

E. W. JOHNSON.
 ASSORTING AND SIZING APPARATUS.
 APPLICATION FILED JULY 3, 1907.

932,783.

Patented Aug. 31, 1909.
 2 SHEETS—SHEET 1.

Fig. 1.

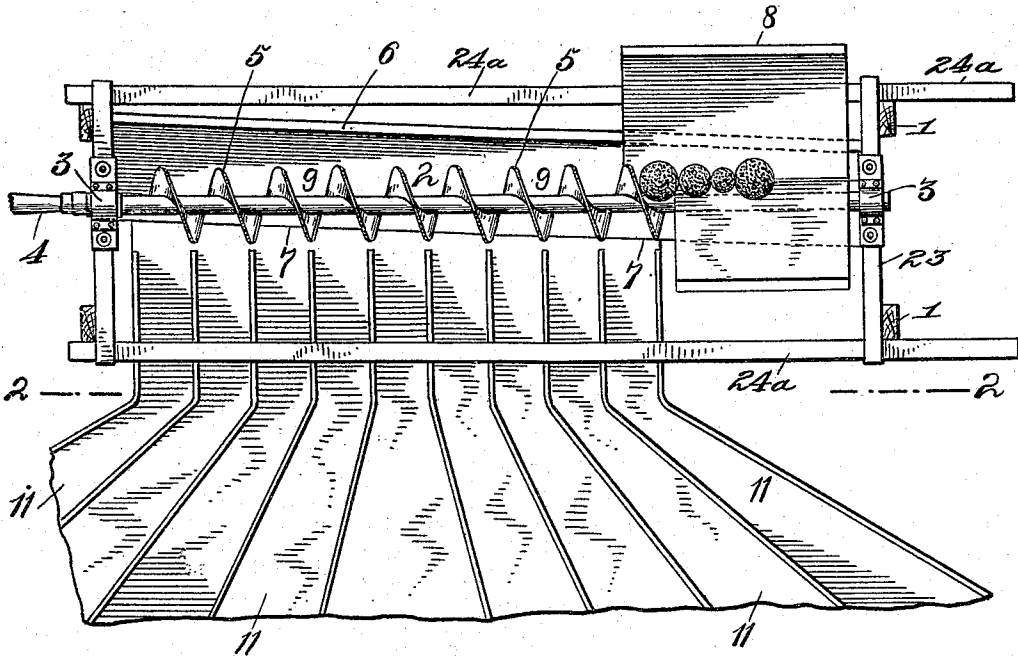
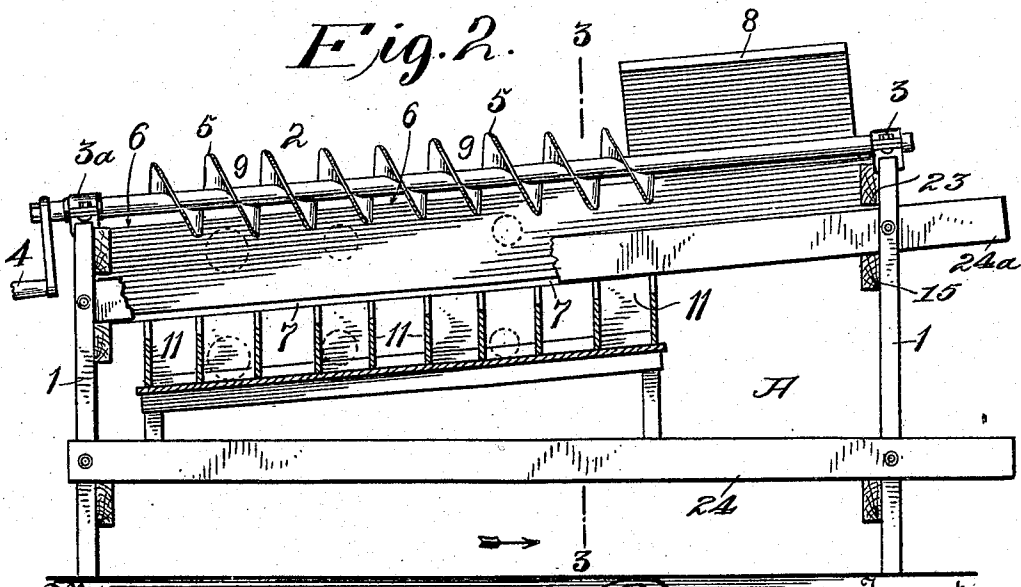


Fig. 2.



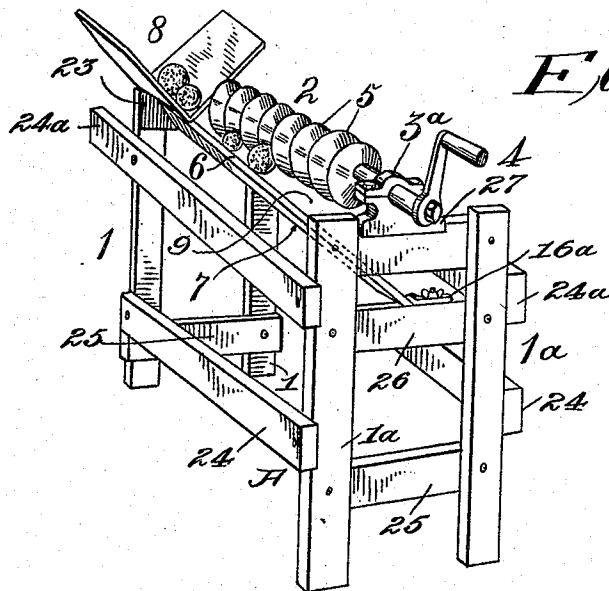
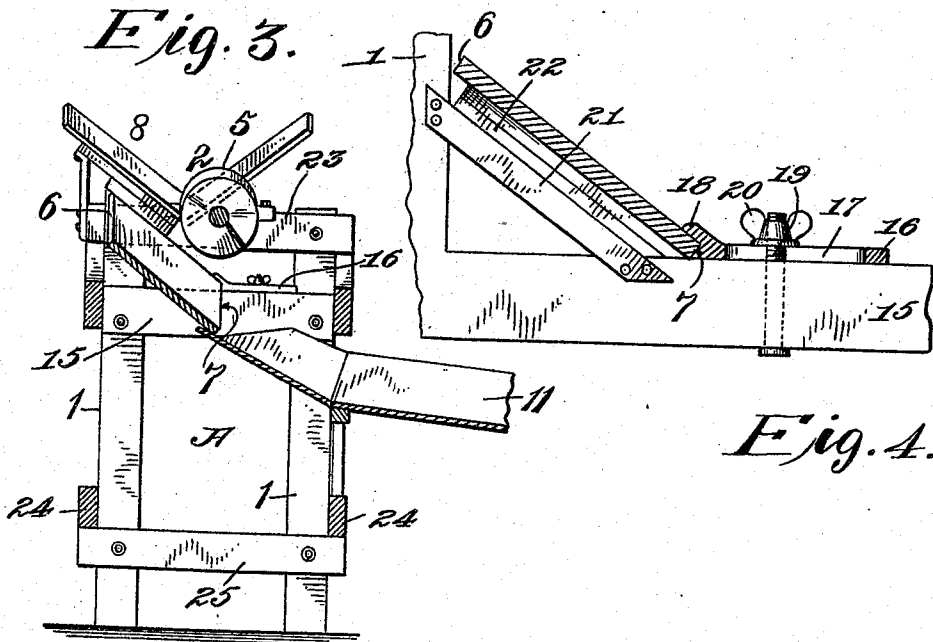
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UNITED STATES PATENT OFFICE.

EDWIN W. JOHNSON, OF EAST PALATKA, FLORIDA.

ASSORTING AND SIZING APPARATUS.

932,783.

Specification of Letters Patent.

Patented Aug. 31, 1909.

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To all whom it may concern:

Be it known that I, EDWIN W. JOHNSON, citizen of the United States of America, residing at East Palatka, in the county of Putnam and State of Florida, have invented certain new and useful Improvements in Assorting and Sizing Apparatus, of which the following is a specification, reference being had therein to the accompanying drawing.

The object of my invention is to produce an apparatus for automatically assorting articles and things according to their sizes; for example, grape fruit, oranges, apples, and other things, whether natural or artificial.

In the drawings illustrating the principle of my invention, and the best mode now known to me of applying that principle, Figure 1 is a top plan view of one form of apparatus embodying my invention. Fig. 2 is a lengthwise vertical elevation partly in section at line 2—2 of Fig. 1. Fig. 3 is a transverse elevation partly in section at line 3—3 of Fig. 2. Fig. 4 is a transverse sectional view of the guide and means for adjusting it. Fig. 5 is a perspective view of the apparatus.

Referring to the drawings, A indicates the main frame of the apparatus, one end of the main frame being higher than its other end; 1, 1 are a pair of end posts at the higher end of the main frame, and 1^a, 1^a are a pair of end posts at the lower end of the apparatus. End posts 1, 1 (Fig. 3) are connected by a cross-bar 15 below the upper ends of the posts 1. On the upper edge of cross-bar 15 there is mounted a slide-stop 16 having a lengthwise slot 17 formed in it and provided with an upwardly extending lug 18 at one of its ends. A set-screw 19, through cross-bar 15, passes through slot 17, and is provided with a nut 20 whereby the adjustable stop 16 may be mounted in any desired position on the upper edge of cross-bar 15. A diagonal guide-support 21 reaches from one of the legs 1 to the cross-bar 15, and a guide 6, hereinafter referred to, is supported on its under side on support 21, the lower edge of the guide 6 abutting against the projection 18 of the adjustable stop 16. The guide 6 is conveniently formed with a cleat 22 on its under surface, the cleat directly resting on support 21; but this is a matter of immaterial detail, the point being to support the guide 6, the inner surface

of which is flat, in a slanting position with reference to a vertical plane extending lengthwise of and through the main frame A. The posts 1 are also connected, at their upper ends, by a cross-bar 23 (Fig. 3), on which the bearing 3 of the shaft of screw-conveyer 2 is mounted.

Posts 1^a, 1^a are shorter than the posts 1, which are respectively connected together by the lower, side cross-bars 24, each pair of posts being preferably connected at the opposite ends of frame A by cross-bars 25. Posts 1, 1 and 1^a, 1^a are also preferably connected by the upper, side cross-bars 24^a, 24^a; and the shorter end posts 1^a, 1^a are connected transversely by a cross-bar 26, provided on its upper surface with a sliding adjustable stop 16^a, in all respects the same in construction and mode of operation as the adjustable stop 16 on the cross-bar 15, which is higher than the cross-bar 26, the edge 7 of the guide 6 also resting against this adjustable stop. Hence, guide 6, while slanting with reference to said vertical plane, also slants downwardly, from its connection with posts 1 and the cross-bar 15 to its connection with the posts 1^a and their cross-bar 26. Posts 1^a are connected by a cross-bar 27, which is lower than the cross-bar 23 and which supports the bearing 3^a for the lower end of the shaft of screw-conveyer 2. This lower end of said shaft is preferably provided with a handle 4, while the higher end of the apparatus is provided with a suitable hopper 8 for receiving fruit or other objects to be assorted according to size.

The guide 6 and the screw-conveyer 2 are in line one with another, and the convolutions 5 of the screw-conveyer have their edges and alternating spaces opposed to the inner side of the guide 6; and the articles to be assorted are conveyed from the hopper, which is inclined from end to end so as to secure an automatic feed of articles therein contained to the screw-conveyer.

By a lateral adjustment of the guide 6, the distance between its inner surface and the convolutions of the screw-conveyer may be varied, a lesser distance being given between the opposed surfaces of the guide and screw-conveyer at one end thereof than at the other, so that fruit or other objects of varying size may drop through the spaces 9, between the convolutions of the screw-conveyer and the upper edge of the guide, into bins or chutes 11, below the lower edge of the guide

6, the upper edge of which is sufficiently elevated to be opposed to the screw-conveyer, so that the two form a sort of open-bottomed trough, one side of which is formed by the adjustable guide 6 and the other side of which is formed by the screw-conveyer.

In Fig. 3, the adjustable connection of the higher end of guide 6 with the adjustable stop 16 is plainly shown; but this feature of the construction is omitted from Fig. 5 for the sake of clearness, the adjustable connection of the lower end of the guide 6 with the lower cross-bar 26, by means of the adjustable stop 16^a, being shown in Fig. 5.

What I claim is:—

In fruit assorting and sizing apparatus, the combination of an inclined screw-conveyer with an adjustable guide extending

lengthwise thereof and having a surface opposed to the screw-conveyer slanted with reference to the axis thereof; one end of the screw-conveyer being higher than its other end, and one end of said guide being higher than its other end; and the lower edge of the guide extending under the screw-conveyer along the length thereof and being at a distance therefrom to form an under-discharge; and adjustable stops by which the lower edge of the guide is adjustably maintained in working position.

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

EDWIN W. JOHNSON.

Witnesses:

EDWARD S. BEACH,
CHAS. McC. CHAPMAN.