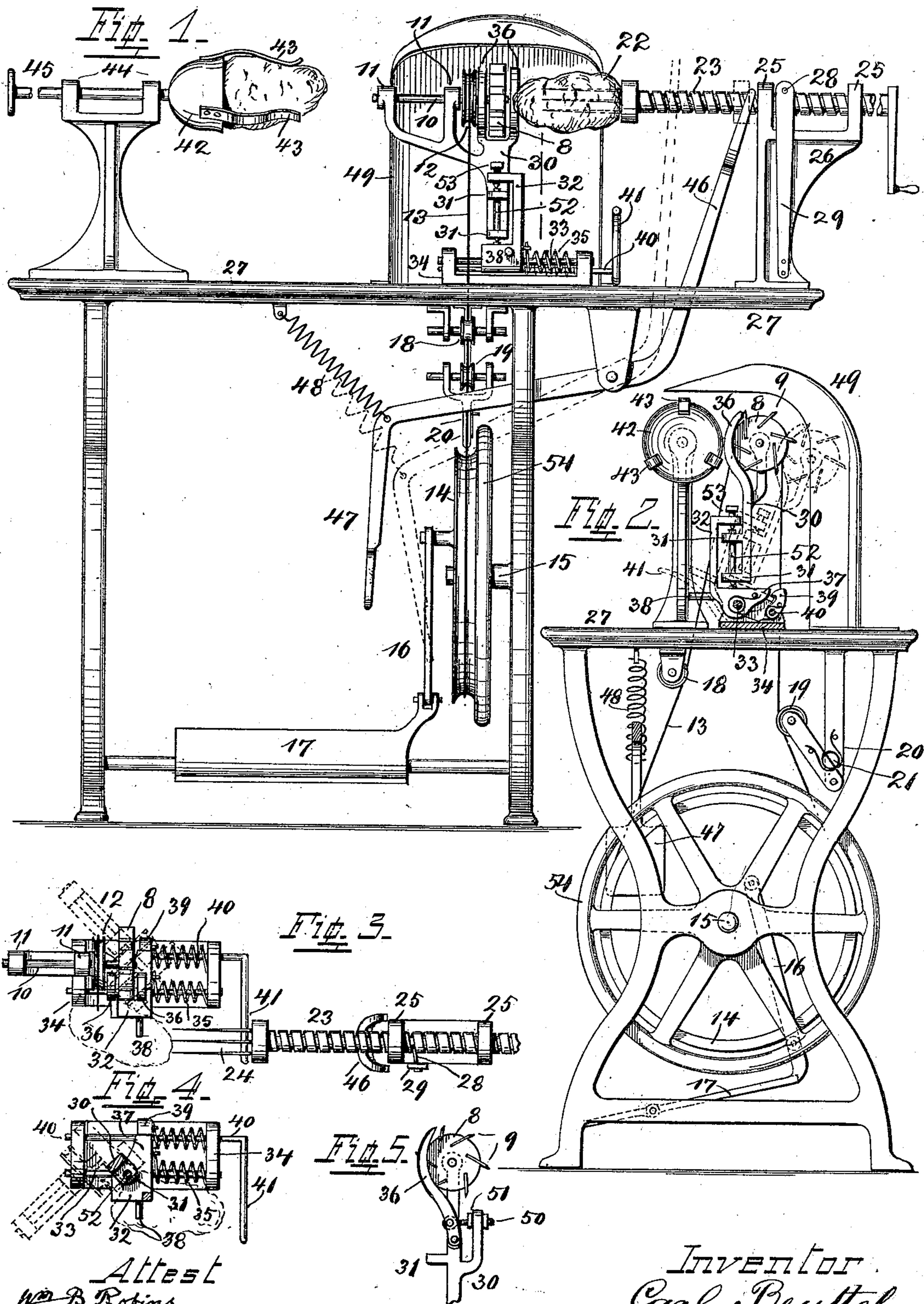


(No Model.)

C. BEUTTEL.
PEELING MACHINE FOR VEGETABLES.

No. 515,394.

Patented Feb. 27, 1894.



Attest
Wm B Rotins.
Charles M. Cartley

Inventor
Carl Beuttel
by C. Spengel Atty.

UNITED STATES PATENT OFFICE.

CARL BEUTTEL, OF CINCINNATI, OHIO.

PEELING-MACHINE FOR VEGETABLES.

SPECIFICATION forming part of Letters Patent No. 515,394, dated February 27, 1894.

Application filed April 25, 1893. Serial No. 471,833. (No model.)

To all whom it may concern:

Be it known that I, CARL BEUTTEL, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have
5 invented a certain new and useful Peeling-Machine for Vegetables; 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
10 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.

This invention relates to machines intended
15 ed for the purpose of removing the skin from vegetables like potatoes or apples for instance. The machine is particularly intended for use on vegetables of very irregular shapes and sizes like potatoes.

20 To this end it consists substantially of a feed-mechanism in combination with a revolving cutter-head which is automatically adjusted by the advancing vegetable so as to remain always in contact with it.

25 In the following specification is found a full description of my invention, the same being also particularly pointed out in the claims at the end thereof and its construction illustrated in the accompanying drawings, in which—

30 Figure 1, shows a front-elevation of the machine with a potato in position to be peeled. Fig. 2, is an end-elevation of the machine, partly in section and parts removed. Fig. 3, is a top-view of the cutter-head and feed-mechanism. Fig. 4, is a top-view of the cutter-head frame, taken below the cutter-head
35 which latter is removed. Fig. 5, shows a modified construction for the purpose of adjusting the thickness of the cut to be removed.
40

In the drawings, 8, indicates a cutter-head provided with knives 9, and mounted on a shaft 10, which revolves in bearings 11. Shaft 10, with the cutter-head is rotated by a pulley 12, driven by a flexible transmitter cord,
45 13, preferably, from a larger pulley 14, revolving on a stud-shaft 15, and connected by a link 16, to a treadle 17, from which the parts are actuated.

50 54, is a fly-wheel connected to pulley 14, or the latter may be connected to the former.

18, and 19, are guide-rollers, the latter one

mounted on a hinged bearing 20, through which by means of a spring 21, roller 19, is held constantly in contact with cord 13, there-
55 by serving as a tension device to the latter.

The potato 22, is carried past the cutter-head by a feed-screw 23, on which latter it is held by prongs 24. The feed-screw is supported in bearings 25, forming part of a
60 standard 26, which rests on the machine-table 27.

To simplify the construction of the machine and lessen its manufacturing-cost, bearings 25, are not screw-threaded interiorly, the
65 function of the requisite female-screw being supplied by a pin 28, held within the screw-thread of screw 23, by a support 29.

In order to enable the cutter-head to adjust itself to all the irregularities of the po-
70 tato, its supporting parts are constructed to be capable of oscillation in a horizontal as well as in a vertical plane, respectively in two planes at right angles to each other. For the purpose of the first adjustment, the cutter-
75 head bearings 11, 11, are connected to a frame 30, provided with lugs 31, by which it is pivotally mounted upon another frame 32. The adjustment in a vertical plane by which
80 the cutter-head is kept constantly against the potato is accomplished by this latter frame 32, which for such purpose is hinged on a rod 33, supported in a frame 34. The necessary action is imparted by a spring 35. It is
85 essential that the contact between these two frames 30 and 32, and caused by their hinged or pivoted connection be limited as much as possible to reduce all unnecessary friction so as to permit the cutter-head to accommodate
90 itself quickly and freely to the shape of the potato. For such purpose the pivot or hinge-pin 52 is pointed and held in place by a pointed screw 53, whereby its bearing surfaces are cut down to the lowest possible minimum.

To prevent the knives of the cutter-head
95 from sinking too deep into the potato and removing more than the skin, gages 36, are provided which lie against the vegetable to each side of the cutter-head and limit the action of the knives.

The capacity of horizontal adjustment, attained by the hinged connection between the cutter-head frame and frame 32, and which permits the first frame to swing in either direction
100

on the latter frame, is shown by dotted lines in Figs. 1, 3 and 4. The holes in table 27, through which cord 13, passes, are of sufficient size to furnish all the room which the latter requires during the different positions it assumes when following the motions which the cutter-head and its driving pulley go through during their adjustment. For the same purpose guide-rollers 18, and 19, are capable of free lateral adjustment on their bearings which permits them to follow the motions of the cord and enables them at the same time to maintain their relations as guides and tension-devices to the cord in all the latter's positions.

To be enabled to have the cutter-head clear out of the way, during the adjustment of the object to be peeled, frame 32, is provided with a heel 37, and handle 38, by which latter the frame may be swung back until it comes in engagement with the spring-actuated catch 39, mounted on a rod 40 in frame 34. See dotted lines in Fig. 2. When ready for action the parts are released by lifting another handle 41, which disengages the catch from heel 37, and permits spring 35, to throw frame 32, forward. The forward action of the spring which actuates the catch 39, is limited by handle 41, which is so shaped that part of it rests against table 27, and thereby forms a stop. See dotted lines in Fig. 2.

To facilitate the placing of a potato on prongs 24, and particularly to get it as near as possible in line with the center of the feed-screw 23, a cup-shaped holder 42 with springs 43, is provided and so supported in bearings 44, as to be in line with the feed-screw. The potato is placed into this cup and with this latter and by means of a handle 45, thrust into prongs 24, whereby the potato is placed in proper position at the first attempt. The empty holder is then retracted, the cutter-head unlatched and the feed-screw advanced toward the latter. After the vegetable is peeled it is quickly removed by a bifurcated ejector 46, which, when operated passes on each side of the prongs 24, and strips the former off. It is pivoted below the table and a part of it at 47, is bent downwardly so as to bring it in convenient position to be actuated by the knee of the operator. A spring 48, returns the ejector again to its normal position.

49, is a hood which prevents the removed peelings from flying promiscuously about.

The depth of the cut to be removed is determined by the distance by which the knives project beyond gages 36, hence it follows that the cut may be varied by adjusting this distance. Such adjustment may be obtained by moving the knives in or out on the cutter-head or by having gages 36, separate on frame 30 and adjustable thereon. This is best shown in Fig. 5, where these gages are hinged to frame 30, and have one end of a screw 50, pivotally connected to them. The other end of this screw passes loosely through the upper end of frame 30, and may be adjusted thereon by nuts 51.

I am aware that machines for this same purpose have been constructed before, but the principles involved are altogether different. In my machine the vegetable has two individual movements imparted by the feed-screw. First a rotary one around its axis and second a longitudinal one at right angles to the plane of rotation and which latter movement causes the vegetable to be carried past the cutter-head. This latter, unlike most of the older devices, does not change its location and in this respect might be called stationary, but it adjusts itself to the form and shape of the vegetable, which adjustment is induced automatically by this latter's double movement. The rotary movement of the vegetable causes the cutter-head to swing in or out according to the variations in the diameter of the former, while at the same time it shifts continually to adjust its face to the varying line of contour of the advancing vegetable whereby the knives of the cutter-head are caused to cut always with a full and complete contact of their cutting-edge, against the fruit. It is this double adjustment of the cutter-head, automatically proceeding and induced by the double movement of the vegetable, which forms the most important feature of my invention and in which respect this latter differs materially from other devices to be used on vegetables of more regular form and even surface, like apples for instance and in which devices the knife, or cutter-head is not automatically capable of such double adjustment. In them, only one such adjustment is usually automatic, while the other is always positive and performed by mechanical means, constituting part of the machine. It is obvious, however that such a construction, which may suffice for fruits of a regular, globular shape like apples or peaches for instance, is by reason of the many irregularities and great varieties of shapes of potatoes, entirely unsuitable for these latter and inferior to a construction where all adjustments are directly dependent on the shape of the fruit and proceed from it.

Having described my invention, I claim as new—

1. In a peeling-machine for vegetables, the combination of a feed-screw adapted to hold the vegetable and advance it in a straight line while also rotating it about its own axis, a revolving cutterhead with knives, a frame 30 provided with bearings for the cutterhead-shaft a pivoted spring-pressed frame 32 to which frame 30 is connected in a manner to be susceptible to automatic adjustment by the undulations in the surface of the vegetable as presented by its linear movement, to keep the face of the cutterhead opposite such surface and by which the cutterhead is kept in contact with the vegetable.

2. In a peeling-machine for vegetables, the combination of a feed-screw adapted to hold the vegetable and advance it in a straight line while also rotating it about its own axis, a

revolving cutterhead with knives, a frame 30 provided with bearings for the cutterhead-shaft and supporting the same, a pivoted spring-pressed frame 32 to keep the cutterhead in contact with the vegetable and to which its supporting frame 30 is connected in a manner to be susceptible to automatic adjustment by the undulations in the surface of the vegetable as presented by its linear movement and independent from the action and adjustment of the pivoted spring-pressed frame 32, and gages 36 connected to the cutterhead frame, and be capable of participating in all adjustments of the cutterhead so as to limit the depth of action of its knives in all positions.

3. In a peeling machine for vegetables the combination of a frame 30 provided with bearings 11, a shaft 10, mounted therein, a cutterhead and pulley 12 carried by it, a pulley 14 for actuating pulley 12, flexible connection to transmit power from one to the other, means to actuate pulley 14, laterally adjustable guide-pulleys 18 and 19, an oscillating frame 32, to which frame 30 is pivotally connected whereby this latter frame is capable of adjustment, at one time, in two planes at right angles to each other, means participating in this double adjustment and limiting the depth of the action of the cutterhead and feed-mechanism adapted to hold the vegetable and advance it past the latter.

4. In a peeling machine for vegetables, the combination of a feed-mechanism adapted to hold the vegetable and advance it in a straight line while also rotating it about its own axis, a revolving cutterhead with knives, a frame 30 provided with bearings for the cutterhead-shaft and supporting the same, lugs 31 on frame 30, a pivoted spring-pressed frame 32, a pointed hinge-pin 52 passing through lugs 31, a pointed screw 53 by which pin 52 with frame 30 is adjustably connected to frame 32 to enable the latter to hold the cutterhead in contact with the vegetable independent and without interfering with the adjustment of frame 30 on it.

5. In a peeling machine for vegetables, the combination of a feed-mechanism adapted to

hold the vegetable and advance it in a straight line while also rotating it about its own axis, a revolving cutterhead with knives, a frame 30 provided with bearings for the cutterhead-shaft and supporting the same, a pivoted spring-pressed frame 32 to keep the cutterhead in contact with the vegetable and to which frame 30 is pivotally connected, a spring catch 39 and a heel 37 adapted to be engaged by the latter for the purpose of holding the cutterhead out of the path of the feed-mechanism during the time the vegetable is placed in position or removed after finishing.

6. In a peeling-machine for vegetables, the combination of a feed-mechanism adapted to hold the vegetable and advance it in a straight line while also rotating it about its own axis, a revolving cutterhead with knives, a shaft whereby it is rotated, bearings for the shaft and means to actuate it, a frame 30 which carries the shaft-bearings and an oscillating spring-pressed frame 32 to which frame 30 is pivotally connected whereby the cutterhead is made susceptible to automatic adjustment by the double movement of the vegetable, at one time, in two planes at right angles to each other.

7. In a peeling-machine for vegetables, the combination of a feed-mechanism adapted to hold the vegetable and advance it in a straight line while also rotating it about its own axis, a revolving cutterhead with knives, a shaft whereby it is rotated, bearings for the shaft and means to actuate it, a frame 30 which carries the shaft-bearings, an oscillating spring-pressed frame 32 to which frame 30 is pivotally connected whereby the cutterhead, by the double movement of the vegetable, is made susceptible to automatic adjustment at one time in two planes at right angles to each other and means, participating in the double adjustment of the cutterhead, to limit the action of its knives.

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

CARL BEUTTEL.

Witnesses:

C. SPENGEL,

CHAS. MCCARTHY.