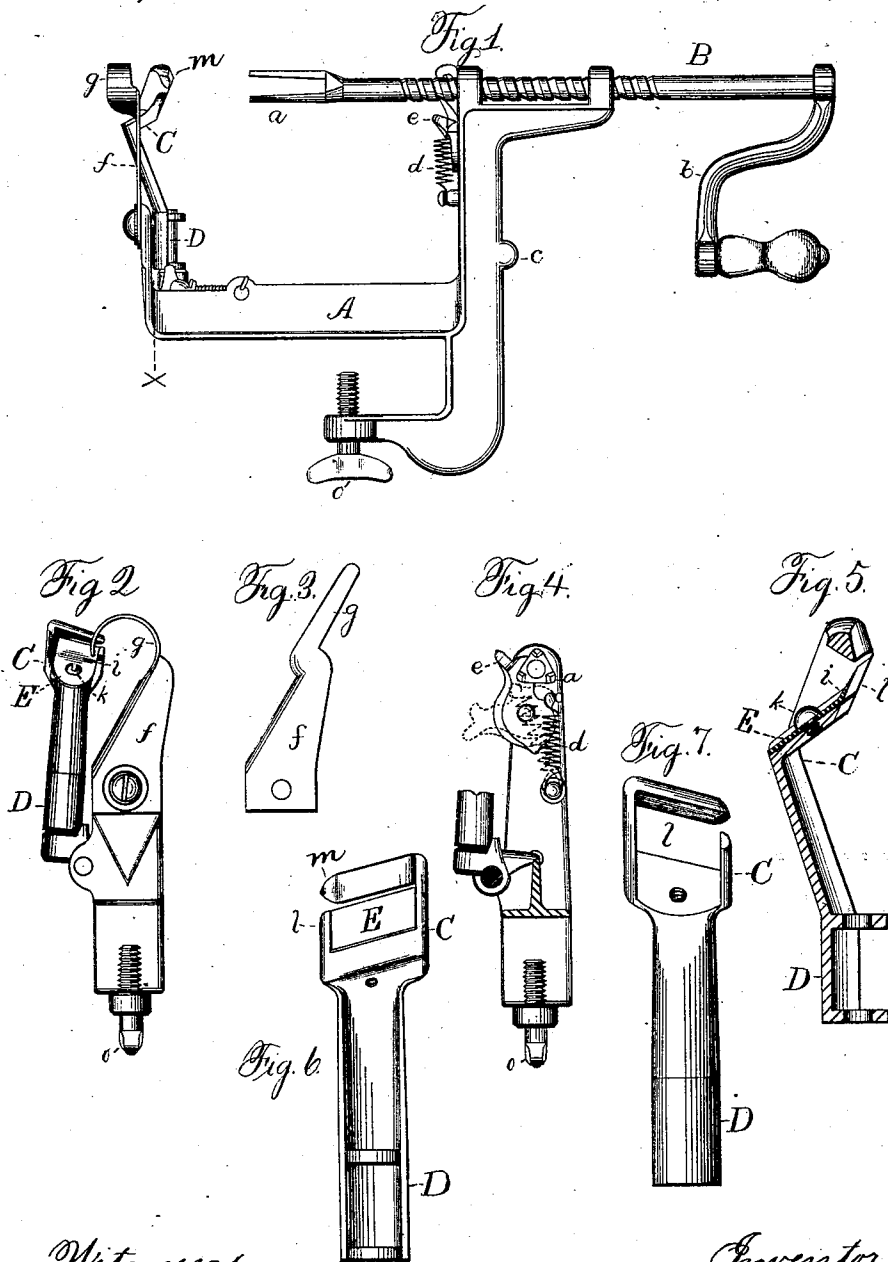


(Model.)

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Apple Parer, Corer, and Slicer.

No. 243,035.

Patented June 14, 1881.



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APPLE PARER, CORER, AND SLICER.

SPECIFICATION forming part of Letters Patent No. 243,035, dated June 14, 1881.

Application filed April 3, 1880. (Model.)

To all whom it may concern:

Be it known that I, GEORGE GEER, of Antrim, in the county of Hillsborough and State of New Hampshire, have invented certain new and useful Improvements in Apple-Parers, of which the following is a specification.

The objects of my invention are to furnish means for stopping the rotation and longitudinal movement of the fork-shaft at a definite point, to cheaply form the slicer-knife and core-guard, so that they shall be both efficient and durable, and to so construct the knife and the parer generally that it will readily pare specked, bruised, mellow, or wilted apples, and consequently may be used for household purposes so long as apples last. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side view; Fig. 2, an end view, with certain parts in the rear omitted; Fig. 3, a side view of the blank from which the slicer-knife and core-guard are made. Fig. 4 is a vertical section on the line *x* of Fig. 1; Fig. 5, a vertical section of the paring-knife; Fig. 6, a rear view of said knife, and Fig. 7 a front view of the same with the blade removed.

A designates the main frame, having the usual clamp-screw, *o*, for securing the machine to a table or other convenient object. In the upper end of the main upright of the frame a spirally-grooved shaft, B, is mounted, so that it may slip longitudinally through its bearings. One end of this shaft bears the usual fork, *a*, upon which the apple to be pared is placed. The other end is provided with the crank *b*, for convenience of rotating said shaft. This crank is curved inward, as shown, so that its lower end may come nearer the upright of the frame A and engage the stop *c* at the proper time.

Pivoted upon the upright of the frame there is what I term a "latch-nut," *e*, the upper end of which is held, by means of the spring *d*, in contact with the shaft B, which end is so formed as to fit into the spiral groove of the shaft B as it is brought in front of said end. It should be noticed that the groove of the shaft B is "ratchet-threaded," or the rear wall of this groove is considerably inclined, so that by pressure upon the shaft to force it forward toward the knives the latch-nut *e* will be forced out of the groove

and allow the shaft to be slipped in that direction, while the opposite side of the groove and face of the latch-nut fitted thereto is so shaped that the shaft cannot be thus slipped endwise without first withdrawing the latch-nut. By forcing the latch-nut *e* back to its farthest limit (indicated by broken lines in Fig. 4) the spring *d* will hold it out of engagement with the shaft B.

Upon the other end of the frame A is the slicing-knife *f* and core-guard *g*, both formed of one and the same piece of metal, by means of dies, from a blank of the form shown in Fig. 3. The cutting-edges of the slicing-knife and core-guard are preferably beveled off before forming up the core-guard, as indicated by the shading in Fig. 3. While the lower edge at the lower end of the core-guard is beveled off and sharpened to cut its way into the apple, this end alone does not constitute a core-guard, but, as most clearly shown in Fig. 2, the core-guard proper nearly encircles the core, whereby, after the core has entered it, a bearing is formed by said guard, in which the core revolves and fits, so that the end of the main shaft which carries the apple is materially supported, and the knife for paring is prevented from chattering, and the core-guard, being also light and left open, will yield to the pressure of the core and not produce friction, while at the same time it gives ample protection against vibration of the fork-shaft. By observing Fig. 2 it will be seen that the cutting-edge of the slicing-knife is practically a tangent to the circle formed by the core-guard, of which the shaft A is the center.

The core-guard of the slicer-knife, constructed as shown, while embracing the core, also forms a bearing for the forked end of the shaft, and, further, makes a smooth cut and uniform size of cores.

C designates the stock or holding-frame of the paring-knife, mounted by means of a swivel-joint upon an oscillating and spring-actuated arm, D, as in ordinary parers. This frame and knife, although designed for use with the machine hereinbefore described, may be applied to apple-parers of any ordinary construction. This frame C differs from prior knife-frames in that the throat for the knife is much wider, extends across the frame in an oblique direc-

tion instead of square across, and is open at one end; or, in other words, the knife-holding frame only incloses the throat upon one of the sides of the frame, as shown in Figs. 1, 2, 6, and 7.

The knife E has an inward bend or curve, *i*, in it extending obliquely across it at an angle corresponding to that of the throat in the knife-holding frame C, and the cutting-edge of the knife is also formed on substantially the same angle. The body of the knife is slotted, and a screw, *k*, passes through said slot, whereby the knife can be adjusted and held in position on its bed in the frame, as in ordinary apple-parers. The portion of the knife outside of the bend *i* lies within the wide throat *l* of the frame, and extends much nearer flatwise across said throat, in a longitudinal direction with the frame, than it would be possible for a straight knife to do, inasmuch as a straight or flat knife must necessarily stand at the same angle to the throat as the bed upon which it rests. This bend enables the knife at the cutting end to stand at a very acute angle to the sides of the object to be pared, and thereby facilitates cutting, while the cut will be made with less friction and resistance to the hold of the fork in the apple, thus enabling the fork to retain its hold in the apple while the paring and slicing knives are operating upon the apple at the same time. I have herein described this bend as extending obliquely across the body of the knife; but it is evident that it will present the same acute angle, taken in a longitudinal direction, to the surface of the object operated upon, whether or not the cutting-edge extends obliquely across the edge of the knife. As before stated, the cutting-edge extends across the end of the knife obliquely, whereby a drawing cut is obtained, and this angle slants toward the open side of the frame, and has a tendency to throw the parings in that direction, while the open side gives them free discharge and prevents the throat from clogging. This open frame could also be used to advantage in a knife-holder having none of the other features herein described as belonging to my invention.

m, Figs. 1 and 6, represents a downward projection on the upper part of the knife-holder at the open side of the throat, and which forms a bearing against the surface of the apple and facilitates the traverse of the knife by holding that side of the knife farthest from the apple while the apple is being pared.

This class of parers is radically different in the operation of the knife-head from the common "turn-table" class. The knife in the turn-table class is carried around the apple by machinery, while in my invention the surface of the apple forces the knife into conformity with the contour of the apple from end to end, and the projection *m* holds out the side of the knife where it is located, and thereby facilitates the apple in forcing the knife to traverse the apple from end to end, while it at the same time traverses it circumferentially by the rotary motion of the shaft, and also allows

the parings to be freely discharged from the knife. Whenever the knife becomes much shortened by repeated grinding, blocking may be placed under the body of the knife, between it and its bed, to throw the cutting-edge farther toward the outer bar of the knife-holding frame.

It will be observed that my core-cutter cuts by the rotary motion of the shaft, and not (as is generally the case in this class of machines) by the forward or endwise motion of the shaft forcing the apple against the cutter.

It will also be observed that the core-cutter is behind the slicer-blade, and acts after the slicer loosens the parts of the apple, so they can yield outward and not press on and hold the core, as is the case where the core-cutter is in front of slicer-blade, and cuts the core in the solid apple; hence it binds and tends to tear the apple off the shaft.

When the nut-latch is thrown back, so as to disengage the shaft B, and said shaft drawn back away from the knives to its greatest limit, an apple is placed upon the fork and the paring-knife is so set as to face the apple. The shaft B is then slipped endwise until the apple is about to come in contact with the paring-knife. The latch-nut is then tripped, so that its spring will hold it into engagement with the spiral groove on the shaft; but the shaft can be slipped forward, if desired, when the latch-nut is engaged with it, so that said latch-nut might, if desired, be engaged previously to moving up the shaft. The shaft is then rotated by means of its crank, and is forced gradually forward by means of the spiral groove and nut-latch to carry the apple by the paring-knife, while it is rotated at the same time. The knife being free to yield backward, and also swiveled, it follows around the apple. The slicing-knife and core-guard cut all of the apple outside of the core into a spiral slice, as in other corers and slicers. The inner curved end of the crank about this time comes in contact with the stop upon the upright of the frame, and stops the advance as well as the rotation of the shaft as soon as the apple is pared, so that there is no time lost in the operation of the parer. The latch-nut is then thrown back out of the way and the shaft pulled back into position for repeating the operation, in doing which the core will engage the paring-knife and swivel it around, so that it will stand facing the apple next placed upon the fork.

I do not claim a simultaneously rotating and longitudinal movement of the shaft, a combined slicer-knife and core-guard, a bent or curved knife of any and every kind; neither, broadly, a knife whose cutting-edge extends obliquely across the end.

I claim as my invention—

1. The combination of the shaft having both a rotary and longitudinal movement, the crank *b*, and their supporting-frame, having a stop for engagement with said crank, substantially as described, and for the purpose specified.

2. In combination with the spring-actuated

nut and the paring-knife, the apple-carrying shaft, ratchet-threaded to adapt it to being pushed forward to bring the apple to the paring-knife without turning shaft or withdrawing the spring-actuated nut from the thread, substantially as and for the purpose specified.

3. The combination of the spirally-grooved shaft with the spring-actuated latch-nut for engaging said groove, the said latch-nut being so mounted on its pivot, and all combined with the spring, that the latter will hold the latch-nut out of and into engagement, substantially as described, and for the purpose specified.

4. In an apple paring and coring machine, in combination with a core-cutter, a core-guard formed of a light strip of metal bent to nearly, but not entirely, encircle the core, whereby it may yield to permit the free passage of the core, while it prevents vibration of the apple-carrying shaft, substantially as and for the purpose specified.

5. A slicing-knife having its upper part turned outward to form a core-cutter, and curved to form a core-guard, the cutting-edge of said slicing-knife being at a tangent to the circle formed by the core-guard, substantially as and for the purpose specified.

6. In an apple-parer, the knife-holding frame

extending along by the side of the knife-bed, and throat upon one side only, thereby forming the open throat, substantially as described, and for the purpose specified.

7. In an apple-parer, the knife-holding frame having a laterally-inclined throat open at one side, in combination with a knife curved or bent inward near its cutting-edge, as shown, substantially as and for the purpose specified.

8. In an apple-parer, the frame having a laterally-inclined throat open on one side, in combination with a knife having its edge extending obliquely across, the inclination of the knife and throat slanting toward the open side of the frame, substantially as described, and for the purpose specified.

9. In an apple-parer, the frame extending along by the side of the knife only upon one side, and having the projection *m* on the outer bar of the frame and near the open end of the throat, whereby the latter is held away from the apple, so as to allow the parings to be freely discharged from the knife, substantially as described, and for the purpose specified.

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Witnesses:

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