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MAY 18, 1943.
BY A. P. C.

G. MESSINESE
OBLATE FRUIT PEELING MACHINE
Filed Sept. 30, 1940

Serial No.
359,123
7 Sheets-Sheet 1

Fig. 1

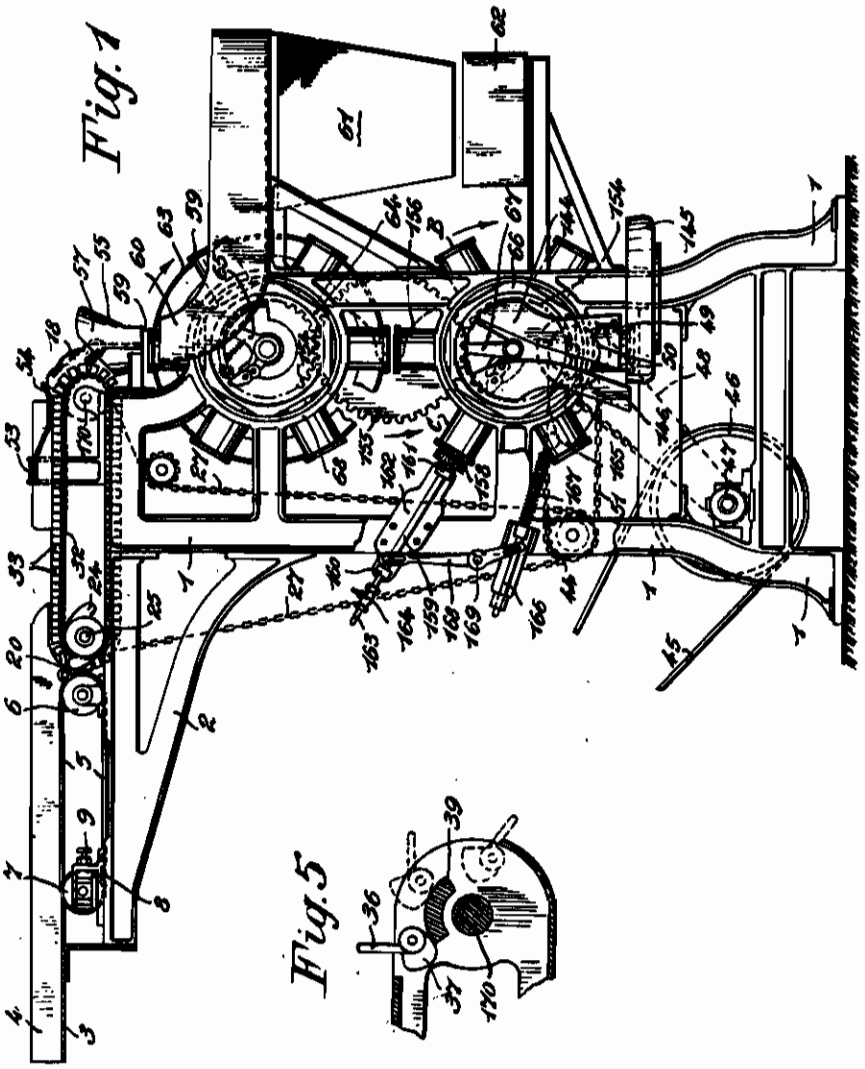

Fig. 5

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7 Sheets-Sheet 2

Fig. 2

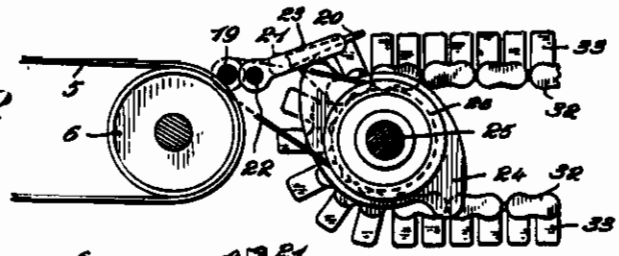


Fig. 3

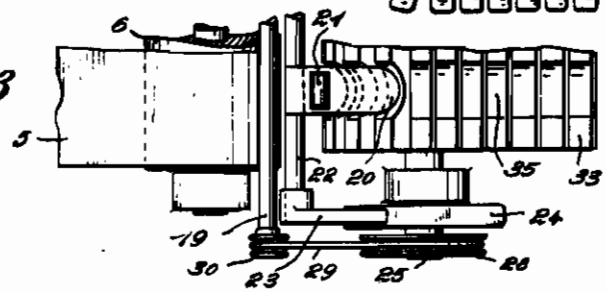


Fig. 7 Fig. 8 Fig. 9 Fig. 10

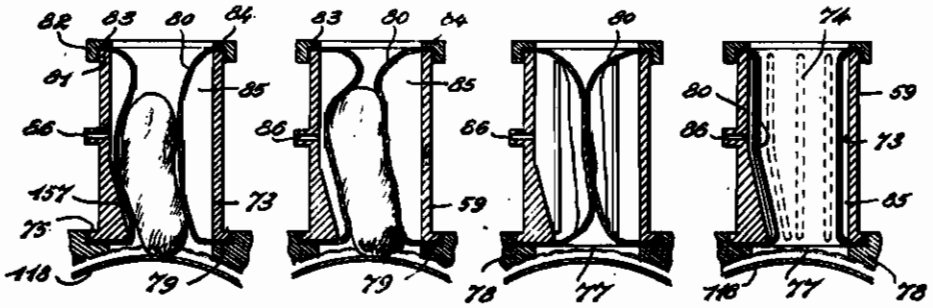
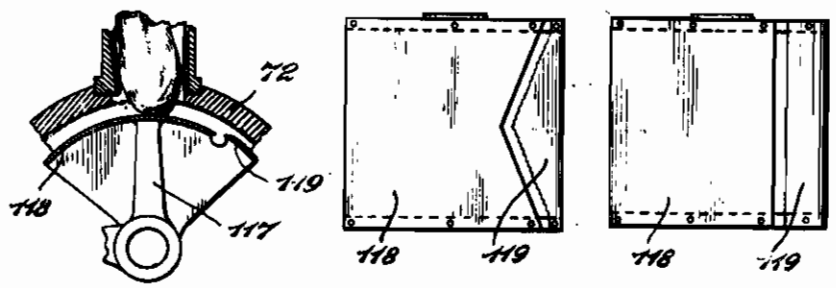


Fig. 11 Fig. 12 Fig. 13



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Serial No.
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7 Sheets-Sheet 3

Fig. 4

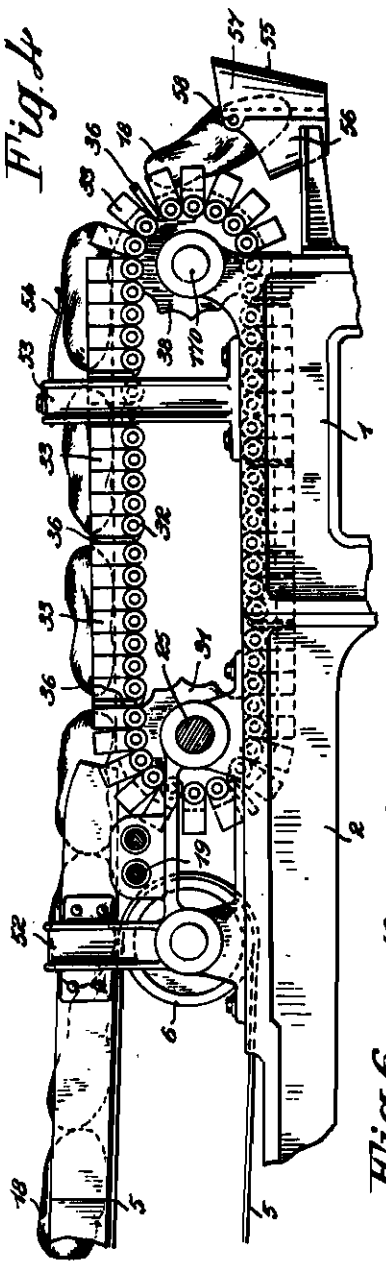
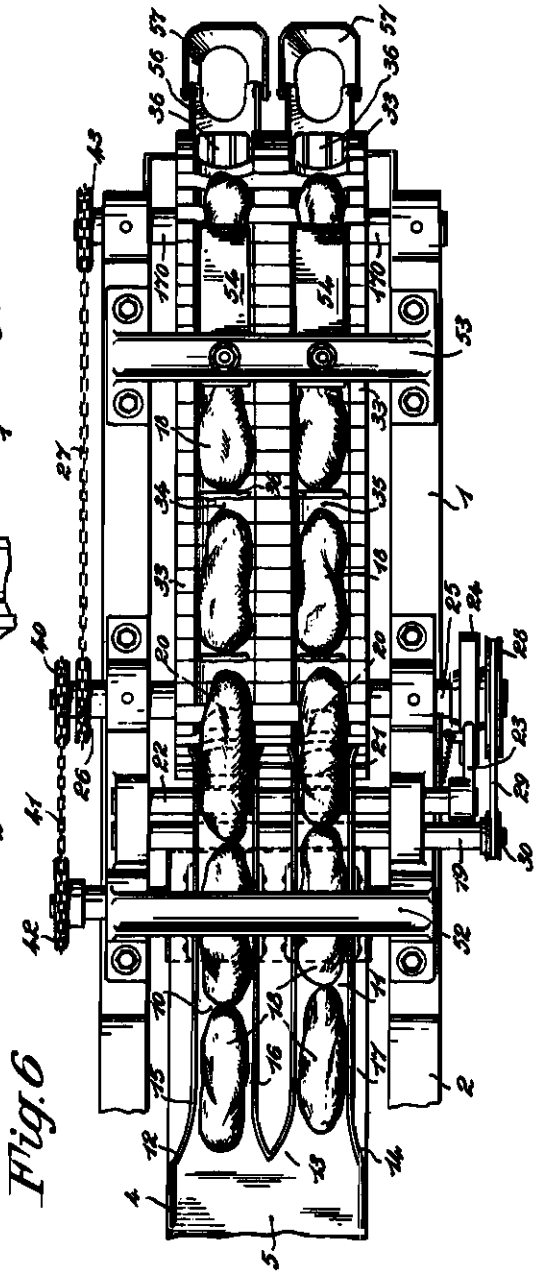


Fig. 6



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Serial No.
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7 Sheets-Sheet 4

Fig. 15

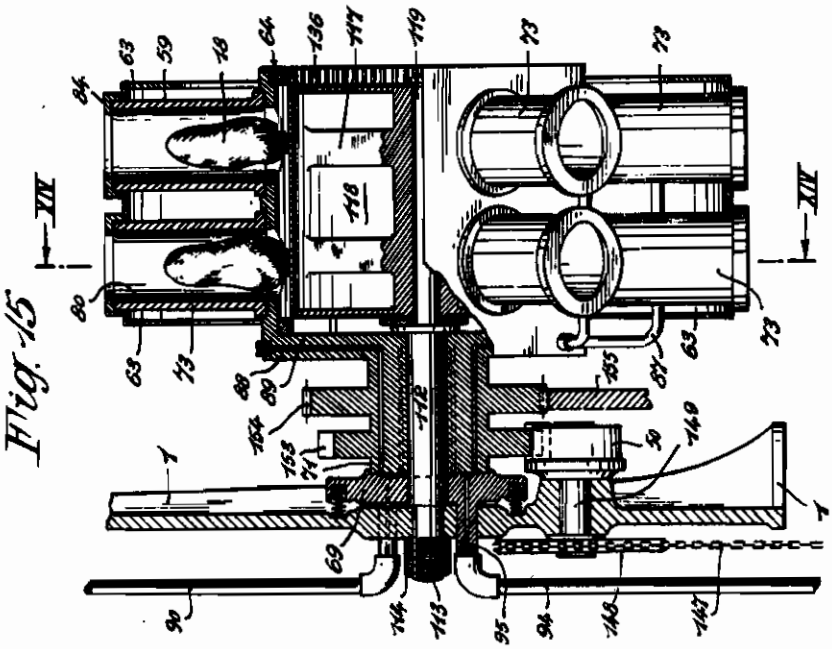
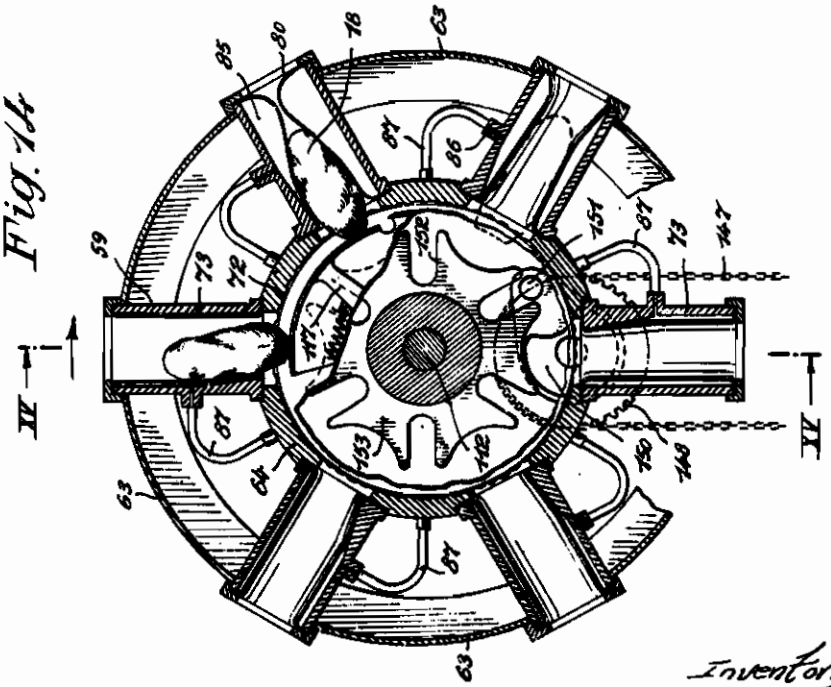


Fig. 14



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7 Sheets-Sheet 5

Fig. 17

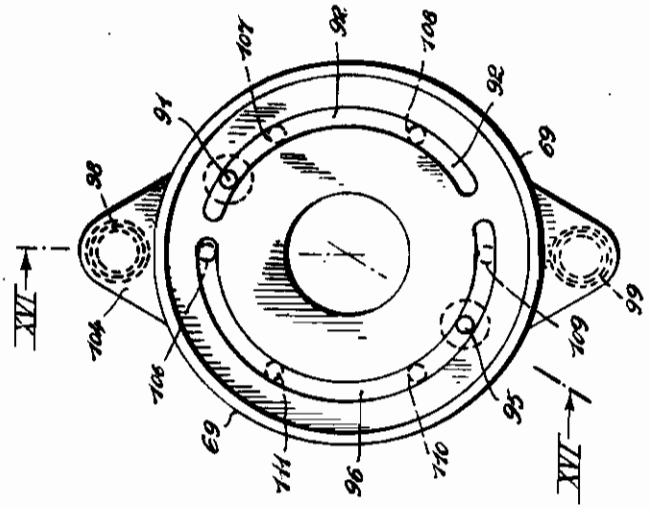
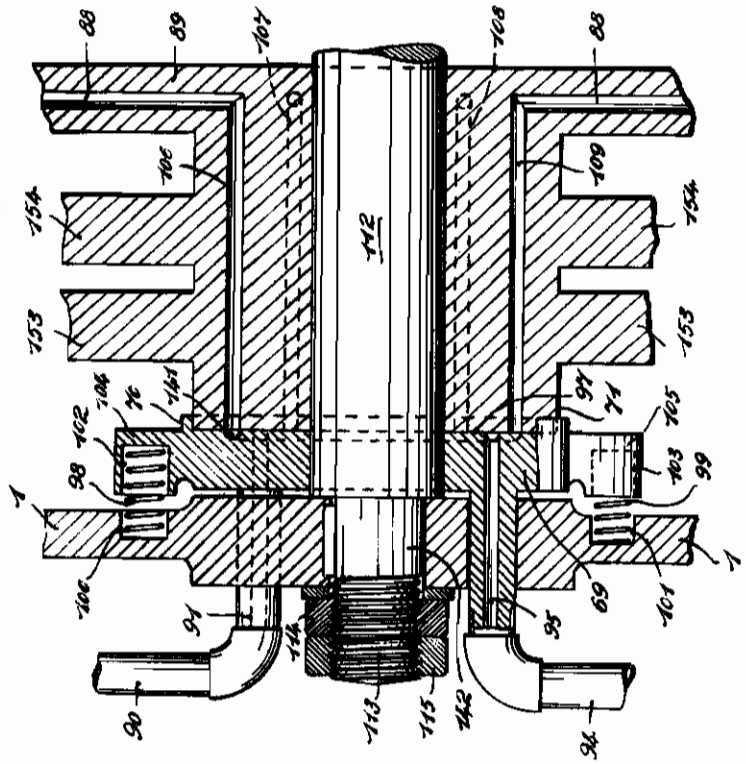


Fig. 16



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Serial No.
359,123
7 Sheets-Sheet 6

Fig. 18

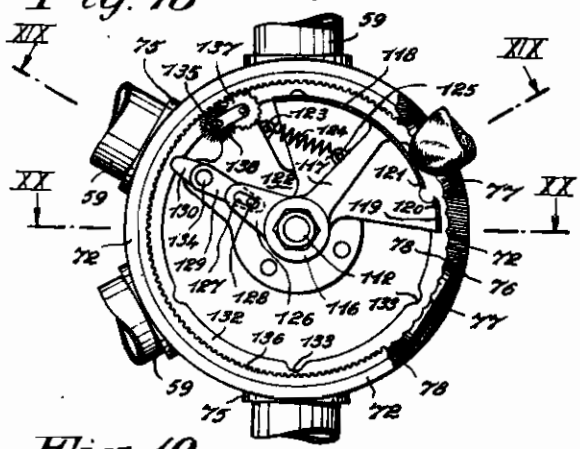


Fig. 19

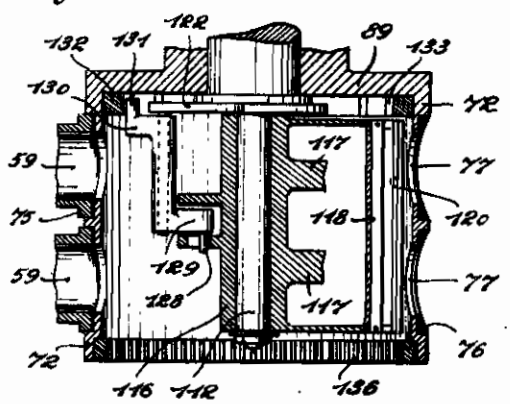
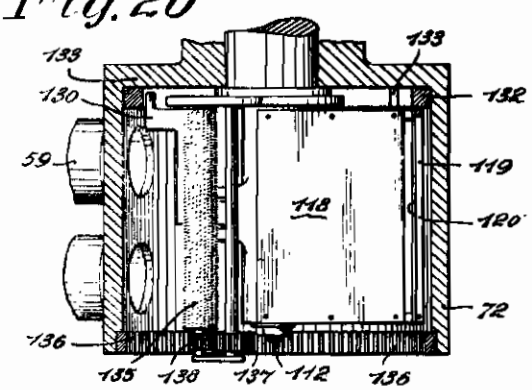


Fig. 20



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7 Sheets-Sheet 7

Fig. 22

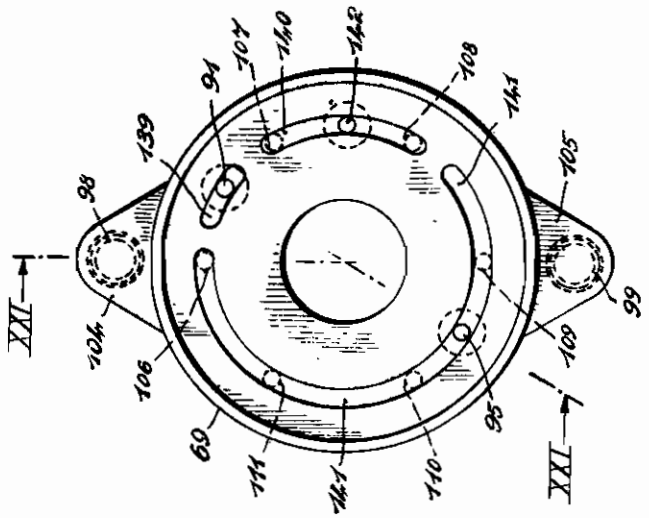
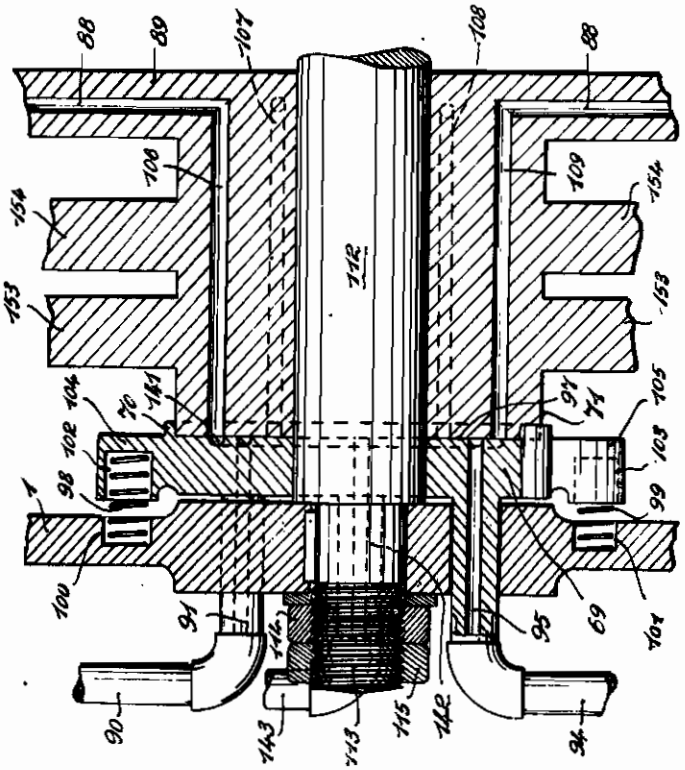


Fig. 21



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Published May 18, 1943 Serial No. 359,123

ALIEN PROPERTY CUSTODIAN

OBLATE FRUIT PEELING MACHINE

Giovanni Messinese, Naples, Italy; vested in the Alien Property Custodian

Application filed September 30, 1940

My invention relates to machines for peeling oblate fruits and more particularly oblate tomatoes .

Machines to peel oblate fruits are already known, wherein the fruits are introduced into a collapsible tube through its inlet extremity and the cross section of the tube is caused to contract progressively from inlet end to the other in such a way that the fruits therein are gently compelled out of exit extremity of the tube. While the fruit is being compelled out of the tube, its peel is retained within the same, as the friction between the inner wall of the collapsible tube and the peel is greater than the adherence of the peel to the body of the fruit. A machine of this type has been already disclosed in Carpentieri Italian Patent No. 295,657.

Moreover, Carpentieri's U. S. A. Patent No. 2,164,384 provides a machine of this type, wherein the fruit is compelled out of the tube by means of gas pressure acting on the external surface of said collapsible tube. Means are provided therein to automatically feed the fruits to a rotary peeling device, and means to position the fruits in the device before they are grasped by the collapsing tube.

Furthermore, applicant's Italian Patent No. 345,118 discloses a machine of the same kind, wherein oblate fruits are cut automatically at one end, in order to facilitate the peeling operation, the fruits are fed to the peeling device proper by means of an aligning conveyor belt and a rotary fruit allotter or distributor, which is interposed between said conveyor belt and said rotary peeling device. Said fruit allotter or distributor comprises a rotary drum provided with radial cylindrical recesses or sleeves, wherein fruits coming from said aligning conveyor belt are lodged and then discharged after a predetermined angular movement of said drum in corresponding radial cylindrical recesses or sleeves of a rotary peeling drum. The motions of allotter and peeler are rendered synchronous by suitable transmission means.

All these known devices are faulty in many respects and principally they are subjected to the following disadvantages:

1. The fruits or tomatoes to be peeled are fed irregularly to the peeling device, and, therefore, a number of fruit or tomatoes fall out of the same.

2. The fruits or tomatoes to be peeled are often wrongly positioned in the peeling tubes, which results in an incomplete or failing peeling operation.

3. The peels remains adherent to the peeling tubes obstructing the same and disturbing the device's operation.

4. A synchronous inflation and deflation of the peeling tubes, according to the two last mentioned patents, cannot be ensured by the means disclosed in said patents.

5. The knife (blade) which is provided by said Messinese's Italian Patent No. 345,118 becomes unusable very soon because of the fruit or tomato peels which become entangled with it.

My invention eliminates such defects and provides other advantages, which will appear from the progress of this specification.

According to my invention, an oblate fruit peeling machine comprises in combination a feeding device, means for collecting fruits which are rejected from said feeding device, a rotary allotter or distributor provided with a device for cutting off one end of said oblate fruits, a cleaning device for said cutting device, a rotary peeling device provided with a device for cutting off the other end of said oblate fruits, a cleaning device for the cutting device last mentioned, a plurality of cylindrical sleeves on said allotter and on said peeling device, a collapsible tube arranged within each of said cylindrical sleeves and connected at its edges to the edges of said cylindrical sleeves, means for introducing a fluid in the annular space between the inner walls of said cylindrical sleeves and the external wall of said collapsible tubes in order to inflate the same, means for collecting the peeled fruits expelled from said tubes provided on the peeling device, means for deflating said inflated tubes, means for cleaning the inner wall of said peeling device deflated tubes and for expelling the peels therefrom, means for collecting said expelled peels.

Moreover my invention includes means to position the oblate fruits or tomatoes within a number of tubular containers provided in said rotary allotter or distributor, in order to maintain said fruits or tomatoes with their longitudinal axis inclined towards the edge of the allotter knife, and means to position the oblate fruits or tomatoes within said peeling collapsible tubes of the peeling device, in order to maintain said fruits or tomatoes with their longitudinal axis inclined towards the edge of the peeling device knife.

These and other novel features will be particularly described and ascertained in the following detailed specification.

A structure for carrying out my invention is disclosed in the accompanying drawings.

Fig. 1 is a side view of an oblate fruit peeling machine according to one embodiment of my invention.

Fig. 2 is a side view of a detail of the conveyor belt feeding device.

Fig. 3 is a plan view of the detail shown in Fig. 2.

Fig. 4 is a side view of the whole of said conveyor belt feeding device, with some parts omitted for clearness.

Fig. 5 represents a detail of the discharge end of the feeding device of Fig. 4.

Fig. 6 is a plan view of the feeding device of Fig. 4.

Figs. 7, 8, 9, 10 illustrate in longitudinal section some operative details of a cylindrical recess or sleeve provided with a collapsible and inflatable gripping tube.

Fig.11 illustrates a detail wherein a tomato is positioned in respect of a cutting device.

Fig. 12 is a plan view of the cutting device of Fig. 11.

Fig. 13 is a modification of the cutting device of Fig. 12.

Fig. 14 is a radial section along the line XIV—XIV of Fig. 15, and illustrates a rotary drum provided with cylindrical recesses or sleeves and with a cutting device.

Fig. 15 is a side view of the device shown in Fig. 14, partially in section along the line XV—XV of Fig. 14.

Fig. 16 is a sectional view of allotter fluid distributor.

Fig. 17 is a front view of a part of the said allotter fluid distributor.

Fig. 18 is a front view, partially in section, showing a cutter device and the cooperating portion of a rotary drum.

Fig. 19 is a horizontal section along the line XIX—XIX of Fig. 18.

Fig. 20 is a detail of the device illustrated in Figs. 18 and 19.

Figs. 21 and 22 are similar to Figs. 16 and 17, and illustrate details of peeler fluid distributor.

With reference to the drawings, which illustrate one embodiment of my invention, the peeling machine comprises a frame **1**, which supports by means of a bracket **2** a plate **3** which has upturned side edges **4**, intended to receive oblate fruits or tomatoes put thereon at random by the operator. The fruits are taken by a conveyor belt **5**, which passes on a roller **6** which is fastened to bracket **2** and on a tension roller **7** which is moveable in a guide **8** provided on said bracket **2** and positionable thereon by means of a positioning screw **9**. As shown in Figures 4, 5 and 6, towards the discharging end of conveyor belt **5**, two channels **10** and **11** are formed by means of deflecting walls **12**, **13** and **14** which prosecute in guiding walls **15**, **16** and **17**. The breadth of channels **10** and **11** is so proportioned that only one oblate fruit or tomato can pass through each channel at a time, but even the smallest fruit or tomato cannot assume a transverse position. In other words, the channels are larger than the largest fruit to be peeled and less large than the maximum length of the smallest fruit to be peeled.

The conveyor belt **5** is smooth in order to permit the train of allgned fruits **18** to slide thereon, i. e. to stop, when they find a mechanical resistance to advancement.

At the discharge end of conveyor belt **5** a quickly rotating roller **19** is provided (see also Figs. 2 and 3), which advances fruits **18** towards an oscillating stop blade **20** provided with a freely rotating roller **21**. One stop blade **20** is provided for each channel **10**, **11**. The blades **20** are fastened on a shaft **22**, which has a nose **23** at one end, cooperating with a double cam **24** mounted on a shaft **25**. This shaft **25** is continuously rotated by a sprocket wheel **26**, which is driven by a chain **27**. On the same shaft is keyed a pulley **28** driving through a belt **29** a pulley **30** keyed on said roller **19**.

The shaft **25** drives through a sprocket wheel **31** a second conveyor chain **32** formed with transverse ledges **33**, which are of such shape to provide two fruit channels **34** and **35**, in prosecution of channels **10** and **11**. A plurality of oscillating blades **36** are interposed between a number of ledges **33**, in order to provide in the channels **34** and **35** a plurality of receptacles. The oscillating blades **36** have a counterweight **37** (Fig. 5) which causes the blades to stand upright during the travel of chain **32** from one of its sprocket wheels **31** to the other **38**. When the counterweights **37** of blades **36** reach the end of the upper travel length of chain **32**, they meet a fixed cam **39** which causes the blades **36** to inclinate as indicated by dash lines in Fig. 5.

The roller **6** is driven by shaft **25** by means of a sprocket wheel **40**, a chain **41** and a sprocket wheel **42**. In turn, as already quoted, shaft **25** is driven by chain **27**, which cooperates with a sprocket wheel **43**, keyed on the shaft **170** of sprocket wheel **38**. Shaft **170** receives its motion from said chain **27**, which is driven by the sprocket wheel **44** mounted on frame **1** and driven by the engine belt **45** through pulley **46**, sprocket wheel **47**, chain **48**, sprocket wheel **49**, sprocket wheel **58** and chain **51**.

The motion of described elements is therefore synchronous to the motions of other moving parts of the peeling machine.

Above the channels **10** and **11** a bridge **52** is provided which limits the maximum height of fruits or tomatoes to be peeled. Another bridge **53** is provided towards the discharge end of conveyor chain **32**, carrying a leaf spring **54**, which cooperates in aligning the fruits or tomatoes in the channels **34** and **35**.

The fruits leaving the discharge end of conveyor **32** fall into a funnel **55** comprising a fixed part **56** and an oscillating part **57**, which is pivoted in **58** on said fixed part **56**. When a fruit **18** (see Fig. 4) falls into the funnel **55**, it passes freely through the same only when a cylindrical recess **59** (see Fig. 1) is just under the funnel. However, if a cylindrical recess is not exactly positioned beneath the funnel **55**, the fruit is repelled by the edge of said recess and pushed forward. Then it meets the movable wall **57** of the funnel, pushes it forwards and passes in a chute **60** which conveys the fruit to a funnel or sleeve **61** made of fabric or of a similar material, wherefrom it falls in a collecting trough **62**.

In order to correctly guide fruits which don't exactly meet the upper opening of a cylindrical recess **59**, a sheet metal shield **63** is provided around a rotary allotter or distributor **64**, which will be later described.

I have found by experience that a good peeling of an oblate fruit or tomato requires that the same be firstly cut not only at one but at both ends, in order that the peel may be slipped off as a sheath. Moreover, as far as oblate tomatoes are particularly concerned, it is known that they

present one end which is hard and strongly attached to the pulp, and which prevents a perfect peeling operation.

In order to avoid this difficulty, I have provided my peeling machine with two cutting devices which act separately on the two ends of the fruit or tomato, with the object of ensuring an easy removal of the peel from the pulp.

According to my invention the machine is provided with a rotary allotter or distributor 64, fitted with a cutting device 65 apt to cut off one of the ends of an oblate fruit or tomato, and with a rotary peeling device 66 fitted with a similar cutting device 67 apt to cut off the other end of said fruit or tomato. The rotary allotter 64 is journalled in a large bearing 69 formed in the frame 1, and to a stump axle 112 fixed in frame 1 by means of a screwed end 113 and fastening nuts 114 and 115. Allotter 64 comprises a rear cylindrical boss 71 cooperating with an axially movable plate 69 (Figures 15 and 16) provided with an annular ridge 70. The body of allotter 64 comprises a drum 72, the inner face of which is axially channelled, in order to prevent adherence of fruit or tomato peels thereto. A double range of cylindrical recesses or sleeves 59 is provided on the rotary drum 72 of allotter 64. Sleeves 59 comprise a cylindrical rigid wall 73 provided with ridges 74 on its inner surface as shown in Figures 9 and 10. Sleeves 59 are furthermore fitted with a bottom flange 75, which is apt to be screwed in a corresponding lodgement 76 (see Fig. 18) provided in the drum 72. Said lodgement 76 merges with a bore 77 through a shoulder 78. A bottom edge 79 of a collapsible tube 80 is tightly held between said bottom flange 75 of sleeve 59 and said shoulder 78 of bore 77. The sleeve 59 is furthermore provided with a top flange 81 which cooperates with a screwed ring 82, which is apt to tightly secure the upper edge 83 of collapsible tube 80 between said top flange 81 and inner flange 84 of said ring 82. The space 85 formed between the rigid wall 73 of sleeve 59 and yielding wall of collapsible tube 80 is tightly sealed, and can be therefor inflated with a fluid which may be a liquid or preferably a gas. Said fluid is introduced through the port 86, which is provided in the wall 73 of sleeve 59 (see Figures 7, 8, 9, 10 and 14). Gas or liquid is furnished to said space 85 through said bore 36, a conduit 87, and a passage 88 formed in the rear wall 89 of drum 72.

Although I propose employing any sort of fluid, i. e. gas or liquid, to inflate spaces 85 and cause tubes 80 to collapse, I prefer using a gas, as air, which can always be easily obtained and does not require any particular or complicated means to prevent leakage. In the embodiment of my invention here disclosed I will therefore refer only to employment of air as inflating means.

Pressure air is supplied from a suitable source, for instance a compressor. As two different air pressures are required in operating my peeling apparatus, I prefer to produce a relatively elevated air pressure, employ the same directly in a suitable operative stage, and diminish said pressure through a reducing valve for another operative stage. As will be exposed in the following description, high pressure air is required to compell fruit or tomato out of the peeling tubes, while low pressure air is required to grip and firmly hold fruit or tomato during end cutting operations. Compressor and reducing valve plant, which may be of a conventional design, are not shown in the drawing in order to simplify the same.

As for deflation I cannot relay upon the natural resilience of collapsible tubes 80, which are preferably made of india rubber or a similar material, the machine is provided also with an air aspirator or exhaust fan, not illustrated in the drawing.

Collapsible tubes 80 of allotter 64 require only low pressure air and suction, while collapsible tubes 80 of peeling device 66 require low pressure air, high pressure air and suction.

Referring to figures 15, 16 and 17, low pressure air is supplied through pipe 90, connection channel 91, and groove 92 formed in front face 93 of said axially moveable plate 69. Suction is lead through pipe 94, connection channel 95 and groove 96. Moveable plate 69 is urged towards front face 97 of said boss 71 by means of two compression springs 98 and 99 lodged in depressions 100 and 101 of frame 1 and in depressions 102 and 103 formed in lugs 104 and 105 of said axially moveable plate 69. Passages 60 above mentioned open in the front face 97 of boss 71 at equal angular distances. In the embodiment shown there are six passages 98 corresponding to the six pairs of sleeves 59 of allotter 64. Fig. 17 shows the angular position of openings 106, 107, 108, 109, 110 and 111 of the six passages 89 relative to said grooves 92 and 96 formed in the front face 93 of said axially moveable plate 69.

As already mentioned, inside the allotter rotary drum 72 a cutting device 65 is provided, which is shown more particularly in figures 11, 12, 18, 19 and 20, and comprises a hub 116 freely mounted on stump axle 112, which is formed with two arms 117 carrying a cylindrical plate 118 and a knife 119. The cutting edge 120 of knife 119 is some millimetres more distant from stump axle 112 than the rear edge 121 of said cylindrical plate 118. Hub 116, arms 117, plate 118 and knife 119 are freely oscillating on stump axle 112. As shown in figs. 18 and 19, stump axle 112 carries a fixed plate 122, which has a lug 123 connected by means of a compression spring 124 with a lug 125 provided on one of the arms 117 above mentioned. Hub 116 is formed with an arm 126 provided with an eye 127 cooperating with a knob 128 formed on a lever 129. Lever 129 is a double armed one and its second arm 130 engages with a knob 131 a cam 132 formed with notches 133 provided on the rear wall 89 of drum 72. With the parts in the position illustrated in fig. 18, double armed lever 129, 130 which is pivoted on the pivot 134 carried by said plate 122, is in alignment with said eyed arm 126, and knob 131 is lodged in one of the notches 133 formed in cam 132. When drum 72 rotates in direction shown by arrow A, lever 129—130 is oscillated and therefor arm 126, arms 117, plate 118 and knife 119 are caused to make a little angular movement or oscillation counter-clockwise, against the action of compression spring 124. As soon as another notch 133 comes into cooperation with knob 131, the latter suddenly snaps into said notch and the lever 129, 130, arm 126, arms 117, plate 118, knife 119 assume again the position shown in fig. 18.

Plate 118 and knife 119 may assume some other conformations, as shown for instance in figures 11, 12 and 13.

In order to keep clean the inner face of drum 72, which is channeled as already mentioned, a rotary brush 135, mounted on said plate 122, is provided. The rotary brush is driven by a

toothed inner crown 136 formed in drum 72, through gears 137 and 138.

Beneath allotter 64 now described, a similar device is provided, comprising a rotary peeler 66. This peeler is of a construction identical to that of allotter 64, as illustrated in figures 14 and 15. A particular description of peeling device 66 is therefor omitted. Moreover, peeler 66 is provided with a cutting device 67 which is exactly similar to cutting device 65 of allotter 64, as particularly illustrated in figures 11, 12, 13, 18, 19 and 20. For the same reason, no particular description of cutting device 67 is given.

The only difference between allotter 64 and peeler 66 consists in the air control device. The latter is illustrated in figs. 21 and 22. The same reference numbers have been employed in figs. 21 and 22 to indicate the same parts as illustrated in figs. 16 and 17. As the peeling device has to be supplied with low pressure air, high pressure air and air suction, axially moveable plate 69 is provided with three grooves 139, 140, 141 corresponding to connection channels 91, 142 and 95. Channels 91, 142 and 95 communicate with supply pipes 90, 143 and 94 respectively. Low air pressure is furnished through pipe 90, connection channel 91 and groove 139. High pressure air is led through pipe 143, connection channel 142 and groove 140. Air is exhausted through pipe 94, connection channel 95 and groove 141. Other parts of this air supply arrangement are exactly equal to those already described in connection with allotter 64 and with reference to figs. 16 and 17.

The peeler 66 is provided with a peeled fruit or tomato discharge chute 144 cooperating with a collecting trough 145, and with a peel discharge chute 146, which leads peels to some receiving tray, not illustrated at it does not constitute a part of this invention.

In order to drive allotter 64 and peeler 66, a Geneva gear is provided for each of these devices, as illustrated in figs. 16 and 17. A chain 147 connects two sprocket wheels 148 (only one of which is illustrated in figs. 16 and 17), which are keyed on axles 149 of a control member 150 of said Geneva gear. Axle 149 is journalled in frame 1. Control member 150 is provided with a knob 151 engaging indentations 152 of Geneva driven member 153. In order to secure an absolutely synchronous motion and positioning of allotter 64 and peeler 66, a toothed wheel 154 is provided on each of said two devices, and a gear wheel 155 is journalled on a bracket 156 of frame 1 and engages said two wheels 154.

By this way allotter and peeler are driven and connected by means of two separate transmission gears, i. e. a transmission gear comprising said two Geneva motions and connecting chain 147 and a transmission gear comprising said two toothed wheels 154 and toothed wheel 155. Consequently, dead motions are done away with in a substantial manner and a smooth operation is ensured. Said transmission gears are driven by belt 45, through pulley 48, sprocket wheel 47, chain 48, sprocket wheel 49, and suitable gears of conventional design (not illustrated in the drawing) provided between sprocket wheel 49 and said transmission gears.

In operation, oblate fruits or tomatoes are scalded as commonly used in the preparation of peeled tomatoes, in order to diminish natural adherence between peel and pulp. This scalding operation is preferably accomplished in a scalding machine of conventional design. The scalded fruits or tomatoes 18 are manually or mechanically put on plate 3 (Fig. 1) and pushed on smooth conveyor belt 5. Fruits or tomatoes are advanced by belt 5 and gently introduced into channels 10 and 11, where they become aligned in an ordered succession. In prosecution of conveyor belt 5, as already disclosed, there is a conveyor chain 32 provided with ledges 33 which form two channels 34 and 35, wherein oscillating blades 36 are provided in order to build up a number of receptacles. Chain 32 is operated with such a speed that the frequency of passage of said receptacles is the same as the frequency of passage of cylindrical sleeves 59 of rotary devices 64 and 66. In other words chain 32, allotter 64 and peeler 66 are synchronously operated.

Fruits or tomatoes 18 are allowed to pass from conveyor belt 5 to conveyor chain 32 only when a receptacle is in front of the discharge end of belt 5. When a receptacle is not in such a position, and therefore it is not desirable that a fruit or tomato pass from belt 5 to chain 32, then cam 24 lifts up blades 20 acting on lever 23 and axle 22. Tomatoes or friuts are then stopped by inclined blades 20, because belt 5 and quick rotating roller 19 already described are not able to cause fruit or tomato to surmount the slope provided by inclined blades 20.

Freely rotating rollers 21 have the purpose of diminishing friction on the blades 20.

By this arrangement, fruits or tomatoes are regularly lodged in the receptacles of conveyor chain 32, independently of their size.

Fruits or tomatoes are then poured through the funnel 55 into a pair of cylindrical recesses or sleeves 59 mounted on allotter 64. At this time, collapsible tubes 80 contained in said cylindrical sleeves 59 are completely deflated as the space 85 between tubes 60 and rigid sleeves 73 is connected with exhaust pipe 94 through channel 88, groove 93 and connection channel 95. As soon as allotter rotates clock-wise, by means of Geneva motion gear 150, 153 to reach a new position wherein another pair of sleeves 59 come into cooperation with said funnel 55, connection of aforesaid space 85 with groove 93 is broken and a new connection with groove 92 is established. Therefore, space 85 is filled with low pressure air, tube 80 is pneumatically collapsed and the fruit or tomato firmly grasped by collapsible tube 80. One of the ends of fruit or tomato protrudes into drum 72 through bore 77 by a length determined by cylindrical plate 118, already described. Continuing its rotation, allotter 64 carries the grasped fruit or tomato against and beyond the cutting edge 120 of knife 119, so that one end of fruit or tomato is cut off and falls in the inside of drum 72. The cut ends collected in the drum 72 are manually or mechanically removed in a conventional manner.

In order to avoid that fruit ends or bits of peel become entangled with the cutting edge 120 of knife 119 during continuous operation of allotter, the plate 118 and the knife 119 are intermittently oscillated by means of cam 132 and levers 129, 130 and 126, as already described. This intermittent oscillation shakes off any residue of peel or fruit end from the knife edge 120.

Owing to the natural softness of fruits or tomatoes, if the latter were axially held by collapsible tubes 80 they would lean backwards upon contact with the cutting edge of the knife, in such a manner that the cut would result a biased one relatively to the longitudinal axis of fruit or tomato. This would produce a tomato or fruit

having an unpleasant aspect and therefore a lessened commercial value.

In order to obviate to this defect, I provide the sleeves **59** with an inclined wall **157** (see Figs. 7 to 10) which obliges the fruit to assume a position slightly inclined towards the cutting edge of the knife. By this means a perfect cut at right angles to the longitudinal axis of friut or tomato is obtained. Figs. **7** and **8** show two phases of grasping operation of collapsible tube, Fig. **7** illustrating low pressure inflation of tube **80**, as suitable for edge cutting operation, and Fig. 8 illustrating high pressure inflation as suitable for peeling operation. Fig. 9 shows the form assumed by tube **80** as soon as the peeling operation has been accomplished and the tube is still inflated with high pressure air. Fig. 10, on the contrary, shows the same tube **60** after deflation and air suction.

When sleeves **59** of allotter **64** reach their lowermost position, tubes **80** are deflated because the channel **88** is now connected with suction groove **96** of plate **69**, and remain in such deflated condition until they reach their uppermost position again, in which position sleeves **59** are again ready to receive fruits or tomatoes from canal **55**.

In this lowermost position sleeves **59** of allotter **64** are in correspondence with sleeves **59** of peeling device **66**. Collapsible tubes **80** of peeler sleeves **59** are also deflated, their conduits **88** being now connected with exhaust groove **141** above mentioned. The fruits or tomatoes cut at one end contained in lowermost sleeves of allotter then fall into uppermost sleeves of peeler. They will be grasped by tubes **80** of peeler sleeves and cut at their other end, which is now protruding into the drum **72** of peeler **66**. Fruit or tomato ends are now cut in the manner explained above, and then high pressure air is admitted to spaces **85**, when peeler sleeves rotate and proceed towards their extruding position, which is indicated by B in Fig. 1 of the drawing.

High pressure air is admitted to spaces **85** through high pressure air pipe **143**, connection channel **142** and high pressure air groove **140**. Tubes **80** then become more inflated and expell the fruits or tomatoes which are peeled during and by this extruding operation.

The peeled fruits or tomatoes fall into the chute **144** and are collected in the trough **145**, whence they are removed in any conventional manner. Peels remain in the tubes **80** and fall therefrom when sleeves **59** reach their lowermost position.

In order to ensure the exit of the peels from the tubes **80**, to which they may adhere, and to clean said tubes from juice or seeds, a brush **158** carried by an alternating rod **159** which is slidable in bearings **160**, **161** formed on a support plate **162** fastened to said frame **1** is provided. Rod **159** is hollow in order to let a jet of water be projected axially and radially from the brush **158**. Water is supplied to rod **159** through a supply pipe **153** and a control valve **164**. The brush **158** is introduced into sleeves **59** when they are in rest position C (Fig. 1). As already explained, peeler **66** rotates with an intermittent motion due to said Geneva gear transmission.

Brush **158** is intermittently actuated by a cam **165** acting on a rod **166** provided with a compression spring **167** and connected to said rod **159** by means of a cantilever **168** fulcrumed at **169** on the machine frame **1**. Water, peels and other residues are carried away by means of the chute **146**.

Preferably, collapsible tubes **60** are predisposed to collapse in such a way to form longitudinal folds, in order to firmly grip the peel of fruits or tomatoes when the latter are extruded and peeled. To this end ribs **74** are formed on the inner wall **73** of sleeves **59** which maintain the predetermined shape of tubes **80**.

If a fruit or tomato is not peelable, owing to the fact, for instance, that it is too sour, it will not be extruded in position B and then will fall out of peeling tube when this is deflated in its lowermost position.

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