(No Model.) 2 Sheets—Sheet 1.

J. E. OPP.

VEGETABLE CHOPPER.

No. 343,840. Patented June 15, 1886.

Fig. 1.

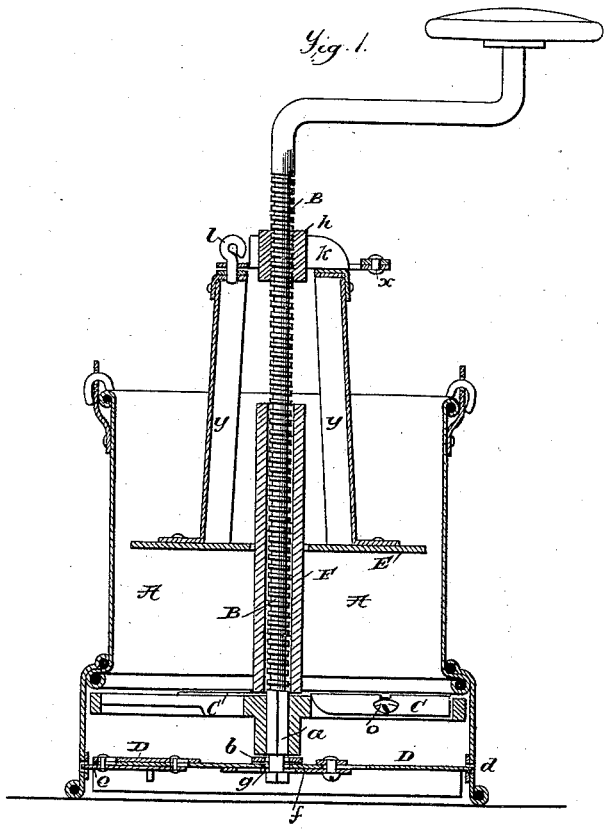
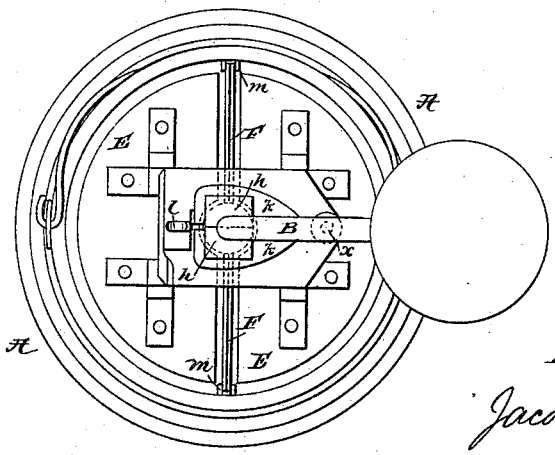


Fig. 2.



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Arthur C. Webb

Inventor:
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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

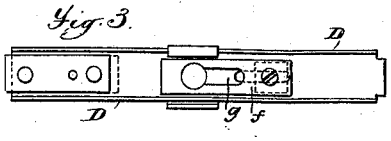
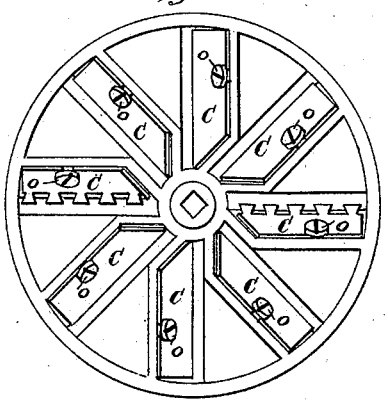


Fig. 4.



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UNITED STATES PATENT OFFICE.

JACOB E. OPP, OF JERSEY CITY, NEW JERSEY.

VEGETABLE-CHOPPER.

SPECIFICATION forming part of Letters Patent No. 343,840, dated June 15, 1886.

Application filed September 17, 1885. Serial No. 177,330. (No model.)

To all whom it may concern:

Be it known that I, JACOB E. OPP, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Vegetable-Choppers, of which the following is a full, clear, and exact description.

This invention relates to a machine for reducing and comminuting vegetables, fruits, &c.

The objects are to produce a machine for these purposes which can be made at small cost, and which will be compactly arranged and capable of easy manipulation.

To this end my invention consists in a machine comprising the devices combined and arranged substantially as hereinafter set forth and claimed.

In the accompanying drawings, in the several figures of which like parts are designated by similar letters of reference, Figure 1 is a vertical section, and Fig. 2 a plan view, of my invention when used as a chopping-machine. Fig. 3 is a plan view of the bar for supporting the disk carrying the cutting-knives and forming the bearing for the crank-shaft. Fig. 4 is a plan view of said disk.

The body A of the machine is a hollow cylinder, preferably of metal. Through the center of the body A a crank-shaft, B, having a screw cut upon its straight part, passes, and the lower end of this shaft has a portion, *a*, which is square, or nearly so, in section. Below this point the shaft is reduced in thickness, and its lower extreme end is of larger section than the last-mentioned portions, so that it is surrounded by an annular channel. (Shown at *b*.) The square portion of the shaft passes through a square aperture of like size in the center of a disk, C. This disk is provided with several radial openings, in each of which a cutting-knife is obliquely set, some of these knives having a straight and some of them a fluted edge, to facilitate the cutting operation. These knives are held in place in the radial openings by a single large headed set-screw, *o*, or thumb-screws may be employed, if desired. When necessary, they may be adjusted from time to time to vary the projection of the cutting-edges, or when a knife becomes dull or worn out it can be removed and sharpened or a new knife substituted. By turning the crank the shaft rotates and the disk with it.

To support the disk and to keep it in place and to form a bearing for the shaft, I employ a cross-bar, D, preferably of channel shape. This cross-bar D is provided at one end with a tang, *d*, which catches in a recess in the side of the cylinder, and at the other end with a latch, *e*, which may be pushed outwardly to catch into a recess opposite the first one mentioned, and by this means the bar is held in place. The center of the bar is perforated with a hole of sufficient area to permit the large end of the shaft B to pass through, and the shaft is secured in place by means of a sliding latch, *f*, supported on the bar. When the large end of the shaft has been inserted through the hole in the bar, the latch *f* is slid up until its slot *g* engages with the shoulder on the shaft.

To press the vegetables or fruit down against the cutting-knives I employ a split diaphragm, E, supported by a frame, *y y*, which carries at its upper end a split nut, *h*, whose thread fits the thread on the shaft B. The halves of this diaphragm are connected by latches *k k*, hinged at *x*, and perforated at the outer swinging ends to receive the locking-pin *l*. When closed and the pin *l* is in place, the two halves of the nut *h* grip the screw on the shaft B, and when the shaft is rotated the diaphragm E travels up or down.

To prevent the fruit or other contents of the vessel from turning during the cutting operation, I employ a partition, F, which extends across the cylinder and is held in place by its edges entering grooves formed by the projections *m m* on the interior of the case. This partition has an aperture through its central axis, where its thickness is increased to admit the shaft and permit its free movement therein.

The operation of setting up the machine and working it is as follows: The disk carrying the cutting-knives, the cross-bar, and the partition being first placed in position, the shaft is then inserted through the split nut *h* and partition F, and passed down through the openings in the disk and cross-bar, and the latch *f* is slid up until its slot engages the shoulder on the shaft, as stated. The diaphragm E is dropped until it rests on the contents of the

vessel, when the nut *h* is closed and engaged with the shaft by locking the swinging ends of the nut by means of the pin *l*. The machine is now ready for use, and by turning the crank the shaft and the disk carrying the cutting-knives are rotated and the diaphragm pressed down on the contents of the case and bearing against the same while the knives do their work. In order to increase the efficiency of the knives I prefer to have some with a fluted edge and some with a straight edge, so that the form of the cut will be varied.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a machine for cutting vegetables, fruit, &c., the combination of a hollow cylinder, a crank-shaft, a knife or cutting-disk fast to said shaft, a vertical partition within the cylinder and surrounding and inclosing said shaft within the cylinder, and a follower or split diaphragm, all co-operating substantially as described.

2. In a machine for cutting vegetables, fruits, &c., the combination of a hollow cylinder having a disk carrying the cutting-knives, which disk is removably arranged near the bottom of the cylinder, a crank-shaft engaging said disk to rotate it, a removable partition arranged within and across said cylinder, and a split diaphragm connected by a nut to a screw-thread on the shaft, whereby it is adapted to move vertically on said shaft as it is rotated to press the fruit, &c., in the cylinder against the knives, substantially as described.

3. In a vegetable chopper or cutter of substantially the construction described, a split diaphragm, E, comprising a frame, *y y*, and split nut *h*, perforated latches *k k*, hinged at *x*, and a locking-pin, *l*, as specified.

4. In a vegetable chopper or cutter of substantially the construction described, the combination, with the shaft B, of the supporting cross-bar D, having a tang, *d*, and latch *e*, to engage recesses in the cylinder, the bar having also a central perforation to admit the lower enlarged end of the shaft, and a slotted latch, *f*, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand this 24th day of July, A. D. 1885.

JACOB E. OPP.

Witnesses:
ARTHUR C. WEBB,
ERNEST C. WEBB.