

G. H. HINCHLIPPE.
APPLE PARER.
APPLICATION FILED JULY 17, 1909.

959,137.

Patented May 24, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

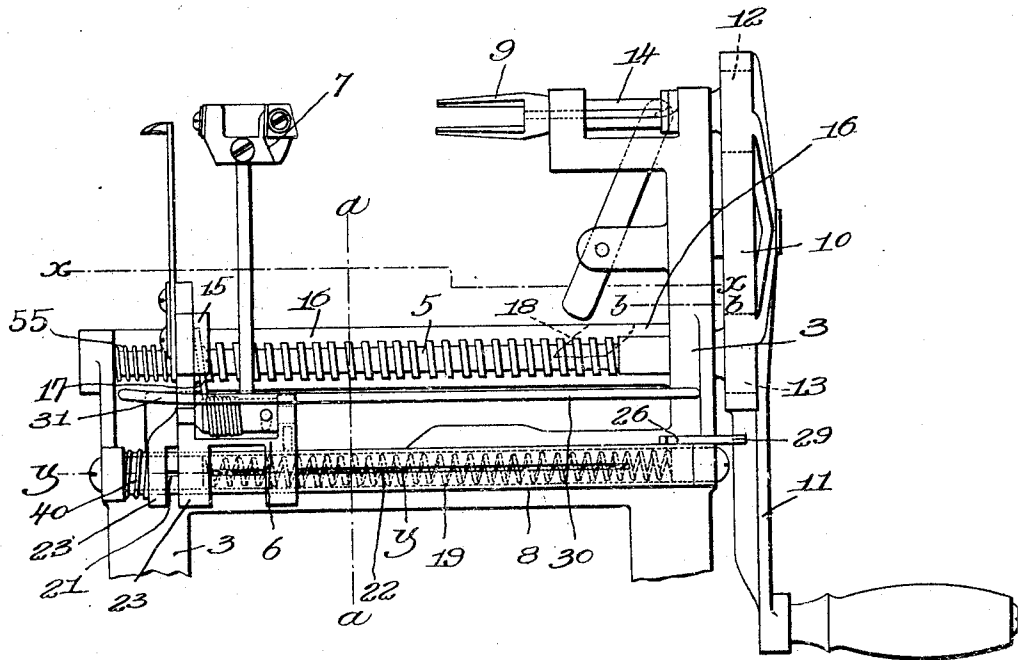


Fig. 2.

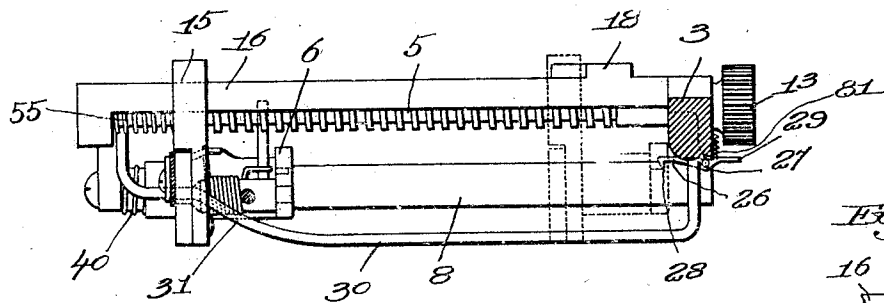


Fig. 3.

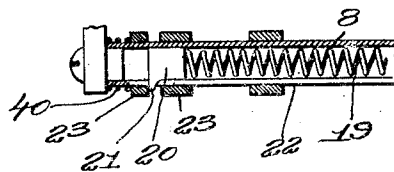
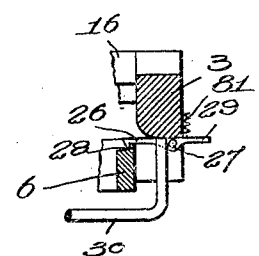


Fig. 6.



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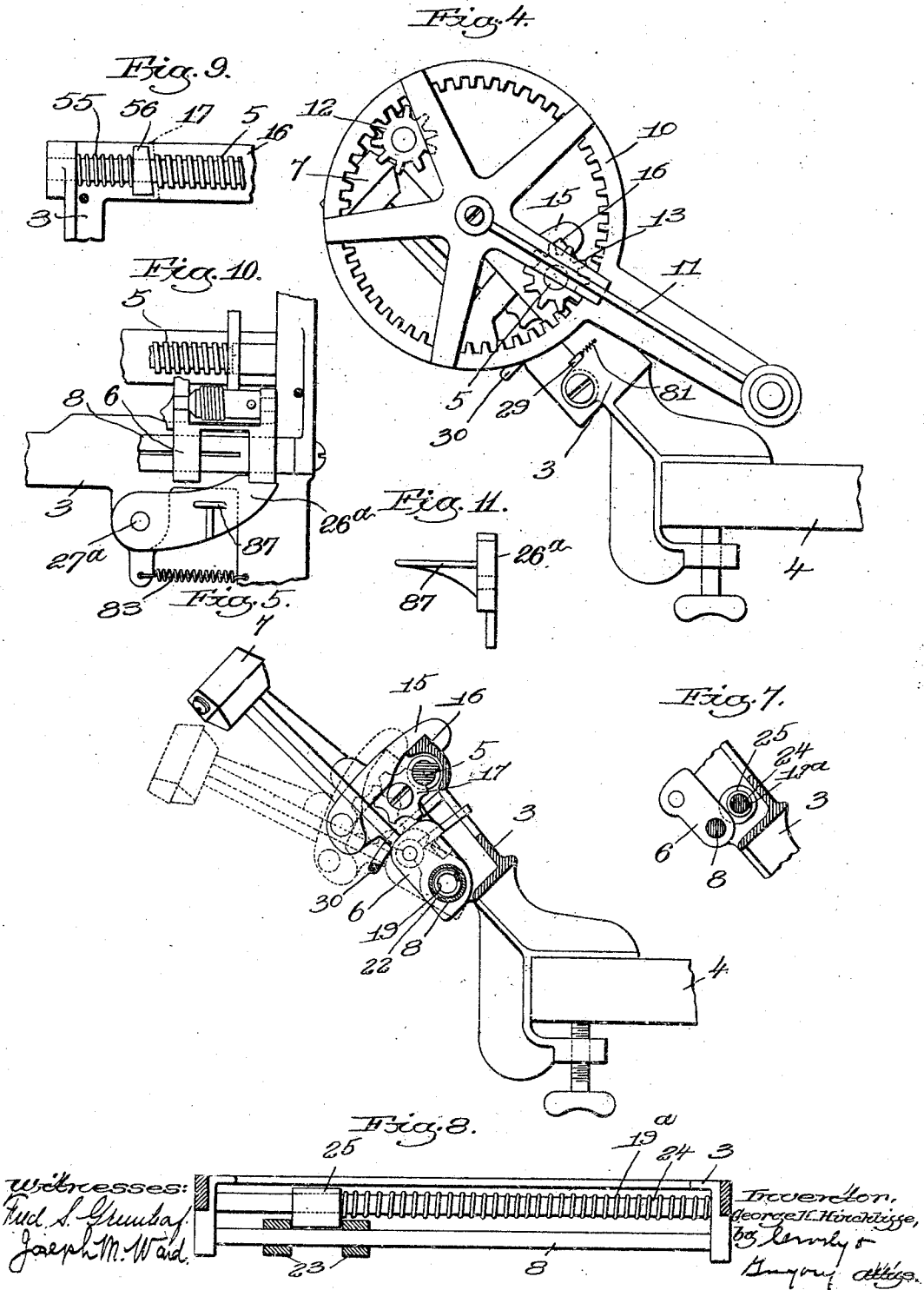
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2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

GEORGE H. HINCHLIFFE, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO GOODSELL COMPANY, OF ANTRIM, NEW HAMPSHIRE, A CORPORATION OF NEW HAMPSHIRE.

APPLE-PARER.

959,137.

Specification of Letters Patent.

Patented May 24, 1910.

Application filed July 17, 1909. Serial No. 508,207.

To all whom it may concern:

Be it known that I, GEORGE H. HINCHLIFFE, a citizen of the United States, residing at Boston, county of Suffolk, and State of Massachusetts, have invented an improvement in Apple-Parers, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention relates to apple parers and particularly to apple parers of the type shown in the Goodell Patent No. 310,196, January 6, 1885. Said patent shows an apple parer comprising a knife carriage which slides back and forth on a rod or guide and which is moved toward the fork by means of a feed-screw that has engagement with a half nut sustained by the carriage, said nut being held in engagement with the feed-screw by a latch. After the carriage has completed its forward movement and the apple is pared, the latch is automatically disconnected thereby to release the nut from the feed-screw. After the nut is thus disconnected from the feed-screw, the knife-carriage has to be returned to its initial position by hand and the latch again brought into engagement with the frame. This operation of returning the carriage to its initial position by hand not only necessitates a special movement on the part of the operator, but consumes more or less time.

My present invention has for its object to provide an apple parer such as shown in said Goodell Patent with novel means for automatically returning the carriage to its initial position and for automatically causing the latch to be reengaged with the frame again, so that the operator does not need to concern himself at all with the return movement of the carriage.

Another object of my invention is to provide a novel catch which engages the carriage when it is first released from the feed-screw, and which prevents the carriage from being returned by the action of the spring until this catch is released.

I will first describe some embodiments of my invention and then point out the novel features thereof in the appended claims.

Figure 1 is a front view of an apple parer embodying my invention; Fig. 2 is a section on the line $x-x$, Fig. 1; Fig. 3 is a section

on the line $y-y$, Fig. 1; Fig. 4 is an end view; Fig. 5 is a section on the line $a-a$, Fig. 1; Fig. 6 is a section through the frame on the line $b-b$, Fig. 1, showing the retaining pawl in engagement with the carriage; Figs. 7 and 8 show modifications of the invention, Fig. 7 being a view similar to one taken through the line $a-a$ Fig. 1, and Fig. 8 being a horizontal section taken just above the rod 24 and return spring; Fig. 9 is a detail view of the end of the feed-screw; Fig. 10 is a detail view showing a modified form of retaining pawl; Fig. 11 is an end view of the pawl shown in Fig. 10.

The parts which are old and form no part of my present invention are the frame 3 which is adapted to be clamped to a suitable support 4 and which carries a feed-screw 5 for feeding the knife-carriage forward, the knife-carriage 6 having the knife 7 pivotally mounted thereon and slidable back and forth on a guiding member 8, the fork 9 for receiving the fruit and the internal driving gear 10 which is turned by the handle 11 and which meshes with gears 12 and 13 formed on the end of the feed-screw 5 and the fork shaft 14, and the latch 15 which is pivoted to the carriage and is adapted to engage the portion 16 of the frame for holding the half nut 17 carried by the carriage in engagement with the feed-screw. These parts are or may be all as shown in said Goodell patent and form no part of my present invention, and therefore a complete description of the operation of these parts is not necessary herein, it being sufficient to say that when the latch 15 is in engagement with the portion 16 of the frame, as shown in Fig. 5, the rotation of the feed-screw 5 will feed the carriage toward the fork thereby completing the paring operation. As the carriage reaches the end of its stroke, the nose of the latch engages the cam 18 and is automatically disengaged from the portion 16 of the frame, thereby permitting the carriage to become disengaged from the feed-screw. One feature of my invention relates to a novel construction for automatically returning the carriage to its initial position. In the embodiment of the invention shown in Figs. 1-5, I accomplish this by making the guiding member 8 in the form of a tube within which is received a return spring 19. A follower 20 is also situated within the tube and is made with a nose 21 which ex-

tends out through a slot 22 extending longitudinally of the tubular guiding member 8. This nose 21 is confined between two arms 23, 23, formed on the carriage so that the follower 20 moves back and forth with the carriage. When the carriage moves forwardly to pare the fruit, the follower is carried longitudinally of the tubular guide 8 and the spring 19 is compressed so that when the carriage is disengaged from the feed-screw, said spring will return the carriage to its initial position. Instead of placing the return spring 19 within the tubular guide 8, I may mount the return spring on a rod 24 and provide a follower 25 which has engagement with the knife-carriage, as shown in Figs. 7 and 8, wherein the spring is shown at 19^a. With this construction the forward movement of the carriage will compress the spring and when the latch is released by the cam 18, the spring will return the carriage to its initial position.

The frame 3 is so constructed that the knife-carriage stands inclined to the vertical, as plainly seen in Fig. 5. When the latch 15 is disengaged from the frame the knife-carriage tends to fall away from the fruit by gravity, but if the return spring should come into play immediately upon the release of the latch 15, the carriage would not have sufficient time to drop by gravity into a position to clear the fruit before said carriage was given its return movement, and as a result, the knife would be apt to strike the pared fruit and either knock it off from the fork or otherwise injure it. I have, therefore, provided a device which restrains the carriage from return movement after the latch has been disengaged from the frame and until the knife has had sufficient time to drop into its lowered position where it will clear the fruit during the return movement of the carriage. The device I have herein illustrated to accomplish this is a retaining pawl which is pivoted to the frame and which is provided with a nose adapted to engage the knife-carriage as the latter reaches the end of its forward stroke.

I have shown in the drawings two forms of retaining pawl.

In Figs. 1, 2 and 6, the retaining pawl is designated 26 and is pivoted to the frame at 27 and is acted upon by a suitable spring 81 so that as the carriage reaches the end of its forward stroke, the nose of the pawl will be automatically engaged with the portion 28 of the carriage. This pawl is shown as provided with a tail 29 which extends beyond the frame and is adapted to be engaged by the handle 11 as the latter is turned. I will preferably make the handle 11 and the gear 10 to which it is attached capable of a slight movement longitudinally with reference to the frame so that when the paring operation is being carried on,

the handle may be pulled to the right Fig. 1 sufficiently so that it will not be engaged with the tail 29 of the pawl. After the carriage has completed its forward movement and has been engaged by the pawl 26 and the apple has been removed from the fork, then the handle and gear may be moved to the left Fig. 1 so that during the next rotation of the handle, it will strike the tail 29 and release the catch from the carriage, thus permitting the carriage to return to its initial position.

In Figs. 10 and 11 I have shown another form of retaining pawl which is designated 26^a and which is pivoted to the carriage at 27^a. This retaining pawl is mounted to swing vertically instead of horizontally, and it is acted on by a suitable spring 83 so that when the carriage reaches the end of its forward movement the pawl will automatically be engaged therewith, as shown clearly in Fig. 10. This pawl is provided with a projection or thumb-piece 87 by which it may be depressed out of engagement with the carriage whenever it is desired to release the carriage.

In both embodiments of my invention the retaining pawl will automatically engage the carriage when the latter reaches the end of its stroke thereby preventing return movement of the carriage. As soon as the pawl is released either by the handle or manually, the carriage will return automatically to its initial position. The provision of the retaining pawl, however, operates to retain the carriage at the end of its forward stroke thereby giving plenty of time for the carriage and knife to drop into the dotted line position Fig. 5, so that during the return movement of the carriage, the knife will be sure to clear the fruit even if it is left on the fork. It is intended, however, that the operator shall remove the fruit from the fork while the carriage is retained by the retaining pawl, and that the carriage shall be released and returned automatically after the fruit is removed.

For causing the latch 15 to be automatically engaged with the portion 16 of the frame again when the carriage completes its return movement, I have provided the positioning device 30 which is herein shown as a rod or wire extending the length of the frame and fastened thereto at each end. This rod or wire is straight for the greater portion of its length but at the end is curved as shown at 31. The straight portion of the rod or wire serves to limit the downward movement of the knife carriage and support the latter during its return movement. The engagement of the carriage with the curved portion 31 of the positioning device will throw the carriage forward so that the latch 15 will again engage the portion 16 of the frame.

40 is a buffer spring which surrounds the guiding member 8 and which acts to cushion the return movement of the knife-carriage.

I have herein shown a spring 55 (see Fig. 9) which surrounds the end of the feed screw 5, the screw-threads being omitted from this portion of the feed screw for this purpose. A collar 56 is placed between the spring 55 and the end of the screw-threads. When the carriage returns to its initial position and is thrown forward, the nut 17 will engage the collar 56 and force the latter back against the spring 55 and will then settle into place between the collar and the end of the screw-threads. The purpose of the spring 55 is to insure the engagement of the nut with the feed screw as soon as the latter begins its forward rotation.

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

1. In a fruit parer, the combination with a knife-carriage, of a feed-screw for moving the knife-carriage forward, means to disengage the knife-carriage from the feed-screw at the end of the forward movement, a return spring for returning the carriage to its initial position, and means to prevent the return movement of the carriage for an appreciable length of time after it is disengaged.

2. In a fruit parer, the combination with a knife-carriage, of a feed-screw for giving said carriage its initial movement, means to automatically disengage the knife-carriage from the feed-screw at the end of the forward stroke, a spring to return the knife-carriage to its initial position, and a pawl to engage the carriage after the latter is disengaged from the feed screw thereby to prevent return movement of the carriage.

3. In a fruit parer, the combination with

a knife-carriage having a half nut, of a feed-screw for engaging said nut thereby to move the knife-carriage forward, means to disengage said nut from the feed-screw at the end of the forward movement of the knife-carriage, a return spring for returning the carriage to its initial position, means to move the half nut into engagement with the feed-screw again, a spring surrounding the end of the feed-screw, and a collar engaging said spring and adapted to be engaged by the half nut as the latter comes into engagement with the feed-screw.

4. In a fruit parer, the combination with a frame, of a knife-carriage, a longitudinally-slotted tubular guide on which said knife-carriage is slidably mounted, means to give the knife-carriage its forward movement, a spring within said guide to return the knife-carriage to its initial position, and a follower for the spring within said tubular guide and connected to and movable with the carriage.

5. In a fruit parer, the combination with a frame, of a knife-carriage slidably mounted thereon, a feed-screw for giving the carriage its forward movement, means to disconnect the carriage from the feed-screw at the end of the forward movement, a spring to return the carriage to its initial position, and a guide for sustaining the carriage when it is disconnected from the feed-screw, said guide having a curved portion 31 which by its engagement with the carriage causes the latter to engage the feed screw again.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

GEORGE H. HINCHLIFFE.

Witnesses:

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THOMAS J. DRUMMOND.