(No Model.)

P. M. ACKERMAN.

APPLE CORER.

No. 250,474. Patented Dec. 6, 1881.

Fig. 1.

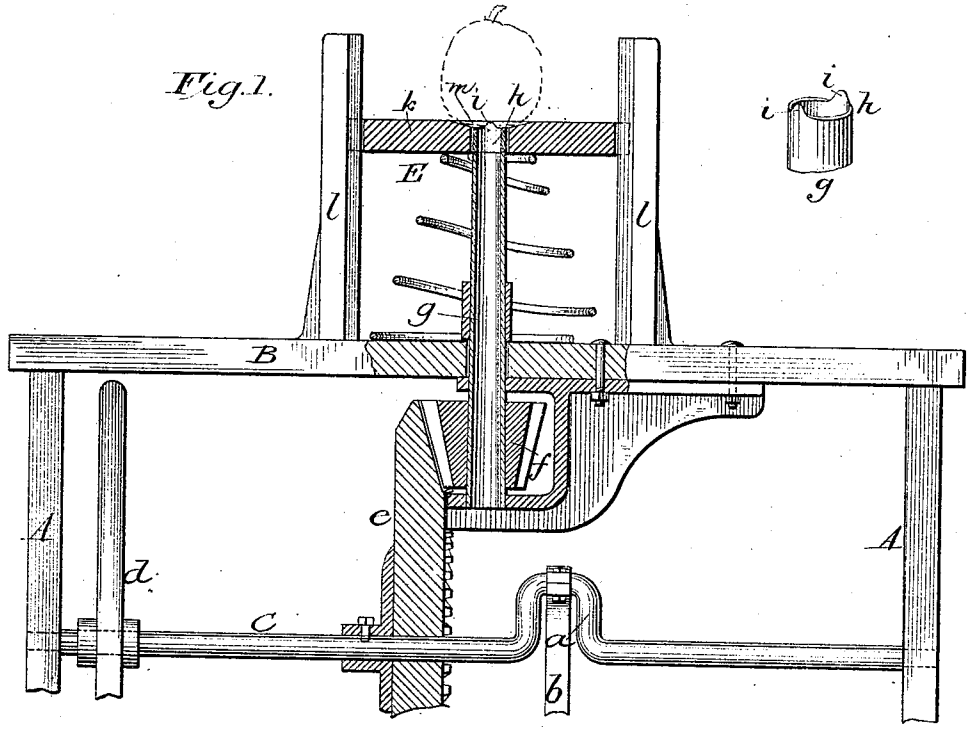
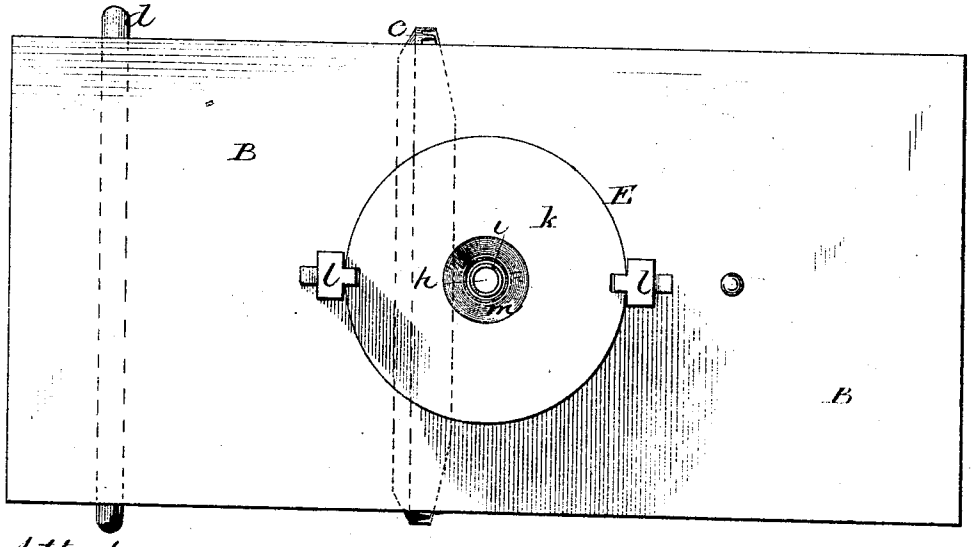


Fig. 2.



Attest.

Sidney P. Hollingsworth.
Robt. L. Miller

Inventor.

P. M. Ackerman.
By P. T. Dodge
Atty.

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

PHILIP M. ACKERMAN, OF ROCHESTER, NEW YORK.

APPLE-CORER.

SPECIFICATION forming part of Letters Patent No. 250,474, dated December 6, 1881.

Application filed May 23, 1881. (No model.)

To all whom it may concern:

Be it known that I, PHILIP M. ACKERMAN, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Machines for Coring Apples, &c.; and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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.

This invention relates to a coring-machine which is designed to be continuous in its action; and to this end the invention consists in a rotary hollow power-driven shaft provided with cutting-lips at its end, and in a spring-supported guide, whereby the apples may be quickly centered and guided upon the coring-shaft and removed again after the core has been taken out.

Figure 1 is a vertical central section of my improved machine; Fig. 2, a top-plan view of the same.

A represents an upright frame, which may be of any suitable construction, sustaining a top or table, B, and a horizontal driving-shaft, C, beneath the same. This shaft may receive motion in any suitable manner; but it is preferred, as shown in the drawings, to provide the shaft with a crank, *a*, and a pitman, *b*, the latter connecting with a treadle in the same manner as in the ordinary sewing-machines, so that the attendant may drive the machine with his feet. On the main shaft I secure a fly-wheel, *d*, and a gear-wheel, *e*, the latter engaging with and driving a small beveled pinion, *f*. This pinion *f* is secured to the lower end of a vertical tubular shaft or journal, *g*, which is extended upward through the table, being sustained, as shown, in bearings which keep it in position.

To the upper end of the tubular shaft *g* there is screwed or otherwise secured an upright tubular knife, *h*, which constitutes the corer proper, and which is provided at the upper end with cutting lips or blades *i*, whereby it is adapted to remove the cores rapidly and cleanly as the apples are pressed down centrally upon the tube, the cores passing down through the center and escaping below, while the apples are removed at the top.

In order to hold and center the apples and present them to the coring-knife quickly, the machine is provided with a vertically-yielding rest, E, consisting of a board, *k*, sustained upon a central spiral spring between vertical guides *l*, and arranged to slide down over and around the coring-blade. The board or rest is provided with a central depression, *m*, to receive and hold the apples, and the parts are so organized that when the board is released it rises above the end of the coring-blade, as shown, in position to receive the apple. The apple, being seated in the depression, is centered and held therein, so that upon depressing the board the rotary coring-blade is caused to pass upward directly through the center, removing the core quickly and without waste. The core passes down through the center and escapes, the tube being usually enlarged toward the base to facilitate the discharge; but the body of the apple is forced upward and removed from the tube or knife by the board or rest when it is relieved from pressure.

The precise form of the knife and the arrangement of other details are not material, provided the construction and mode of action described are adhered to in substance.

I am aware that a semi-tube provided with cutting-lips at one end has been driven by means of gearing for the purpose of coring apples, the tube being closed at the rear end. This construction I do not claim, my coring-tube being open from end to end, so that the cores may pass directly through the same and be discharged at the rear, whereby the continuous operation of the device is permitted. In the use of the semi-tube it is manifest that a continuous operation cannot take place for the reason that the cores must escape through its side, and that if a line of apples is maintained upon the exterior of the tube one after another they would serve to close this side and prevent the escape of the cores.

Having thus described my invention, what I claim is—

1. In an apple-coring machine, the combination of the tubular knife having a free opening for the passage of the cores through it from end to end, and a mechanism, substantially such as described, imparting a rotary motion thereto.

2. The tubular rotary coring-knife having an interior opening of increasing diameter toward

its rear end, whereby the discharge of the cores is facilitated.

3. In a coring-machine, the combination of a rotary tubular coring-knife and a guide or support for the apples arranged to slide over and around the knife.

4. The combination of the tubular knife and mechanism for rotating the same, the sliding rest, and the spring.

5. In combination with the rotary tubular knife, the movable guide or rest provided with the central depression, substantially as set forth.

6. The combination of the tubular knife, open from end to end, and the tubular driving-shaft, forming a continuation of the knife and the pinion applied to the exterior of the tubular shaft, substantially as shown, whereby the discharge of the cores through the driving-gear is permitted.

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

PHILIP M. ACKERMAN.

Witnesses:
J. A. BRAYTON,
M. D. PHILLIPS.