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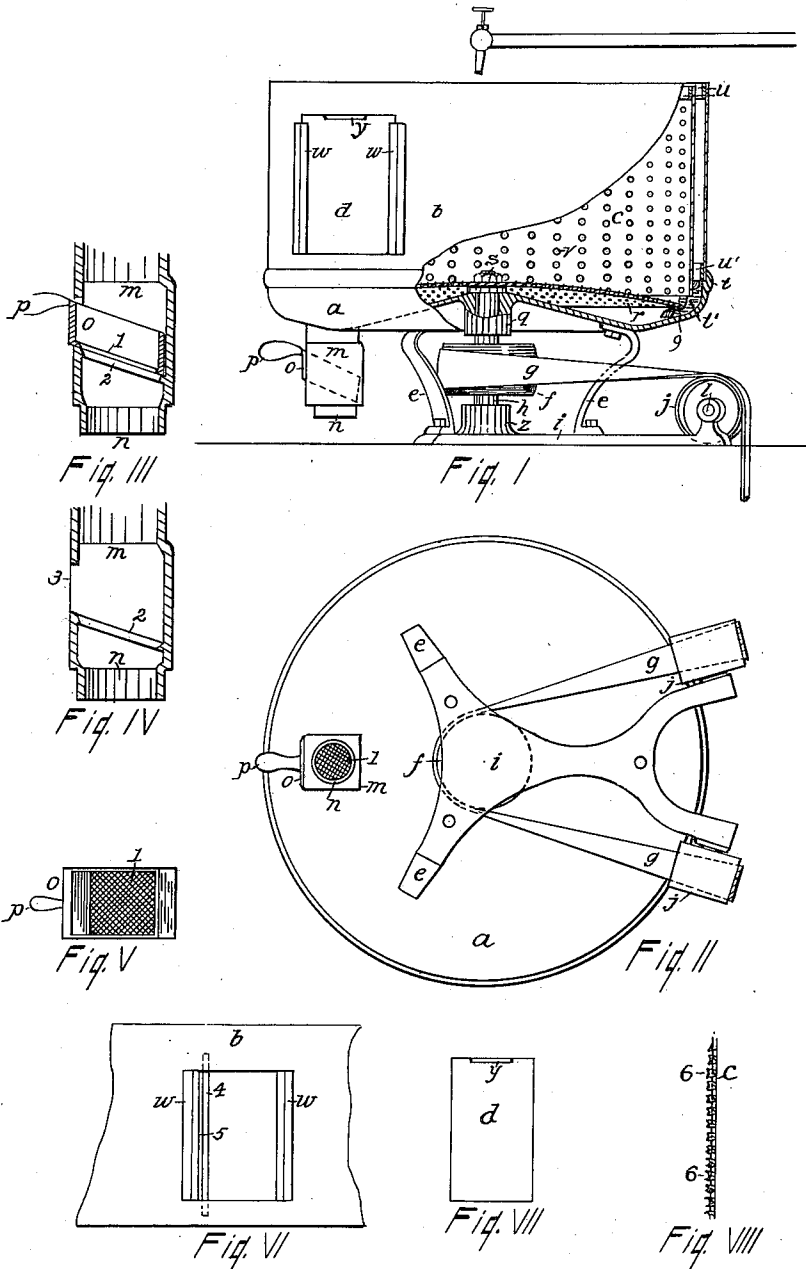
PATENTED MAR. 19, 1907.

T. FRANKLIN & G. L. BELDING.

VEGETABLE PEELER.

APPLICATION FILED JAN. 17, 1905.

3 SHEETS—SHEET 1.



Witnesses
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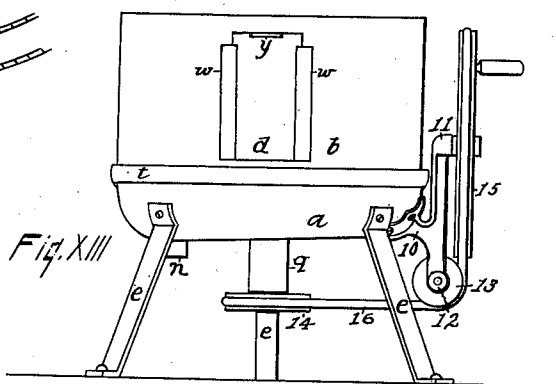
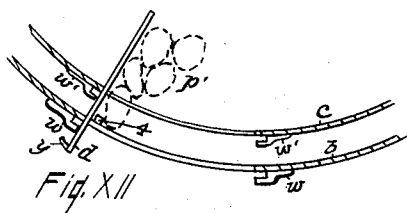
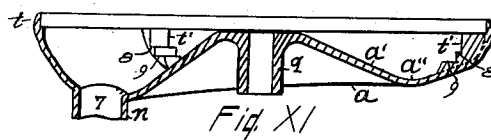
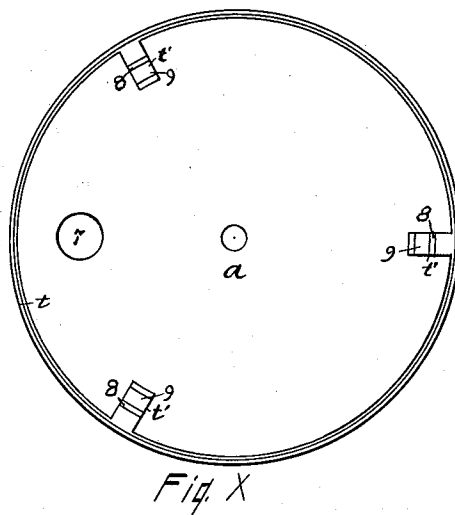
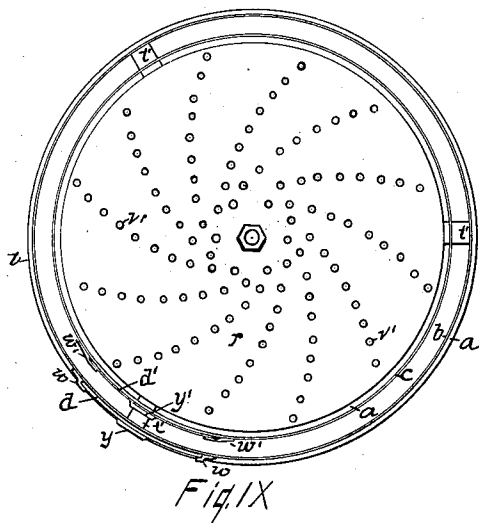
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

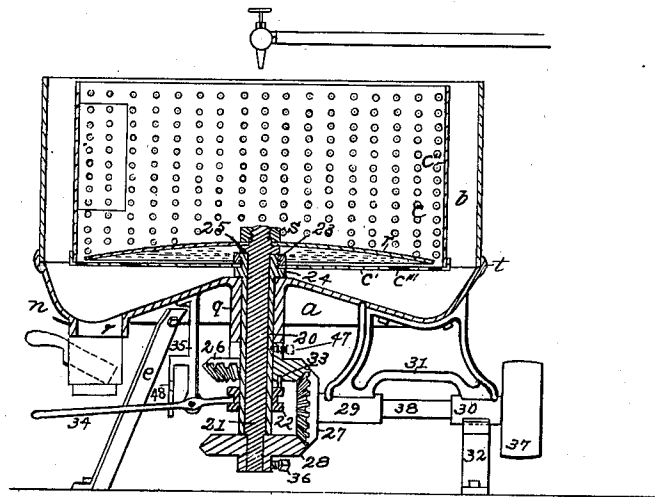


Fig. XIV

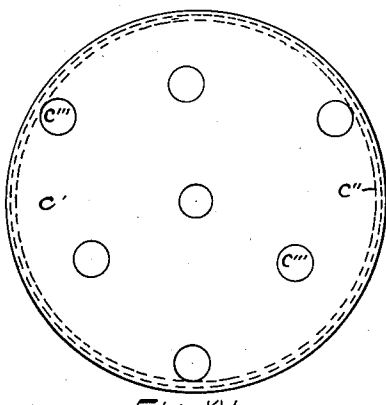


Fig. XV

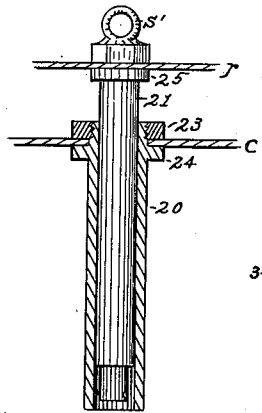


Fig. XVI

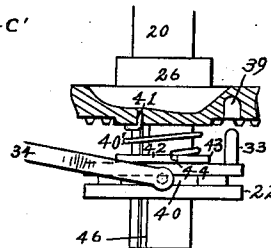


Fig. XVII

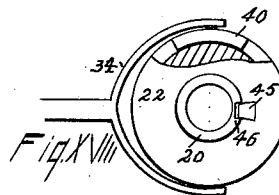


Fig. XVIII

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UNITED STATES PATENT OFFICE.

THOMAS FRANKLIN AND GEORGE LESLIE BELDING, OF WEST POINT,
NEW YORK.

VEGETABLE-PEELER.

No. 847,328.

Specification of Letters Patent.

Patented March 19, 1907.

Application filed January 17, 1905. Serial No. 241,440.

To all whom it may concern:

Be it known that we, THOMAS FRANKLIN and GEORGE LESLIE BELDING, citizens of the United States, and residents of West Point, in the county of Orange and State of New York, have invented certain new and useful Improvements in Vegetable-Peelers, of which the following is a specification.

This invention relates to the removal of the skins or peels of vegetables, such as potatoes, and has for its object the performance of the work by means of a machine that may be driven by hand or by power.

The object is attained by the means set forth in these specifications and the accompanying drawings, in which like letters and numbers refer to similar parts throughout the several views.

Reference being first made to the drawings, Figure I is an elevation, partly in section, showing a complete machine. Fig. II is a bottom view of the same. Fig. III represents a strainer used with the machine. Fig. IV shows the means for holding the strainer. Fig. V is a view of the detached strainer. Fig. VI shows a side opening in the outer cylinder of the machine. Fig. VII is a plan of the door or slide to the opening in the side of the machine. Fig. VIII represents the grating-surfaces of the inner cylinder and the top of the rotating disk. Fig. IX is a top view of the interior of the machine. Fig. X is a plan of the cylinder-base. Fig. XI is a vertical cross-section of the cylinder-base. Fig. XII shows how vegetables are removed from the machine. Fig. XIII is an elevation of a machine for domestic use. Fig. XIV is an elevation in cross-section of a gear-driven machine. Fig. XV is a bottom view of a revolving cylinder. Fig. XVI represents the removable main spindles in the machine. Fig. XVII illustrates a clutch for the gearing. Fig. XVIII is a detail relating to the clutch.

The machine will be described herein as a potato-peeler, although it is not to be understood that its use will be limited to that purpose. It consists, as shown in Fig. I, of a cast base *a*, supported on legs *e e*, which rest on a bottom plate *i*, which may be extended into a support for the angle-pulleys *j*, as shown in Figs. I and II.

The base *a* has a vertical shaft-bearing *q* and slopes from the top of the said bearing

for about two-thirds of its diameter and then curves upward in dish-like form, terminating in a flange *t*. A sheet-metal cylinder *u* sets within the flange *t*, and the cylinder is removable therefrom. The central bearing *q* supports a shaft *h*, the shaft also having a step-bearing in the hub *z* on the bottom plate. On the said shaft within the base is a perforated disk *r* of sheet metal. The form of base shown in Fig. XI provides an elongated central bearing for the driving-shaft while draining the water away from the bearing and toward the outlet at one side of the base. This base also provides a support for the cylinders and catches the water passing through the inner cylinder, while its downward curvature removes the floor of the base from the bottom disk to allow a free action thereof. A perforated cylinder *c* of smaller diameter than the cylinder *b* also sets within the base *a*, being supported on lugs *t'*, Figs. I, IX, X, XI, resting on the shoulders 8. The projections 9 on said lugs are to afford bearings for the edge of the disk *r* in case an accumulation of weight on one side of the disk should cause it to droop; but the disk normally runs free of the lugs, having only its central support on the shaft. The cylinder *c* is also removable from the base *a*.

The disk *r* is made preferably convex with reference to the base *a*, and the perforations in the disk and also in the cylinder *c* are similar to the perforations in a grater, as indicated at 6 6, Fig. VIII, and the grating sides are toward the inside of the cylinder.

The operation of the machine is as follows: Potatoes are put within the inner cylinder, resting on the perforated disk. The disk will be set in motion by means of the belt *g*; pulley *f*, and shaft *h*. Centrifugal force acting upon the inner layers of the potatoes and the rough surface of the disk scraping against the under layers will cause the entire mass to become violently agitated. The rough surface of the cylinder will prevent the outer layers of potatoes from simply rolling around the cylinder, and whenever a potato makes contact with the grating-surfaces some of the peeling will be removed from it, so that, in the general whirling about, in a surprisingly short space of time every potato will lose every particle of its peelings. During the operation a stream of water is to be allowed

to flow among the potatoes, which has the effect of removing the gratings of peel from the perforations, at the same time cleansing the potatoes, for as the water is thrown through the perforations of the inner cylinder it carries with it the particles of potato-skin.

It will be observed that the perforated cylinder is entirely free from the base *a* except where it is supported by the lugs *t'*, so that the water and the washings through the cylinder fall between the inner and outer cylinders down into the dishing base *a*. The washings from the disk also drop into the base. Upon one side of the base is an outlet *m n* toward and out of which the washings flow. The outlet *n* may be connected with a sewer.

Figs. III, IV, and V show the construction of the outlet *m n*. The chamber *m* is rectangular in form, with an opening 3 in front. Inside the opening and on the sides of the chamber are sloping flanges 2. A cup *o*, Fig. V, with a wire-screen bottom 1 and a handle *p*, is insertible within the chamber *m*, as in Fig. III. The object of this screen-cup is to catch the gratings to prevent them flowing into the sewer.

Doors or openings are provided in the sides of the cylinders to facilitate the removal of the potatoes therefrom, as set forth in Figs. I, VI, VII, IX, XII. In setting the cylinders in place on the base the door-openings are made to aline, as in Fig. XI. Cleats *w w* on the outer cylinder and *w' w'* on the inner cylinder are adapted to have the doors or slides *d d'* inserted within them, as shown in Fig. IX. The doors are of the same material as the cylinders and are provided with handles, as at *yy'*. When the potatoes are to be removed, the slides *d d'* are withdrawn and one of the slides is thrust through the door-openings, as shown in Fig. XII, when as the potatoes pile up against the slide they roll out through the openings.

To facilitate holding the slide, a bar 4, Figs. VI, XII, is secured across the doorway vertically, affording a groove 5, Fig. VI, through which the slide is thrust, the slide then having a firm bearing against the inner cylinder and the bar 4 on the outer cylinder.

In Fig. XII the potatoes are represented at *p'*.

The machine-base *a* shown in Fig. I has a dished bottom. Fig. XI shows how the base may have a pitch of the dishing bottom toward the outlet 7, so that the washings will flow away more freely. At 7 is indicated the opening that terminates either in the outlet *m n* or only a pipe connection *n*.

Fig. XIII represents a form of machine adapted for domestic use differing from that shown in Fig. I only in size and the means for driving it. A bracket 10 11 is attached directly to the base *a*, supporting a hand-wheel 15 and angle-pulleys 13. The

pulley 14 drives the perforated disk. A belt 16 completes the power attachment.

In Fig. XIV a machine is illustrated in which both the inner cylinder and the disk rotates, the cylinder moving in an opposite direction from that of the disk. The base *a* may be the same as that in Fig. I, except that the inner lugs would not be required. The cylinder *c* is made in two parts, a bottom *c'* and the cylinder *c''*. They may be secured together or they may be made separable. The inner cylinder and the disk would be perforated the same as in the machine shown Fig. I, the bottom of the inner cylinder having several large perforations, as at *c'''*, Fig. XV, to allow the escape of washings from the disk. The revolving cylinder is supported on a hollow spindle 20, Figs. XIV and XVI, the bottom of the cylinder resting on the collar 24 and being secured by a nut 23. The disk is supported on a shaft 21, that passes through the shaft 20, resting against the collar 25 and being secured by a ring-nut *s'*, preferably a plain nut being shown in Fig. XIV. The ring is to facilitate the lifting of the disk and its shaft from the machine. Fig. XVI shows the disk-shaft being removed from the cylinder-shaft. The gearing may be applied as in Fig. XIV. A bracket 31 is supported directly from the base *a* and has bearings 29 30 for the shaft 38, which is driven by pulley 37. The gear-pinion 27 on the shaft 38 gears into the pinion 26, which is secured to the cylinder spindle 20 and into the pinion 28, which is secured to the disk-spindle 21. In Fig. XIV the upper pinion 26 is shown to be fastened with a set-screw 47, (indicated in broken lines;) but it is preferable to operate the upper pinion by means of a clutch, so that the disk may be revolved without the rotation at the same time of the cylinder. This can be done by the use of the set-screw; but it would make an inconvenient expedient. The reason why it is desirable to rotate the disk and not the cylinder is that the cylinder must remain stationary when the potatoes are to be expelled from the machine. A form of clutch is shown in Figs. XIV, XVII, and XVIII. The gear-pinion 26 turns freely on the spindle 20 and will revolve in mesh with the pinion 27 when not engaged with the clutch. A keyway 46 is provided in the spindle 20, and a key 45 to fit the keyway is secured in the sleeve 22, as in Fig. XVIII, so that the sleeve is free to be moved vertically, but revolves with the shaft. A pin 33 in the sleeve will engage with a hole 39 in the pinion, and when so engaged the pinion will revolve with the sleeve and the shaft, or rather the pinion will then cause the rotation of the shaft. A lever 34 engages with segment 40 in the groove in the clutch for the manipulation of the clutch. The lever is pivoted to a bracket 35, Fig. XIV, having a notched branch 48 for limiting the movement of the

lever and for holding it in place. As thus far described when the clutch was disengaged from the gear-pinion 26 the said pinion would ride upon the teeth of the driving-pinion 27.

5 To avoid this and support the wheel 26 from undue pressure upon its driver, which might cause a breakage of gear-teeth, a collar 43, Fig. XVII, and a spring 40' are interposed between the clutch and the pinion above it.
 10 The spring should be coiled in the direction the pinion will turn and fastened, respectively, to the pinion, as at 41, and to the collar, as at 44. The collar will turn upon the clutch and the spring will lift the weight of
 15 the pinion from the driver. A leg 32, attached to the bearings 30, gives a solid support to the belt end of the machine. By removing the lower gear-pinion 28 the cylinder c and disk r may be easily lifted from the machine for the purpose of cleaning the several
 20 parts, which is an important consideration.

In the modified form of the invention shown in Fig. XIV both of the cylinders are provided with the doors, as shown in Figs.
 25 IX and XII, and with the screening-cup (shown in Fig. I) applied to the base, the operation of the parts being similar to that disclosed in Fig. I, with the exception that the perforated cylinder is adapted to be rotated
 30 in an opposite direction to the disk in order to facilitate the peeling operation. When it is desired to discharge the potatoes from the cylinder in the construction shown in Fig. XIV, the revolving cylinder is thrown out of
 35 gear and the door therein brought opposite the opening in the exterior cylinder, when the slide is inserted, as shown in Fig. XII, and the continued rotation of the disk causes the articles thereon to impinge against the slide
 40 and to be thrown outward through the opening.

Having described our invention, what we claim, and desire to secure by Letters Patent, is—

45 1. In a peeling-machine, a base, an outer cylinder supported thereon provided with an opening in its side wall, an inner perforated rotatable cylinder spaced from the outer cylinder and provided with an opening in its
 50 side wall, a rotatable disk forming the bottom of the inner cylinder, closure-plates for each of said openings, and a driving-shaft for said disk disposed beneath the same.

2. In a peeling-machine, a base, an outer
 55 cylinder supported thereon provided with an opening in its side wall, an inner rotatable perforated cylinder spaced from the outer cylinder and provided with an opening in its side wall, a rotatable bottom disk within the
 60 inner cylinder, closure-plates for each of said openings, and means for rotating said disk in a direction opposite to the rotation of the inner cylinder or independent thereof.

3. In a peeling-machine, a base provided

with a bearing, an outer cylinder supported 65 upon said base, an inner perforated rotatable cylinder spaced from the outer cylinder, a rotatable disk forming the bottom of the inner cylinder, and a driving-shaft mounted in said bearing and carrying said disk at its upper 70 end.

4. In a peeling-machine, a base having an annular dished portion and a central depending bearing, an outer cylinder supported at the periphery thereof, an inner cylinder 75 spaced from the outer cylinder, a driving-shaft journaled at its upper end in said bearing, and a disk secured to said shaft at the bottom of the inner cylinder.

5. In a peeling-machine, a base, an outer 80 cylinder supported thereby and provided with an opening therein, an inner cylinder provided with an opening therein and spaced from the outer cylinder, a closure for the opening of the inner cylinder, a rotatable 85 disk within the inner cylinder, and means carried by the cylinders for supporting a contact-plate extended through said openings when in alinement.

6. In a peeling-machine, a base, an outer 90 cylinder supported thereon provided with an opening in its side wall, an inner rotatable perforated cylinder spaced from the outer cylinder and provided with an opening in its side wall, a bottom disk within the inner cylinder, means for driving said disk, driving 95 means for said inner cylinder, means for controlling the driving means of the inner cylinder, and an insertible member disposed within the openings in said walls. 100

7. In a peeling-machine, a base provided with a central bearing, an outer cylinder supported by said base, a sleeve rotatably mounted within said bearing, an inner cylinder carried by said sleeve, a spindle extending 105 through said sleeve, a rotatable bottom disk carried by the upper end of said spindle within the inner cylinder, a driving-gear upon the lower end of said spindle, a driving-shaft geared to said spindle-gear, a gear loosely 110 mounted upon said sleeve and meshing with the driving-shaft gear, and a clutch splined to the sleeve and adapted to engage the gear carried thereon.

8. In a peeling-machine, a concave base 115 provided with an outlet-pipe having downwardly-inclined ways therein, and a screen-cup slidably mounted upon said ways to normally lie diagonally to the vertical axis of the pipe whereby it is retained therein by 120 gravity.

9. In a peeling-machine, a base having a central depending bearing-sleeve and a dishing bottom curving outwardly and downwardly from said sleeve and then upward 125 above said sleeve and terminating in a cylinder-supporting flange, and an outlet connection with said bottom.

10. In a peeling-machine, a plurality of
cylinders each provided with a side opening,
a bar spaced from the side wall of the opening
in the outer cylinder and extending vertically
5 across the same, and a slide adapted for in-
sertion between said bar and side wall.

Signed at West Point, in the county of

Orange and State of New York, this 28th day
of December, A. D. 1904.

THOMAS FRANKLIN.

GEORGE LESLIE BELDING.

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