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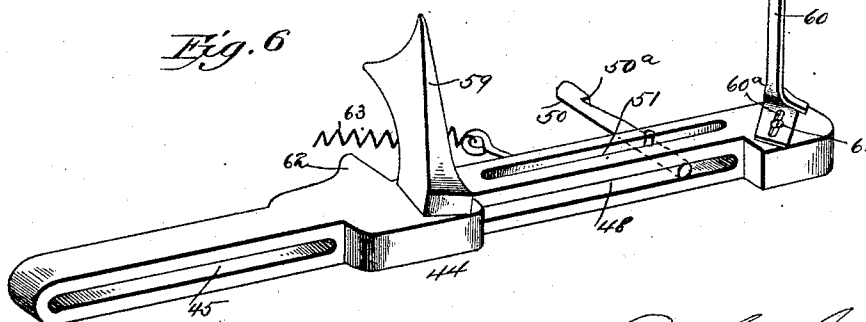
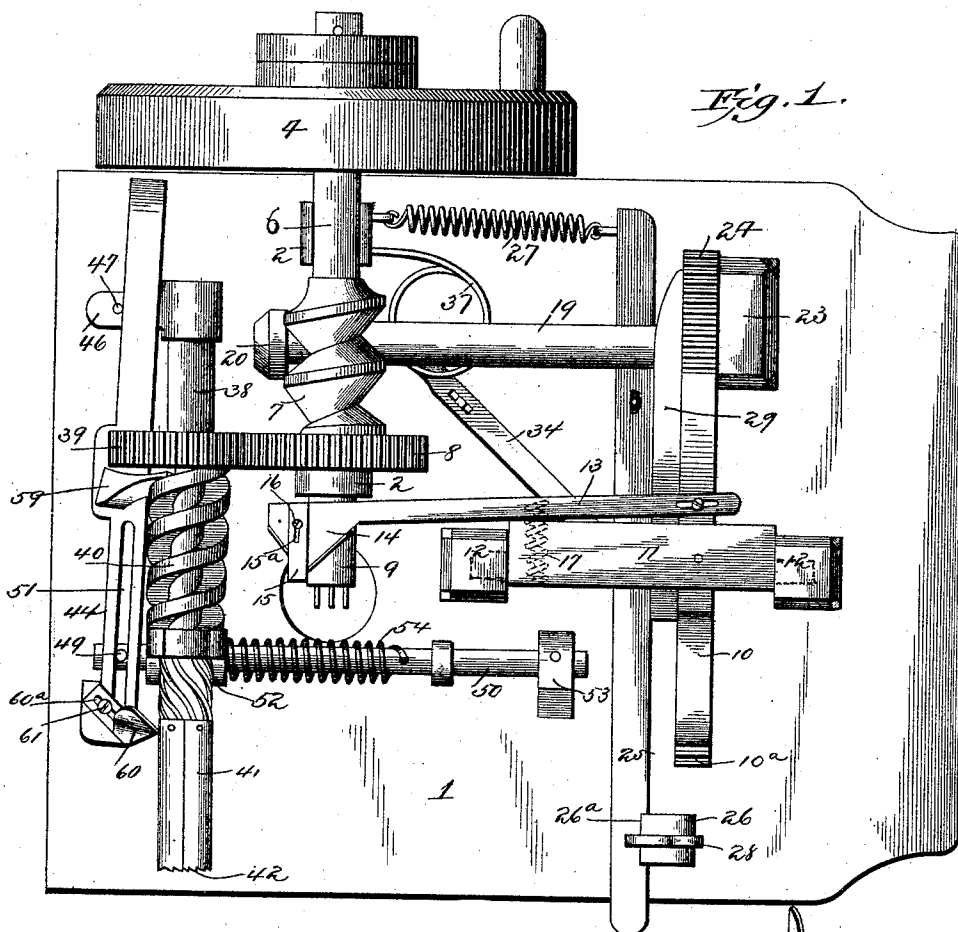
3 Sheets—Sheet 1.

A. J. GREELEY.

COMBINED APPLE PARER, CORER, AND SLICER.

No. 468,800.

Patented Feb. 16, 1892.



WITNESSES
F. L. Ourand
W. E. Schneider

A. J. Greeley
INVENTOR
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his Attorney.

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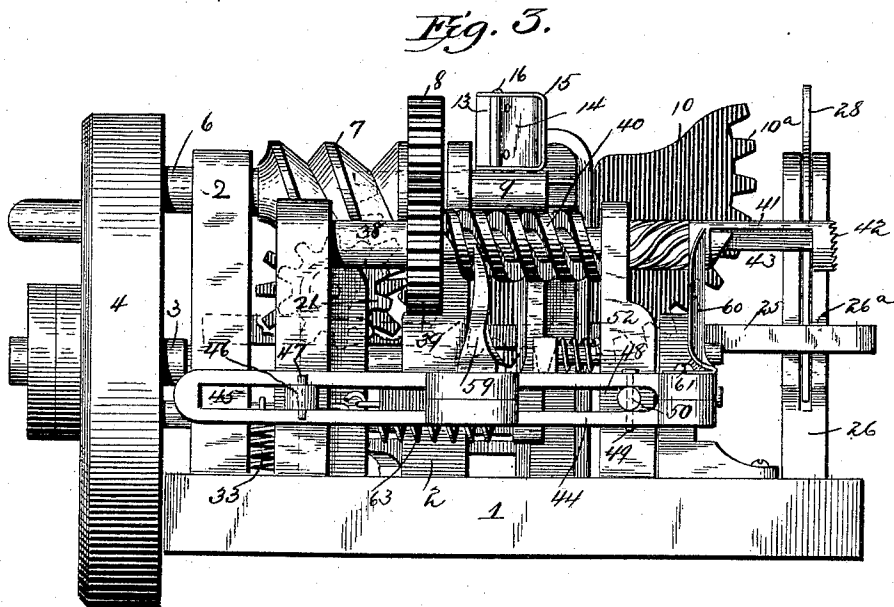
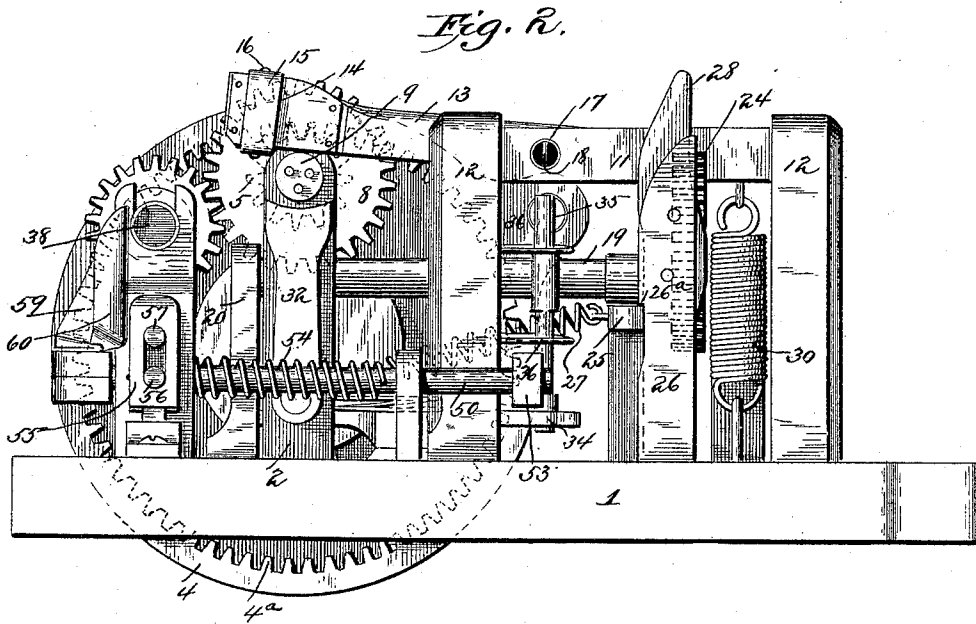
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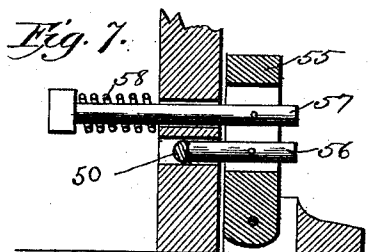
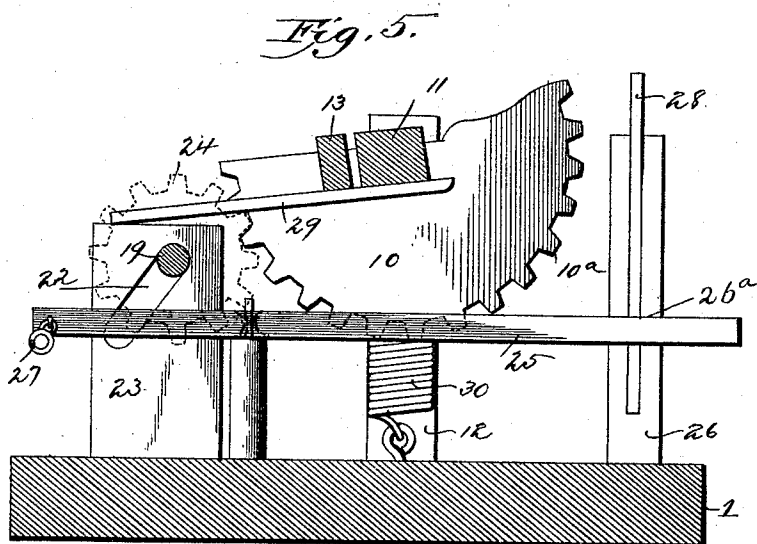
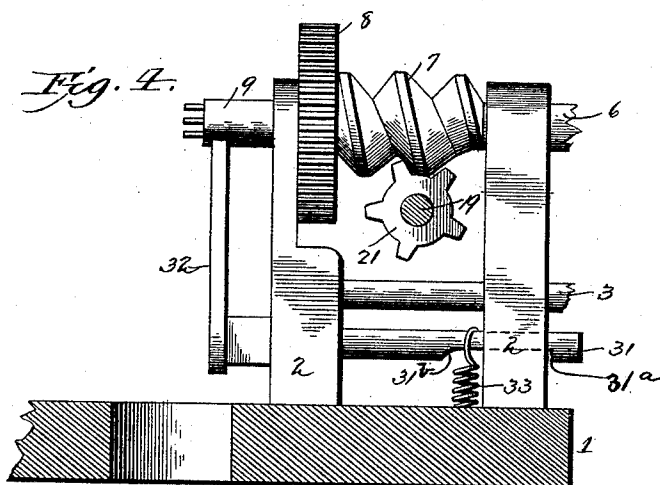
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WITNESSES
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UNITED STATES PATENT OFFICE.

ANDREW J. GREELEY, OF HILLSBOROUGH, WISCONSIN, ASSIGNOR OF ONE-HALF TO JAMES M. WORDEN, OF SAME PLACE.

COMBINED APPLE PARER, CORER, AND SLICER.

SPECIFICATION forming part of Letters Patent No. 468,800, dated February 16, 1892.

Application filed August 17, 1891. Serial No. 402,857. (No model.)

To all whom it may concern:

Be it known that I, ANDREW J. GREELEY, a citizen of the United States, residing at Hillsborough, in the county of Vernon and State of Wisconsin, have invented certain new and useful Improvements in a Combined Apple Parer, Corer, and Slicer; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention consists in a combined apple parer, corer, and slicer which is provided with means for rapidly and effectively paring an apple of any size or shape, means for "kicking" or automatically removing the apple from the fork as soon as it is pared, means for coring the apple, and means for automatically slicing the apples before they are removed from the corer, and my invention will be hereinafter fully described and claimed.

Referring to the accompanying drawings, Figure 1 is a top plan view of my combined apple parer, corer, and slicer. Fig. 2 is a side view taken from the side opposite the drive-wheel 4. Fig. 3 is an end view. Fig. 4 is a detail view of the drive-shaft, the fork, and the device for automatically removing the apple from the fork. Fig. 5 is a detail view of the cogged segment and its adjacent parts. Fig. 6 illustrates the slicer in detail. Fig. 7 illustrates the device which holds the slicer in operative position.

Referring to the several parts by their designating-numerals, 1 indicates the base piece or board on which the several parts of my invention are preferably mounted. In vertical standards 2 2, secured on the base, is mounted the horizontal shaft 3 of the drive-wheel 4. I preferably use the form of drive-wheel shown, having its series of cogs or teeth 4^a formed on the inner side of its inwardly-extending rim or edge flange. The teeth of the drive-wheel mesh with a pinion 5 (see dotted lines in Fig. 2) on the outer end of the horizontal drive-shaft 6, which is mounted in the upper ends of the standards 2. It will thus

be seen that for each single revolution of the cogged wheel 4 the drive-shaft 6 will be revolved four or five times, thus securing speed and rapidity. Upon the central part of the drive-shaft is formed a worm-gear 7, and near its inner end a cog-wheel 8 is keyed upon it, while the inner end of the drive-shaft carries the fork 9, on which the apples are held while being pared.

10 indicates a semi circular plate, the curved edge of which is formed with the series of cogs 10^a, and this cogged segment is secured at right angles upon a short shaft or stem 11, the ends of which are pivotally mounted in the upper ends of posts or standards 12 12. To the straight edge of the segment 10 is pivotally secured the end of the knife-handle 13, the free end of which is formed with the head 14 of the form shown, on which is adjustably secured the paring-blade 15 by means of screws 16, passing through slots 15^a in the parallel ends of the blade.

17 indicates a coiled spring, one end of which is secured in and to the knife-handle 13, as shown, while its body is seated in an opening formed in the stem 11, and its other end is secured therein by a cross-pin 18.

19 indicates a connecting-shaft, one end of which is loosely pivoted or swiveled in an upright 20 and is provided with a pinion 21, adapted to mesh with the worm-gear 7 of the drive-shaft, while the other end of the shaft 19 is loosely mounted and can be moved up and down in an inclined recess or groove 22, formed in the innerside of an upright 23. At this outer end the connecting-shaft is provided with a small cog-wheel 24.

The outer part of the shaft 19 rests upon the inner end of a centrally-pivoted lever 25, and it will be seen that when the outer end of this lever is raised the cog-wheel 24 is dropped out of engagement with the cogged segment, thereby throwing the parer out of engagement with the drive-shaft, while by pressing down the outer end of lever 25 the shaft 19 is raised, causing its pinion 21 to engage with the drive-shaft and its cog-wheel 24 to engage with the cogged segment 10. The outer end of the lever when thus depressed is caught under shoulders 26^a on the

recessed side of a small post 26, a spring 27, secured to the inner end of the lever, holding the lever firmly in engagement with said recessed post. It will now be seen that as the drive-shaft is revolved the apple stuck on the fork 9 will be revolved beneath the blade of the knife and as the cog-wheel 24 turns the segment 10 the knife will be turned so as to pare first the stem end, then the sides, and then the blossom end of the apple, which is being revolved by the fork. At the same time, owing to the knife-handle being pivoted at its inner end and held pressed against the apple by the spring 17, the blade will follow automatically all the inequalities or curves of the apple, thus perfectly and automatically paring the apples of any size or shape, which, as will be seen, is a most valuable feature of my invention. The post 26 is slotted vertically, and in it is pivoted the flat trigger 28, the lower end of which is pushed back when the outer end of the lever 25 is engaged under the shoulders 26^a. When the segment 10 completes its movement and the apple has been pared, a finger 29, projecting from the segment, comes in contact with the inclined upper end of the centrally-pivoted trigger 28, pushing its lower end out and pushing the end of the lever clear of the shoulders 26^a, when a coiled spring 30, connected to the stem 11, as shown, revolves the segment quickly back to its original position and the shaft 19 drops to throw the parer out of gear.

Through the lower ends of the standards 2 passes a sliding rod 31, which is beveled or recessed on its under side near its outer end to form the locking-shoulder 31^a, while to the inner end of the rod is secured an upwardly-extending plate or piece 32, the upper end of which is slightly curved and extends immediately under the fork 9. When an apple is to be placed on the fork this "kicker," as I term it, is pushed in until the shoulder on the end of the sliding rod engages over the outer edge of the standard 2, (see Fig. 4,) the outer end of this rod being drawn down by a spring 33. As the rod 31 is slid out, its beveled under side 31^b depresses the inner end of a centrally-pivoted lever 34, to the outer end of which is pivoted a vertical rod 35, which is adapted to be moved vertically in the loops or bearings 36, through which its ends pass. (See Fig. 2.) When the apple is pared and the finger 29 releases the lever 25, so that the segment 10 flies back into its original position, the edge of the square stem 11 comes in contact with the upper end of the raised rod 35, moving it down and raising the inner end of the lever 34, which in turn raises the outer end of the sliding rod 31 sufficiently to free its locking-shoulder 31^a, when the spring 37 slides the kicker out and the upper end of the piece 32 kicks or throws the pared apple from the fork. It will thus be seen that this novel device will automatically "kick" or remove each apple from the fork as soon as it is pared.

Immediately to one side of the drive-shaft 6 is mounted in bearings the corer-shaft 38. Upon the inner end of this shaft is keyed a cog-wheel 39, which meshes with the cog-wheel 8 of the drive-shaft; but by removing this key the wheel 39 can be moved along the shaft 38 out of engagement with the wheel 8 when it is desired to run the parer without the corer. The central part of the corer-shaft is formed with a deep spiral thread 40, and upon the outer end of this shaft is secured the corer 41, consisting of a metal tube of suitable diameter, the outer end of which is formed with the inclined teeth 42, while the side of the coring-tube is formed with the opening 43, through which the core is removed when the apple is removed by the slicer, or is taken off the corer without being sliced.

44 indicates the sliding frame-bar of the slicer, the outer half of which is formed with a horizontal slot 45 and slides upon a flat bearing 46, a pin 47 holding it on the bearing. The inner part of this bar is formed with the horizontal slot 48 and fits and slides on the outer end of a rod 50, a guide-pin 49 passing vertically through the end of this rod and through vertical slots 51 in the bar. The rod 50 passes through the post 52 and has at its inner end a finger-piece and stop 53, while a spring 54 is coiled around this rod and secured thereto at one end and at its other end to the post 52. The rod 50 is recessed near its outer end to form the shoulder 50^a. To the outer side of the post 52 is pivoted at its lower end in a bearing a stirrup 55, in which are pivoted at their outer ends a locking bolt or pin 56 and a short rod 57, the latter passing entirely through the post, and having a coiled spring 58 encircling it between its headed inner end and said post.

Upon the center of the slicer-bar is secured the feed-lug 59, the inwardly-inclined upper end of which is flattened and slightly curved on its inner edge.

When it is desired to slice an apple that has been stuck on the corer, the rod 50 is drawn in by the finger-piece at its inner end until the inner end of the locking-pin 56 engages with the shoulder 50^a, where it is held by the pressure of the spring 58. This movement of the rod draws the slicer-bar 44 in until the free end of the feed-lug 59 engages between the deep spiral thread 40 of the shaft 38. As the shaft 38 revolves, the slicer-bar is, through the feed-lug, carried automatically forward, so that the vertical blade 60 on its end will slice the apple held on the revolving corer from end to end. The vertical slicing-blade 60 is adjustably secured on the inner end of the bar 44 by a set-screw 61, passing through a slot 60^a, formed in its flat horizontal tang. When the slicing-blade reaches the end of the apple on the corer, a lug 62 on the inner side of the bar 44 presses against the headed end of the rod 57, pressing the pivoted stirrup 55 out, and thus drawing the locking-pin 56 out of engagement with the shoulder

50^a of the rod 50. The rod 50 is at once slid out by its spring 54, thus swinging the slicing-bar 44 out, so as to disengage the end of its feed-lug 59 from the spiral thread 40 of the shaft 38, when a coiled spring 63 at once slides the bar 44 back into its original position, the bar sliding readily on the flat bearing 46. It will thus be seen that this part of my invention will effectively and rapidly slice or "ring" the apples which are held on the revolving corer.

From the foregoing description, taken in connection with the accompanying drawings, the construction, operation, and advantages of my invention will be readily understood. It will be seen that my combined apple parer, corer, and slicer is exceedingly rapid and effective in its operation. I have found by practical tests that the capacity of the machine is one hundred and fifty bushels of apples in ten hours. The machine can be run by any suitable power or by hand-power, when preferred. Each of the parts can be used alone independently of the others when desired, as described in the specification, or any two or all three can be used together, as preferred. Two apples can be worked on at the same time, the machine coring and slicing one while the other is being pared.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the revolving drive-shaft 6, having the fork at its inner end and formed with the central worm-gear, the cogged segment 10, secured on a pivoted shaft or stem 11, a removable connection between said drive-shaft and the cogged segment, the knife-handle 13, pivoted to and turning with the segment and having the adjustable blade 15, and the pressure-spring 17, arranged, as specified, to act on the pivoted knife, substantially as and for the purpose set forth.

2. The combination of the revolving drive-shaft 6, having the fork at its inner end and formed with the central worm-gear, the connecting-shaft 19, having the end pinion 21, engaging said worm-gear, and the cog-wheel 24, loosely pivoted at its outer end and having its inner end sliding in the inclined slot 22, the pivoted stem 11, having the retracting-spring 30 connected to it, the cogged segment 10, secured on said stem and having the projecting finger 29, the knife mounted on the segment and stem, the pivoted lever 25, having the spring 27, and the slotted and recessed post 26, having the trigger 28, pivotally mounted in it, substantially as set forth.

3. The combination, with the revolving fork, of the spring-actuated sliding rod 31, having the shouldered end adapted to hold it back in its set position and having at its inner end

the upwardly-extending piece 32, the centrally-pivoted lever 34, having its inner end extending under the beveled end of the sliding rod 31, and the vertically-mounted rod 35, pivoted to the outer end of the lever 34, and means for automatically depressing the same when an apple has been pared, substantially as set forth.

4. The combination of the shaft 6, having the end fork and the central worm-gear, the adjustable shaft 19, having the end pinion and the cog-wheel 24, the square pivoted stem 11, having the retracting-spring 30 connected to it, the cogged segment 10, secured on said stem and having the projecting finger 29, the knife mounted on the segment and stem, the pivoted lever 25, having the spring 17, the slotted and recessed post 26, having the pivoted trigger 28, the sliding spring-actuated rod 31, having the beveled and shouldered locking end and having the piece 32 at its inner end, the centrally-pivoted lever 34, having its inner end extending under the beveled end of the sliding rod 31, and the vertical rod 35, pivoted to the outer end of the lever 34 and arranged as specified, substantially as set forth.

5. The combination of the revolving drive-shaft having the cog-wheel, the corer-shaft 38, formed with the spiral thread 40 and having the movable cog-wheel and having the coring-blade on its outer end, the longitudinally-slotted sliding bar 44, having the feed-lug 59 and having the vertical slicing-blade 60, suitable bearings for the said slotted bar, and means for moving and holding the sliding bar with its feed-lug in or out of engagement with the spiral thread 40 of the corer-shaft, substantially as set forth.

6. The combination of the drive-shaft having the cog-wheel 8, the corer-shaft formed with the spiral thread 40 and having the movable cog-wheel and having the coring-blade on its end, the flat bearing 46, the longitudinally-slotted sliding bar 44, having the retracting-spring 63, the curved feed-lug 59, the side lug 62, and having the vertical slicing-blade adjustably secured on its end, the spring-actuated sliding rod 50, formed near its outer end with the locking-shoulder 50^a, the pivoted stirrup 55, having the locking-pin 56 pivoted in it, and the short rod 57, passing through the post 52, pivoted at one end in the stirrup 55 and having the spring 58 encircling it between its headed end and said post, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ANDREW J. GREELEY.

Witnesses:

W. R. BLYSTONE,
FRANK SMITH.