April 28, 1931. A. R. MACIÁ 1,802,769

SORTER OR CLASSIFIER BY SIZES

Filed Nov. 21, 1928

Fig. 1.

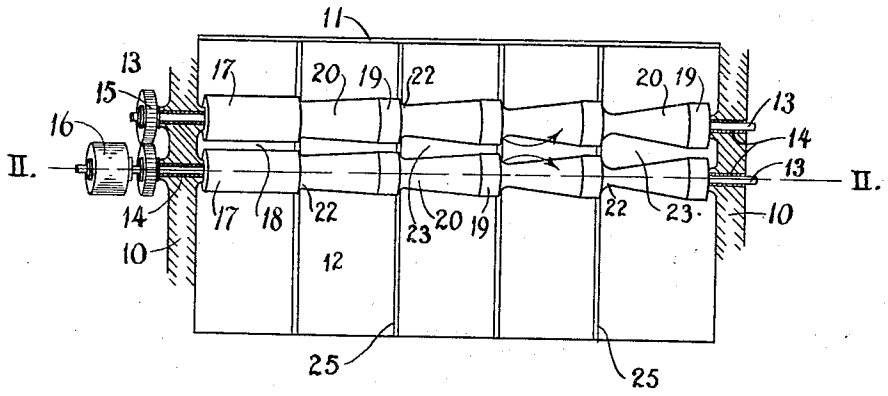
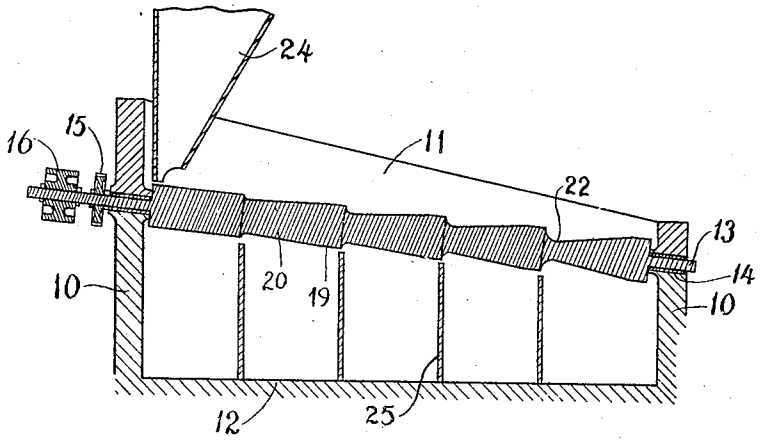


Fig. 2.



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UNITED STATES PATENT OFFICE

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SORTER OR CLASSIFIER BY SIZES

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This invention relates to classifiers such as are used in sorting articles of various kinds according to sizes and has special reference to a device of this character peculiarly adapted to sorting fruits, vegetables and the like.

One important object of the invention is to improve the general construction of that type of such sorting or classifying devices wherein the feeding of the articles along the device is accomplished by the action of gravity.

A second important object of the invention is to provide a novel and improved sorting roll for such devices.

With the above and other objects in view, as will be presently understood, the invention consists in general of certain novel features of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawings and specifically claimed.

In the accompanying drawings like characters of reference indicate like parts in the several views, and:

Figure 1 is a plan view of the improved device.

Figure 2 is a section on the line 2—2 of Figure 1.

In the embodiment of the invention here shown there is provided a casing having end walls 10, a rear wall 11 and a bottom 12. The journal ends 13 of the sorting rolls are supported in bearing openings 14 in the ends 10 of the casing and it will be noted that the journals at each end are spaced evenly from each other so that the axes of rotation of the rolls are parallel. As can be seen from Figure 2 the journals at one end are considerably lower than the journals at the other end. The journals at the upper end are connected for simultaneous revolution by gears 15 and on one of these journals is mounted a belt pulley 16 so that the device may be driven from any suitable source of power as a motor, line shaft or the like. Each roll consists of a series of segments and the upper segment 17 on each roll is cylindrical, a slight space 18 being left between the two rolls at this point so that stems, leaves, nubbins and other small material may drop therethrough. Each of the remaining segments consists of a cylindrical lower portion 19 and a frusto-conical upper portion 20 the major base of which is the same diameter, as the cylindrical portions 17 and 19 are all of the same diameter.

The minor base of each portion 20 is connected to the cylindrical portion next above by a flaring neck 22 and it will be noted that diameters of these minor bases vary in size, these diameters in the segments decreasing from the segments at the upper ends of the rolls to the segments at the lower ends thereof. By this construction there is provided between like segments of the two rolls a tapering space 23 having a substantially semi-circular upper end and a narrow lower end. Also, the upper ends of these spaces 23 increase in width, segment by segment, from the upper ends downward. A hopper 24 is provided at the upper ends of the rolls. Partitions 25 are arranged in the casing transversely of the rolls, these partitions being located at the ends of the adjacent segments of each roll.

In operation the articles to be sorted are fed from the hopper onto the upper segments 17, the rolls being revolved to have their adjacent surfaces move upwardly. That is to say, if the device be viewed from an end the right hand roll turns clockwise and the left hand roll turns anti-clockwise. Thus the articles, under the influence of gravity, move down along the rolls. The stems, leaves and other waste material drop through the space 18 while the remainder of the material drops, according to its size, through the respective spaces 23 at the upper or wide end thereof, the tapering segment portions 20 serving to carry the material from one segment to the next.

There has thus been provided a simple and efficient device of the kind described and for the purpose specified.

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

1. In a machine of the kind described a pair of sorting rolls having parallel axes and inclined downwardly from one end to the other, each of said rolls including successive

segments each having a relatively short cylindrical portion and a frusto conical portion arranged with its major base at the cylindrical portion of the respective segment and its minor base connected to the cylindrical portion of the preceding segment by a flaring neck, the diameters of the minor bases of the respective segments decreasing, segment by segment, from the upper to the lower ends whereby openings are formed between like segments of the rolls having substantially semi-circular upper ends and tapering lower ends with the upper ends of the openings increasing successively in width from the upper to the lower ends of the rolls.

2. In a machine of the kind described a pair of sorting rolls having parallel axes and inclined downwardly from one end to the other, each of said rolls including successive segments each having a relatively short cylindrical portion and a frusto conical portion arranged with its major base at the cylindrical portion of the respective segment and its minor base connected to the cylindrical portion of the preceding segment by a flaring neck, the diameters of the minor bases of the respective segments decreasing, segment by segment, from the upper to the lower ends whereby openings are formed between like segments of the rolls having substantially semi-circular upper ends and tapering lower ends with the upper ends of the openings increasing successively in width from the upper to the lower ends of the rolls, said rolls further having segments at their upper ends cylindrical throughout, said last segments and the cylindrical portions of the first mentioned segments being all of the same diameter.

In testimony whereof I have signed my name to this specification.

ALBERTO ROSÁS MACIÁ.