2. The combination of the hopper, the transverse shaft arranged under the same, the disk K, secured on the shaft near one end of the same and having tangential recesses in its periphery, the band N, arranged near the other end of the shaft and having tangential enlargements M on its inner side, and the knives having their opposite ends secured, respectively, in the tangential recesses of the disks and to the tangential enlargements of the band, as set forth.

3. In a root-cutter, the combination of the supporting-frame, the hopper thereon, the bearings G, secured to the under side of the frame, the transverse shaft journaled in said bearings, the disk secured on said shaft near one end thereof, the band N, arranged near the other end of the shaft and of a larger diameter than the disk, the knives arranged obliquely and tangentially to the shaft, and having their opposite ends secured, respectively, to the inner side of the band and the periphery of the disk, and the inclined discharge-trough arranged below the cutting-cylinder and concentric therewith, and having its sides secured to the under side of the hopper and its end secured to one of the bearings G, as set forth.

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

EDWIN HERBERT CLARE.

Witnesses:

COLIN G. O'BRIAN,
Of L'Original, Barrister,

W. S. HALL,
Of L'Original, Law Student.