

H. K. ROWLAND & L. H. LARSEN.  
FRUIT CLEANING MACHINE.

APPLICATION FILED FEB. 25, 1909. RENEWED JUNE 1, 1912.

1,050,298.

Patented Jan. 14, 1913.

2 SHEETS—SHEET 1.

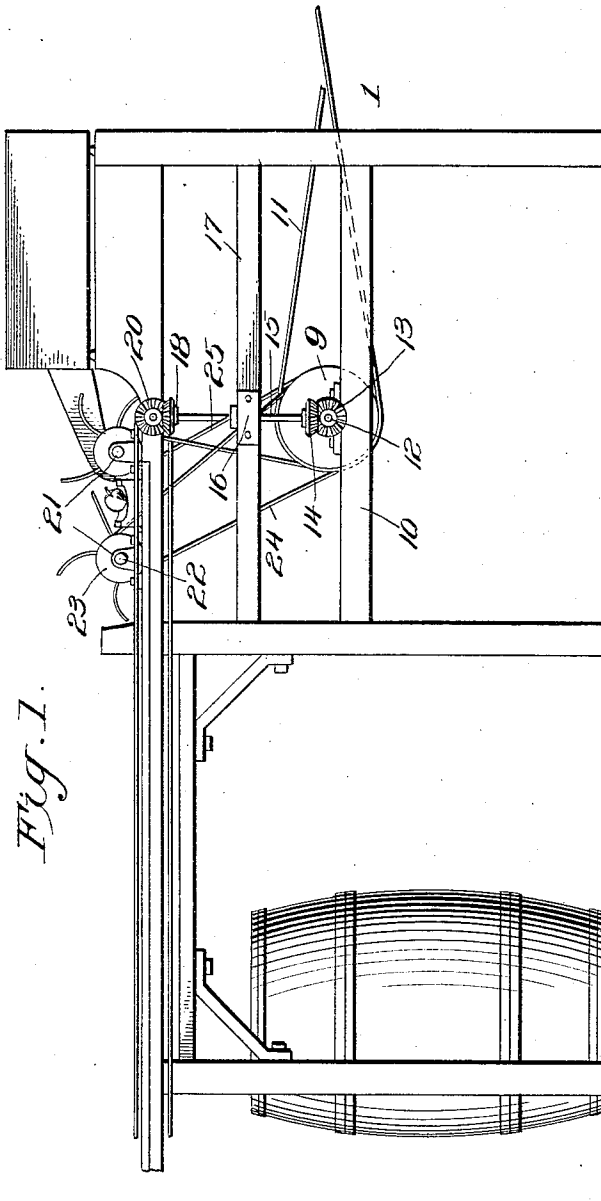


Fig. 1.

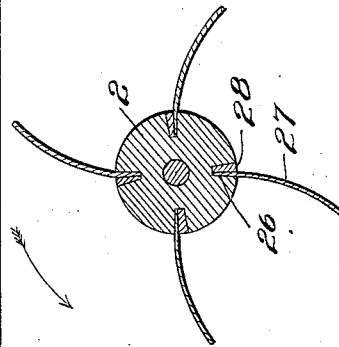


Fig. 3.

Witnesses

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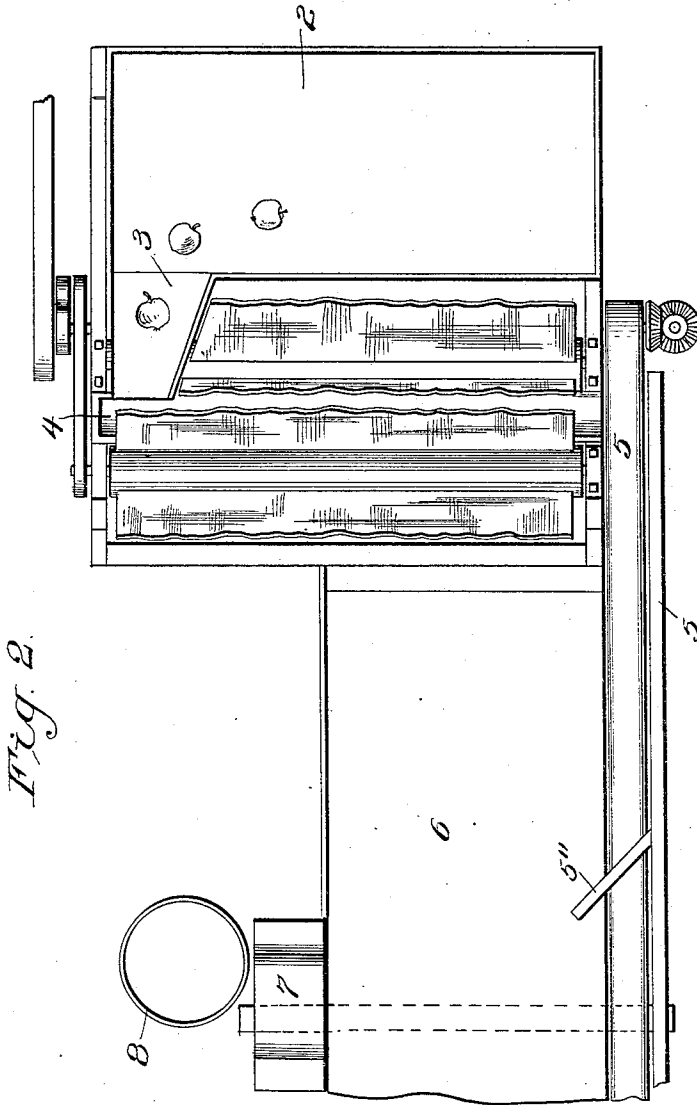


Fig. 2.

Witnesses

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# UNITED STATES PATENT OFFICE.

HERBERT K. ROWLAND AND LARS H. LARSEN, OF TOPPENISH, WASHINGTON.

## FRUIT-CLEANING MACHINE.

1,050,298.

Specification of Letters Patent.

Patented Jan. 14, 1913.

Application filed February 25, 1909, Serial No. 479,941. Renewed June 1, 1912. Serial No. 701,050.

*To all whom it may concern:*

Be it known that we, HERBERT K. ROWLAND and LARS H. LARSEN, citizens of the United States, residing at Toppenish, in the county of Yakima and State of Washington, have invented new and useful Improvements in Fruit-Cleaning Machines, of which the following is a specification.

This invention relates to improvements in fruit cleaning and polishing machines, and the object of the invention is to provide a device of this character which will thoroughly clean and polish fruit without danger of injury to the same.

With the above and other objects in view, which will appear as the description progresses, the invention resides in the novel construction and arrangement of parts hereinafter fully described and claimed.

In the accompanying drawings, there has been illustrated a simple and preferred embodiment of the invention, as it now appears to us, and in which,—

Figure 1 is a side elevation of a device constructed in accordance with our invention. Fig. 2 is a top plan view of the same. Fig. 3 is a transverse sectional view taken through one of the rollers and the cleaning wings attached thereto.

In the accompanying drawings the numeral 1 designates a substantial rectangular frame. Positioned upon one end of this frame is a fruit box or receptacle 2 having one of its ends provided with an inclined wall or outlet 3. This outlet 3 communicates directly with a slightly inclined chute 4 having its upper face suitably concaved and having its inclined end communicating with an endless belt 5. This belt 5 is adapted to be run upon concaved rollers and is slightly inclined toward a suitable table having a cloth top 6 and provided with an outlet 7 communicating with a barrel or box 8 positioned to receive the fruit.

The numeral 9 designates the main drive wheel of the device. This wheel 9 has its shaft mounted in suitable bearings provided upon the longitudinal connecting bars 10 of the frame 1 and receives motion through the medium of a suitable pulley 11 connected with a source of power. The shaft 12, upon which the pulley 9 is mounted is adapted to extend a slight distance beyond the frame 1, and this projecting portion is provided with a beveled toothed wheel 13 which in turn meshes with a similar toothed wheel 14

provided upon a vertical shaft 15 which is mounted in a suitable bearing 16 provided upon the upper longitudinal connecting bar 17 of the frame 1. The upper portion of this shaft 15 is also provided with a toothed beveled wheel 18 which meshes with a similar bevel 20 connected with the concaved roller upon which the delivery belt 5 is mounted.

The sides of the upper portion of the opposite ends of the top of the frame 1, adjacent each of the sides of the chute 4 are provided with vertical bearings 21, each of which is adapted for the reception of suitable trunnions 22 provided upon rollers 23. The rollers 23 are each provided adjacent one of their ends with suitable pulleys A and B, one being adapted for the reception of a straight belt 24 connected with a pulley A' mounted upon the shaft 13, while the opposite pulley of the second roller 23 is provided with a twisted belt 25 connected with a separate pulley B' upon the shaft 12. By this arrangement, it will be noted, that as the pulley 9 is rotated the rollers 23 through the medium of the straight and twisted belts are adapted to be rotated in opposite directions and toward each other. Each of the rollers 23 are provided with longitudinally extending recesses 26. These recesses 26 are preferably positioned axially of each other and are adapted for the reception of a suitable cleaning wing or fabric 27 which is retained in position within said recesses 23 through the medium of wedge members 28. It is to be understood that the wings 27 are constructed of some soft flexible material, such as chamois skin or the like and the operation of the device is as follows:

The fruit is deposited within the receptacle 2 and fed through the mouth or outlet 3 directly upon the incline chute 4. The rollers 23 are adapted to be operated at a great speed sufficient to sustain the wings or cleaning members 27 at a substantial right angle to each other and as one of the members 27 is brought into contact with the fruit upon the chute 4 the said fruit is gyrated or whirled within the chute from the blow of the wing 27. As the fruit is still in motion it receives a blow from one of the wings 27 upon the opposite drum 23 and this is repeated successively until the fruit is delivered to the belt 5 and from thence deposited upon the table 6 in a thoroughly cleaned and polished condition.

It will be noted by reference to Fig. 2 of the drawings that there is a slight space between the belt 5 and the end of the chute as well as slight distance between the edge 5 of the belt and the top of the table 6. By this arrangement it will be noted that any dirt or accumulation of other matter removed from the fruit while passing down the inclined chute and being acted upon by 10 the wings 27 may be provided with an outlet, but such a deposit will be very small, if any, as the fabric wings sweeping across the chute will tend to remove and deposit upon the ground adjacent each side of the chute 15 all matter removed from the fruit in the process of cleaning.

While the belt 5 has been shown and described as running upon concaved rollers, it is to be understood that we do not limit 20 ourselves to this construction as the rollers employed may have flattened faces, in which instance a guide board 5' is positioned adjacent the outer edge of the belt, and the said guide board may be provided with an

angular arm 5'' adapted to overlie the belt 25 to direct the fruit upon the table 6.

Having thus fully described the invention what is claimed as new is:

A device for cleaning and polishing fruit, comprising a frame, a concaved chute 30 mounted on the frame, said chute being inclined downwardly, rollers journaled horizontally upon the frame at the opposite sides of the chute and longitudinally thereof, flexible wings carried by each of said 35 rollers, and means for rotating said rollers in relatively opposite directions to distend the wings at right angles to the rollers, said wings in their path of movement cooperating with said chute to clean the fruit and 40 discharge the same.

In testimony whereof we affix our signatures in presence of two witnesses.

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LARS H. LARSEN.

Witnesses:

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J. E. BROWN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."