(Model.)

C. L. HEISLER.

VEGETABLE CUTTER.

No. 287,127. Patented Oct. 23, 1883.

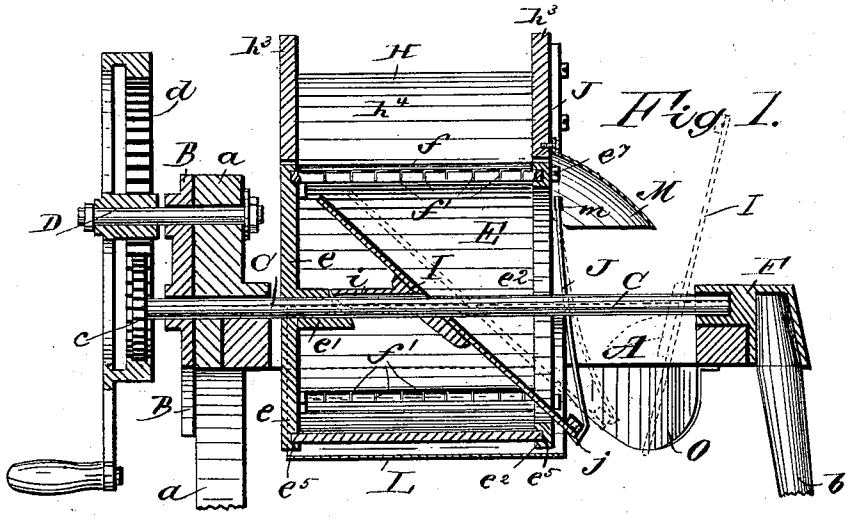


Fig. 1.

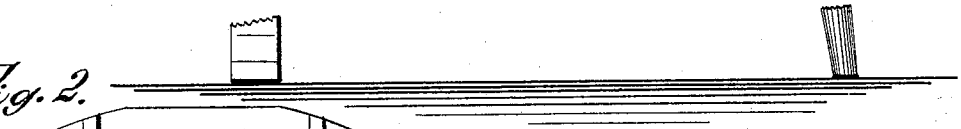
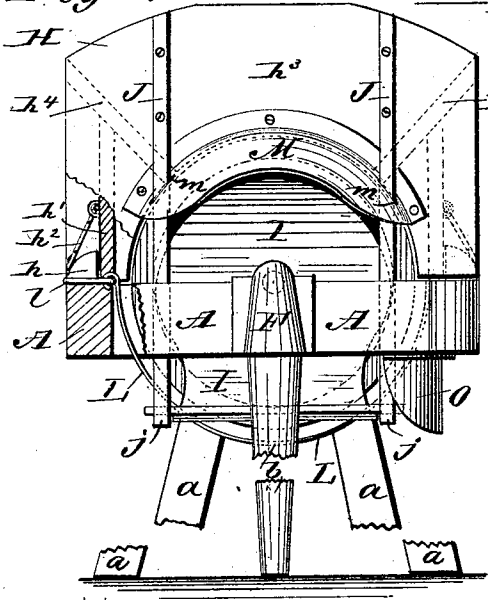


Fig. 2.



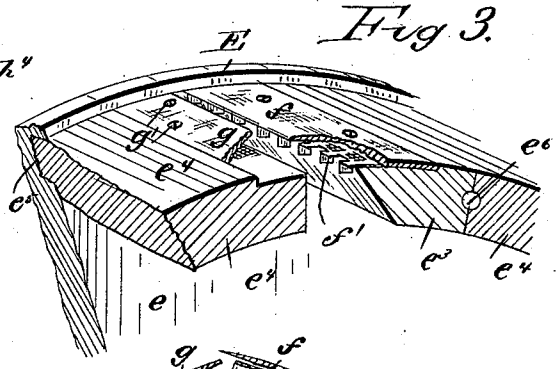


Fig. 3.

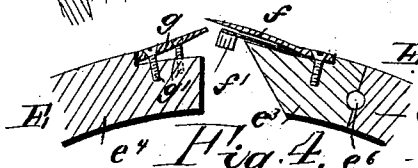


Fig. 4.

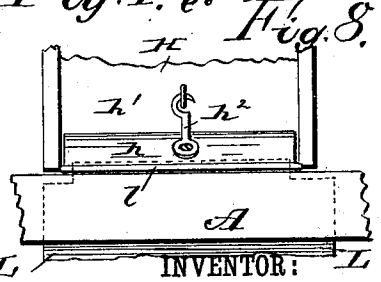


Fig. 8.



Fig. 6.

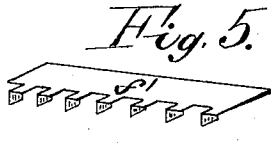


Fig. 5.

Fig. 7.

WITNESSES:

Thos. Eyes

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UNITED STATES PATENT OFFICE.

CHARLES L. HEISLER, OF WAPAKONETA, OHIO.

VEGETABLE-CUTTER.

SPECIFICATION forming part of Letters Patent No. 287,127, dated October 23, 1883.

Application filed January 2, 1883. (Model.)

To all whom it may concern:

Be it known that I, CHARLES L. HEISLER, of Wapakoneta, in the county of Auglaize and State of Ohio, have invented certain new and useful Improvements in Vegetable-Cutters, of which the following is a full, clear, and exact description.

The object of my invention is to provide an improved machine for slicing and cutting vegetables and other substances, more especially designed for use by housekeepers, and in restaurants and on farms, in preparing food for men and for stock-animals.

The invention consists in a cutting or knife cylinder closed at one end only, and having its sectional peripheral feed surface or face held in annular grooves in the inner closed end plate, and in a ring-plate at the outer or open discharge end of the cylinder, which is revolved by suitable gearing on or with a horizontal shaft fitted in a bearing-box at its outer end, which bearing-box is also specially constructed to receive the single central outer leg or support of the machine, which is supported at its inner end, next the drive-gearing, on a pair of legs spreading toward the bottom at right angles to the axis of the knife-cylinder.

The invention includes, also, a novel contrivance of a clearing board or plate suitably hung in inclined position on the cylinder-shaft and within the cylinder, for discharging therefrom the cut pieces, and a cam device for thrusting the clearer outward against the tension of spring-bars secured to the hopper, and hooked to the clearer-plate, to hold the lower end thereof.

The invention comprises, also, a special construction of parts whereby a guard-plate held clear of the knife-cylinder and below it is retained in place by side cleats of the frame, which cleats also position the feed-hopper sidewise and afford means for hooking the hopper down to place. I provide, also, an arrangement of top and side guards to prevent scattering and loss of the cut material, an arrangement of adjustable throat-plates for regulating the thickness of cut of the knives, and removable slitting-knives for subdividing the slices cut by the longitudinal cylinder-knives, all as will be hereinafter fully described.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal sectional elevation of my improvement with the leg-supports broken out. Fig. 2 is a partly-broken elevation, looking at the open end of the knife-cylinder. Figs. 3 and 4 are detail views, in perspective and cross-section respectively, of the cylinder and its knives in larger scale. Fig. 5 is a perspective view of one of the slitting-knives. Figs. 6 and 7 are perspective views of the cylinder-head, cam-bearing, and clearer-plate support; and Fig. 8 is a partial side elevation at the frame, hopper, and lower guard-plate.

A frame, A, of wood or metal, or both, supports the working parts of my machine at one end by a pair of spread legs, *a*, and at the other end by a single centrally-placed leg, *b*. I prefer to extend legs *a* above the end cross-bar of frame A, and attach to them a plate, B, in which the inner end of the knife-cylinder shaft C is journaled; also the short shaft D, which is suitably held against endwise movement and carries the internal gear, *d*, meshing with pinion *c* on shaft C, by which the knife-cylinder E is revolved at suitable speed. The outer end of shaft C is journaled in a metal block, F, which also forms a socket for the outer leg, *b*, as in Figs. 1 and 2.

The cutting-cylinder E is formed of a cylindrical head-plate, *e*, having a long inner bearing, *e'*, for fixing the entire cylinder E to and supporting it for revolution by the shaft C, and a ring-plate, e^2, which forms the open outer end of the cylinder. The plates *e* e^2 are annularly grooved at e^5, to receive by tongues the knife-supporting bars e^3 and the intermediate face or filling pieces, e^4, which bars and plates e^3 e^4 form the peripheral work-face of the cylinder. Longitudinal knives *f* are removably fixed to bars e^3, so as to permit insertion of the plate of slitting-knives *f'* between knives *f* and bars e^3 when it is desired to fine cut the slices cut by knives *f* as the slices pass through the

knife-throats into the interior of cylinder E, the intention being to secure knives f' by clamping between bars e^3 and knives f by the same screws that hold knives f to bars e^3. Adjustable throat-plates g are secured to face-pieces e^4, next the knife-edges, by a double row of screws, g'—one row in advance of the other—so that by proper manipulation the plates g may be set to enlarge and contract the throats, for regulating the thickness of the cut of the knives, as will readily be understood.

The knife-bars e^3 may be cast integral with cylinder-head e, or be separately formed, and clamped in grooves e^5 by long bolts e^7, passing through apertures e^6 in the bars e^3, or in bars e^3 and e^4. (See Figs. 3 and 4.)

The separable construction of cylinder E permits economical manufacture thereof in varied sizes and in different materials, as best suited to the work to be done thereby.

For feeding the machine, I employ a hopper, H, fitted at the sides to frame A, between cleats h, secured on the frame, to which cleats the side brace-boards, h', of the hopper are secured by hooks h^2, for holding the hopper down and against side movement, and with its end board, h^3, free from plate e e^2 of cylinder E, and its inclined sides h^4, (dotted in Fig. 2,) with their lower edges just clear of the periphery or knives of the cylinder. After passage of the substance to be cut from the hopper, by the action of the knives, to the interior of the cylinder E, I provide for its discharge therefrom by the clearer-plate I, which I mount loosely on the shaft C and in inclined position lengthwise of the cylinder by its fixed long bearing i, (shown detached in Fig. 7,) the plate I to be steadied at its outer lower edge by suitable supporting or brace rods fixed to the frame A or hopper H. The clearer-plate fits loosely within the knife-cylinder and receives the cut substance from the knives, its incline causing the cuttings to slide downward out of the cylinder to any suitably-placed receptacle, and this action of the clearer would be assured without in any wise jarring or moving it; but I propose to make it more effective by forming the end of cylinder-bearing e' as a cam to act against bearing i of the clearer-plate, so that as cylinder E revolves the plate I will be thrust outward, only to be forced back again on shaft C by the spring or spring-actuated rods J, which tend to keep bearings i e' in contact, the spring-rods being here shown attached to the hopper, and forming by their hook ends j the supports for the lower end of the clearer-plate. These springs J could as well be secured to the frame A as to the hopper H; but the latter arrangement is preferred. When hopper-hooks h^2 are unfastened and hooks j released from the clearer-plate I and the hopper, with springs J, removed, the clearer-plate I can be slid outward on shaft C and turned up into the position of dotted lines in Fig. 1, thus affording free access to all parts of the hopper, cylinder, and clearer-plate for thorough cleansing thereof.

I removably attach a curved guard-plate, L, beneath and free from cylinder E by wire frames l, passing over and around cleats h, as in Figs. 2 and 8. Said frames l may be soldered or otherwise rigidly joined to the side edges of plate L, to be sprung from cleats h, or said frames l may be pivot-jointed to guard-plate L at one or both side cleats, h, for ready removal of this guard-plate for cleaning it, and with either connection the hopper-hooks h^2 serve to prevent disengagement of the guard-plate L, which plate acts to prevent any possible loss of cut substance; and plate L may be inclined downward toward the open end of the cylinder E, if preferred.

I attach a guard-plate, M, to hopper H, which plate may extend quite down to frame A, if desired, the spring-arms J in this example passing through plate M at m, and I fix to frame A, at the side toward which cylinder E revolves, another shield or guard-plate, O, said plates M O preventing undue scattering of the cuttings as they pass from the cylinder.

Thus constructed, my machine combines features securing its cheap manufacture in different sizes, its simple adjustment and effective operation, and unusual facilities for thoroughly cleansing all its parts, making it most desirable in use.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The knife-cylinder E, constructed with closed inner head-plate, e, having long bearing e', for support of the cylinder from shaft C, and an outer ring-plate, e^2, the plates e e^2 being annularly grooved to receive by tongues the sectional peripheral or working face of the cylinder, substantially as shown and described.

2. The cylinder-knife bars e^3, secured by end tongues and bolts within grooves in the end plates of the cylinder, substantially as shown and described.

3. The block F, forming the journal-box for the outer end of shaft C, and the socket for the centrally-placed leg-support b, substantially as shown and described.

4. The combination, with cylinder E, of the clearer-plate I, hung on shaft C, and inclining downward to the open end of the cylinder, substantially as shown and described.

5. The inclined clearer-plate I, hung loosely on shaft C, and supported at its lower outer end by hook-arms attached to the hopper H or frame A, substantially as shown and described.

6. The combination, with the clearer-plate I and its bearing i, of the cam-bearing e', and spring-hooks J, for reciprocating the clearer-

plate lengthwise of the cylinder, substantially as shown and described.

7. The combination, with the hopper H, of side cleats, *h*, having side brace-boards, *h'*, adapted to hold the hopper down, so that it cannot move laterally, as described.

8. The guard-plate M, having holes *m m*, in combination with springs J J, attached to hopper and passing through said guard, as shown and described.

CHARLES L. HEISLER.

Witnesses:

BENJAMIN LINZEE,

PHILIP JACKSON.