(Model.)

L. H. SCOTT.

MACHINE FOR PARING APPLES.

No. 319,332. Patented June 2, 1885.

Fig 1.

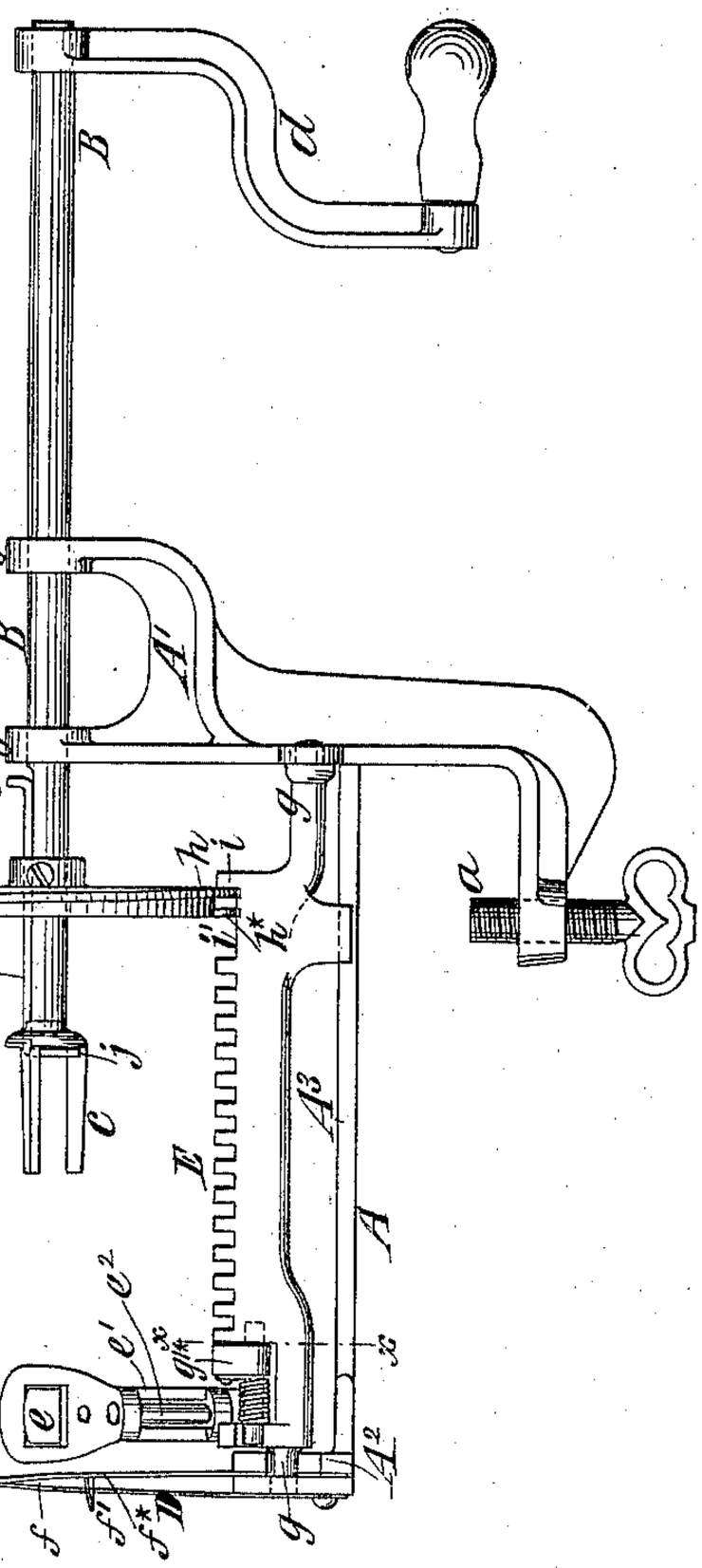

Fig 2.

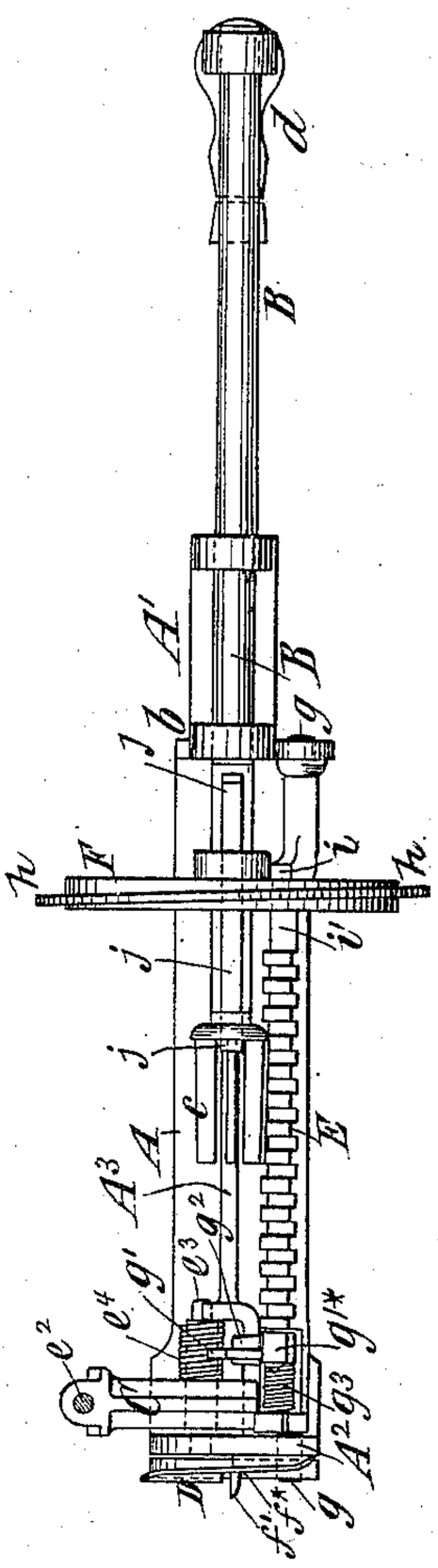

Fig 3.

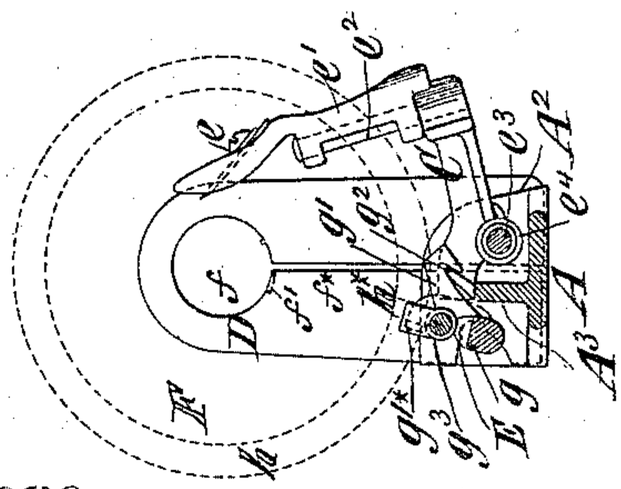

Fig 5.

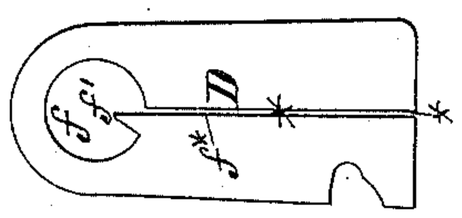

Fig 6.

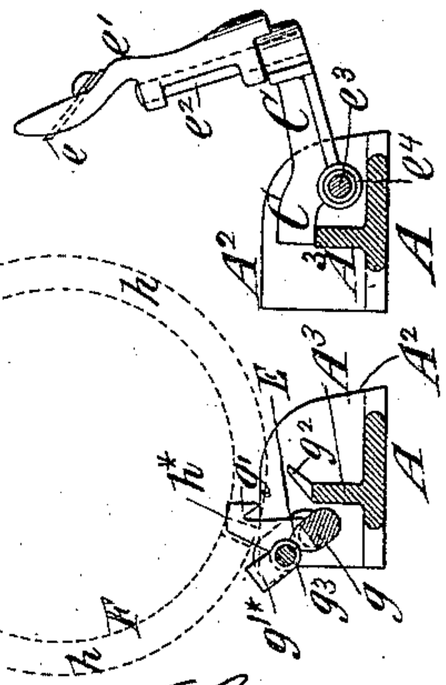

Fig 4.

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UNITED STATES PATENT OFFICE.

L. HERBERT SCOTT, OF NEWARK, ASSIGNOR TO LOUIS A. SAYRE, OF MADISON, NEW JERSEY.

MACHINE FOR PARING APPLES.

SPECIFICATION forming part of Letters Patent No. 319,332, dated June 2, 1885.

Application filed May 3, 1884. (Model.)

To all whom it may concern:

Be it known that I, L. HERBERT SCOTT, of the city of Newark, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Machines for Paring Apples, of which the following is a specification.

My invention relates more particularly to machines for paring apples, and by the same operation cutting out a cylindric core and forming or producing a spiral shaving or slice from the portion surrounding the core; but certain features of the invention are applicable to paring-machines which do not core or slice the apples, and, although machines of the class to which my invention relates are most commonly known as "apple-parers," they may be used for paring other kinds of fruit.

The object of my invention is to increase the facility which machines of this kind afford for rapid work, as a few seconds of time saved in the paring of each apple is a matter of importance where the machines are in constant use.

The invention consists in novel combinations of parts and details of construction, which are hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a machine embodying my invention, the parts being in the position which they occupy when an apple is to be placed upon the fork of the rotary spindle. Fig. 2 is a plan of the machine. Fig. 3 is a transverse vertical section on the dotted line *x x*, Fig. 1. Fig. 4 is a view of certain parts which are shown in Fig. 3, showing them in a different position. Fig. 5 is a view of a blank from which I produce a coring and slicing knife, and Fig. 6 is a view similar to Fig. 3, but showing only the paring-knife, its supports, and a portion of the frame.

Similar letters of reference designate corresponding parts in all the figures.

A designates the frame of the machine, which may be made of malleable or cast iron, and which comprises a clamp and screw, *a*, whereby the machine may be firmly secured to a table or other support. The frame of the machine, which may be of cast metal, comprises a base portion, A, end portions, A′ A^2, and a rib, A^3. In the end portion A′ are bearings *b*, wherein is arranged to turn and slide a spindle, B, having at the inner end a fork, *c*, and at the outer end a hand-crank, *d*, for turning it. The apple or other fruit is to be impaled on the fork *c*.

The paring-knife *e* is similar to those heretofore in use. It is secured in a knife-holder, *e′*, which is carried upon a pintle or pivot, e^2, projecting upward from the outer or free end of an arm, C, which is pivoted at e^3, so as to be capable of swinging in a plane transverse to the axis of the fork-spindle B. A spiral or other spring, e^4, applied at the pivot e^3, tends to hold the arm C in the position shown in Fig. 3, and the end of said arm then rests on top of the rib A^3 on the base portion A of the frame, as shown in Fig. 6, and forms a stop to prevent further upward movement of said arm.

The movement of the arm C on its pivot e^3, and the turning of the knife-holder *e′* on its pintle e^2, provide for reaching all parts of the apple by the paring-knife *e*.

The coring and slicing knife D is best shown in Figs. 1 and 3, and the blank from which it is formed is shown in Fig. 5. The knife is formed by cutting out a blank of the form shown in Fig. 5 from sheet-steel. This blank has an aperture, *f*, of the size of the core to be cut, and a lip or projection, *f′*, extending thereinto. The blank is slitted at * from the aperture *f* downward, and the two portions thus formed are set out of line—that is, one edge is set forward and sharpened to form a slicing-knife, *f**, and the lip *f′* is turned outward at right angles to the face of the blank to form the coring-knife, also designated by the letter *f′*.

The coring and slicing knives are thus produced at a low cost, and are very effective. The knife D is secured to the end portion A^2 of the frame.

E designates a feed-rack, which is mounted on centers or journals *g* in the end portions A′ A^2 of the frame, in such manner that it may be swung from a position shown in Fig. 3, in which the teeth are presented approximately radially to the center of the fork-spindle B, to

a position shown in Fig. 4, in which its teeth are presented away from the machine.

To the end of the rack-bar E, which is adjacent to the knives, is pivoted a latch or catch, g', adapted to engage with a projection or abutment, g^2, on the rib A^3, as shown in Fig. 3, and by pressure on the upwardly-presented arm g'^* of this latch or catch it may be disengaged from the projection or abutment g^2 and the rack E swung outward on its pivot g, as shown in Fig. 4. The latch g' is held in engagement with projection g^2 by a spring, g^3.

Upon the fork-spindle B is a disk or wheel, F, whereon is formed a cam, h, consisting of a section of a screw-thread adapted to engage with the teeth of the rack E.

At the end of the rack E distant from the knives the rack is provided with a single tooth, i, isolated by a space, i', from the remaining teeth of the rack, and the purpose of which will be soon explained.

In order to detach the core from the fork c automatically, I arrange in a groove in or upon the spindle B a push-piece, j, which consists of a rod or piece of metal bent down at the outer end, so as to lie within or at the bottom of the fork c, and bent outward at the other end, so as to strike upon the bearing b of the frame when the spindle is pulled backward.

It is obvious that if the spindle were not held in some way against backward movement an apple could not be placed on the fork c, for the necessary pressure would force back the spindle, and the push-piece j would be thrown forward and prevent the impaling of the apple on the fork.

In order to operate the machine, the parts are brought to the position shown in Figs. 1 and 2, the rack-bar E being held in place by the catch or latch g' engaging with the fixed abutment g^2 on the frame. The cam or screw-thread h is engaged with the isolated tooth i, which serves to hold the spindle against backward movement while an apple is placed on the fork c. Now, it is obvious that after thus securing the apple on the fork the spindle must be moved ahead a short distance before the knives operate upon the apple. To move the spindle forward by turning it (the rack being continuous from the tooth i) would require two or three idle turns and consume an appreciable time, and it is to avoid this waste of time that I form the space i' between the isolated tooth i and the teeth of the rack proper, and thus enable the spindle to be slid ahead after the apple is on the fork until the apple comes to the knives. As the spindle is turned the cam h, by engaging with the teeth of the rack E, advances the spindle, and carries the apple past the paring-knife, and also subjects it to the action of the coring and slicing-knife D, whereby a spiral slice or shaving is cut off, leaving a cylindric core on the fork. When the spindle B has advanced far enough to complete the operation of coring and slicing, the end h^* of the spiral cam h comes against the upward projection g'^* of the catch or latch g', and raises the latter out of engagement with the abutment g^2, and also throws the rack E over to the position shown in Fig. 4, in which position the cam h cannot engage it. The spindle B may then be pulled directly back, and when the pusher or push-piece j strikes the bearing b the core will be thrown off the fork. The spindle B is then pushed forward until the cam h is in line with the space i'. The rack E is then swung into position and secured by the latch or catch g', and the operation is again repeated.

I am aware that it is not new to employ for feeding the spindle of an apple-paring machine longitudinally a fixed rack and a cam consisting of a section of a screw-thread engaging with said rack and fixed on the spindle, said cam having a gap or space, which permits the direct longitudinal movement of the spindle when the cam is turned, so that said gap or space coincides with the rack.

I am also aware that it is not new to employ in such a machine a fork-spindle which is incapable of longitudinal movement, on which the apple is placed, and a sliding frame carrying the paring-knife and provided with a rack, with which engages a worm on the spindle for the purpose of moving the rack. In such a machine the spindle has been supported in slotted bearings, so as to permit of its being raised to free the worm from the rack, in order that the sliding frame may be quickly returned after operation, and for the same purpose the rack has been pivoted at one end, to permit of a vertical swinging movement in order to free it from the worm.

I do not claim any of the features above described as of my invention.

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

1. The combination, with a fork-spindle provided with a disk, F, having upon it a screw-thread cam, of a rack, with which said cam engages for feeding the spindle along, and which is provided with an isolated tooth, with which said cam may be engaged for holding the spindle while placing an apple upon the fork, substantially as and for the purpose herein described.

2. The combination, with the frame and its bearings b, of the spindle B, provided with the fork c, disk F, with its screw-thread cam h, the pusher j, and the rack E, having the isolated tooth i, all substantially as and for the purpose herein described.

3. The combination, with the fork-spindle and its disk F, provided with a screw-thread feeding-cam, h, of a rack, E, pivoted at the ends to swing in a plane transverse to its length, a spring for throwing the rack out of operative position, and a latch or catch, whereby said rack is held in operative position for said cam to engage with it for feeding, the latch or catch and cam being arranged and combined substantially as herein described, whereby the cam is caused to act on the catch

or latch for throwing it off and releasing the rack at the termination of the feeding movement, to free the cam from said rack, substantially as and for the purpose herein set forth.

4. The combination, with the fork-spindle B, provided with the spiral cam *h*, of the pivoted rack E and the pivoted latch *g'*, for holding said rack in an operative position, and capable of being acted upon by the end *h** of said cam, to release the rack and move it into an inoperative position, substantially as herein described.

5. The coring and slicing knife consisting of the slitted piece D, having the aperture *f*, the coring-blade *f'* projecting from the said aperture, and having its edge *f** set forward to form a slicing-blade, substantially as herein described.

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