

(No Model.)

A. D. HUNTLEY.
ORANGE SIZER.

No. 538,330.

Patented Apr. 30, 1895.

Fig. 1.

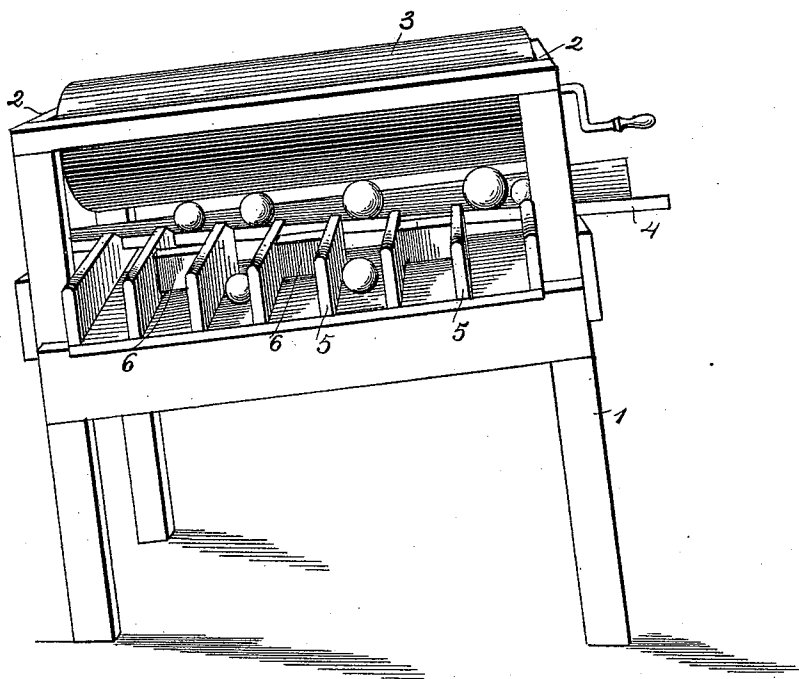


Fig. 2.

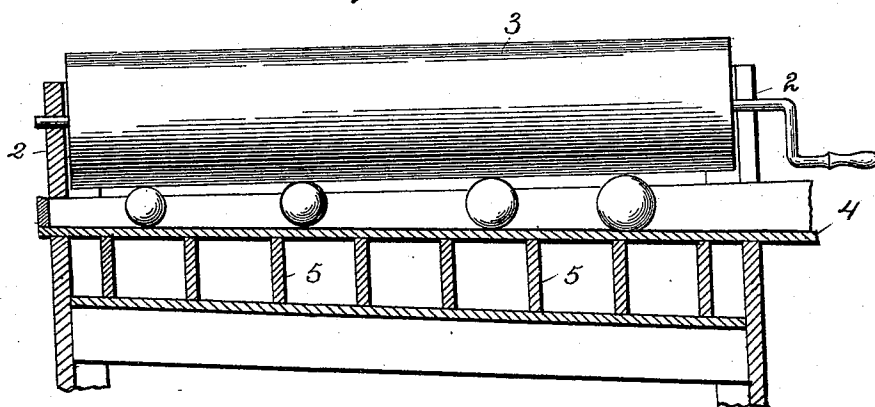


Fig. 3.



Witnesses.

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ABIEL D. HUNTLEY, OF SAN MATEO, FLORIDA.

ORANGE-SIZER.

SPECIFICATION forming part of Letters Patent No. 538,330, dated April 30, 1895.

Application filed January 12, 1895. Serial No. 534,667. (No model.)

To all whom it may concern:

Be it known that I, ABIEL D. HUNTLEY, a citizen of the United States, residing at San Mateo, in the county of Putnam and State of Florida, have invented certain new and useful Improvements in Orange-Sizers; and I do hereby 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.

My invention relates to machines for sizing and assorting fruits and vegetables, and consists in an improved orange sizer which will be hereinafter fully described and particularly pointed out in the claims.

Where oranges are grown in quantities, and are shipped to meet the competition which now exists in the orange industry, it is necessary to provide means for assorting the oranges according to their different sizes and grades. This can be more profitably done by a machine than by hand, as one laborer can, by the use of a proper machine, do the work which it would require several laborers to do if assorted by hand. The machine which I have devised for accomplishing this purpose is a very simple one—one that can be manufactured at little cost, and can easily be put into position for operation in any orange grove. It consists essentially of a revolubly mounted roller, and a support or guide way for the oranges placed in line with said roller and at an inclination to the same, so that whereas the largest oranges can be inserted at one end between the roller and the orange guide-way, only the small oranges can pass down the guide-way to the lower end of the same on account of the gradual diminishing distance between the roller and the guide-way. The revolution of the roller serves to roll the oranges out of the guide-way into suitably arranged discharge spouts as soon as the frictional contact between the roller and the orange is sufficient to cause the latter to be moved. The different oranges will be caught up in this manner at different points, and thus graded according to their size. This manner of separating the oranges does not bruise or injure the same, or render them unfit for long voyages and storage at the various points to which they may be shipped.

My invention is fully represented in the drawings which accompany and form a part of this application, in which the same reference numerals refer to the same or corresponding parts, and in which—

Figure 1 is a perspective view of my improved orange sizing machine. Fig. 2 is a longitudinal section of the same showing the inclination of the orange guide-way to the feed-roller. Fig. 3 is a section of the orange guideway showing the inclined sides of the same.

Referring to the drawings, 1 represents the frame work of my machine. As shown, it consists of a table, the legs of which at one end are shorter than those at the other end, so as to cause the top of the table to be inclined. The legs of this table are extended upward, and cross-pieces 2 are provided, in which is journaled the feed roller 3. The feed roller may be made solid if desired, but is preferably made hollow for the sake of lightness of construction. I usually make it of wood, but other material may be used if desired. Its surface is smooth so that it will not bruise the oranges with which it comes in contact. Below this roller and in line with it is suspended above the top of the table 1, a guide-way or passage-way 4, for the oranges which are to be assorted according to their various sizes. This guide-way is in the form of a chute which has a curved or rounded surface, the curve having such relation to the size of the roller used that when in the action of the machine an orange is caught between the roller and the guide-way, and discharged over the side of the guide-way, it will not be subjected to any additional pressure as it passes up the rounded side of the guide-way. At the feed end of the machine the guide-way is farther removed from the roller than at the tail end of the machine, so that oranges of any size can be fed into the machine, but only the small oranges can pass to the tail end of the machine and there be discharged. I usually also narrow the width of the guide-way at the tail end of the machine so as to insure all of the oranges being assorted and sized. On the top of the table I provide suitable compartment or division boards 5, and I may use cut-off blocks 6, which serve to prevent the oranges, which

are of such a size as to be discharged into the compartment formed by the division boards between which the said cut-off block is placed, from rolling out of the wrong side of the table
5 or platform.

The operation of my machine is as follows:—
Oranges are fed into the feed end of the orange guide-way, and as they roll down the inclined guide-way are caught between the
10 roller and the guide-way and are discharged over the side of the same at a point determined by the size of the orange. An exact gradation according to size is thus made, although the oranges are neither bruised or
15 mashed, or in any way made unfit for travel. The cut-off blocks are used or not as working conditions may demand.

It is obvious that slight changes in construction may be made which will not escape the
20 spirit and scope of my invention. The proportion of the parts may be changed, the number of compartments formed on the top of the operating table varied, and the feed roller be inclined to the discharge spout, instead of the
25 latter being inclined to the former, as is the case in the construction shown.

In sizing oranges it is frequently desired at the same time to separate the "bright" and "russet" oranges. I can accomplish this end
30 with my machine by placing two of my separating devices side by side on the same frame work, so that the attendant can feed bright oranges to one orange guideway, and russet oranges to the other guideway.

What I claim as new, and desire to secure 35 by Letters Patent, is—

1. In a machine for sizing oranges, the combination with a trough forming an orange guideway, of a roll journaled in a vertical plane above said trough, and in line with and
40 at an angle to the same, whereby oranges will be caught between the surfaces of the roller and guideway, and discharged at points determined by the various sizes of the oranges, substantially as described.

2. In a machine for sizing oranges, the combination with a table or platform inclined as shown, of an orange guideway or trough 4, a feed roller 3, journaled above said table in line with said orange guideway or trough, and
50 at an angle to the same, substantially as described.

3. In a machine for sizing oranges, the combination with an inclined trough having a curved side, forming an orange guideway of a roll, journaled in a vertical plane above said
55 trough at an angle to the same, whereby the oranges will be caught between the surfaces of the roller and guideway, and discharged at points determined by the various sizes of the oranges, substantially as described.

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

ABIEL D. HUNTLEY.

Witnesses:

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J. A. CROSBY.