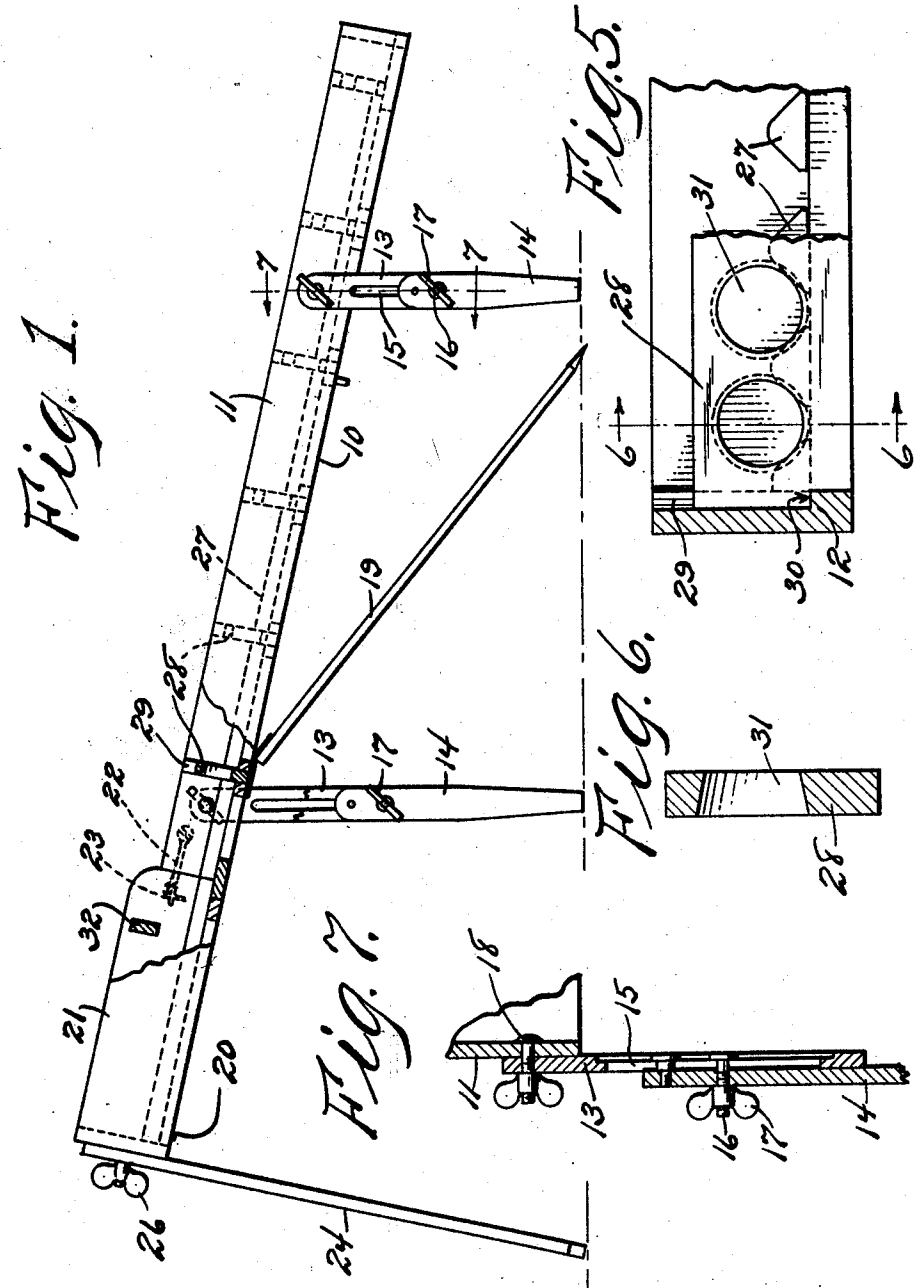
Sept. 29, 1925. 1,555,704

C. E. RHODES

GRADER

Filed April 24, 1925 2 Sheets-Sheet 1



Carl E. Rhodes
INVENTOR

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WITNESS

Sept. 29, 1925. 1,555,704

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GRADER

Filed April 24, 1925 2 Sheets-Sheet 2

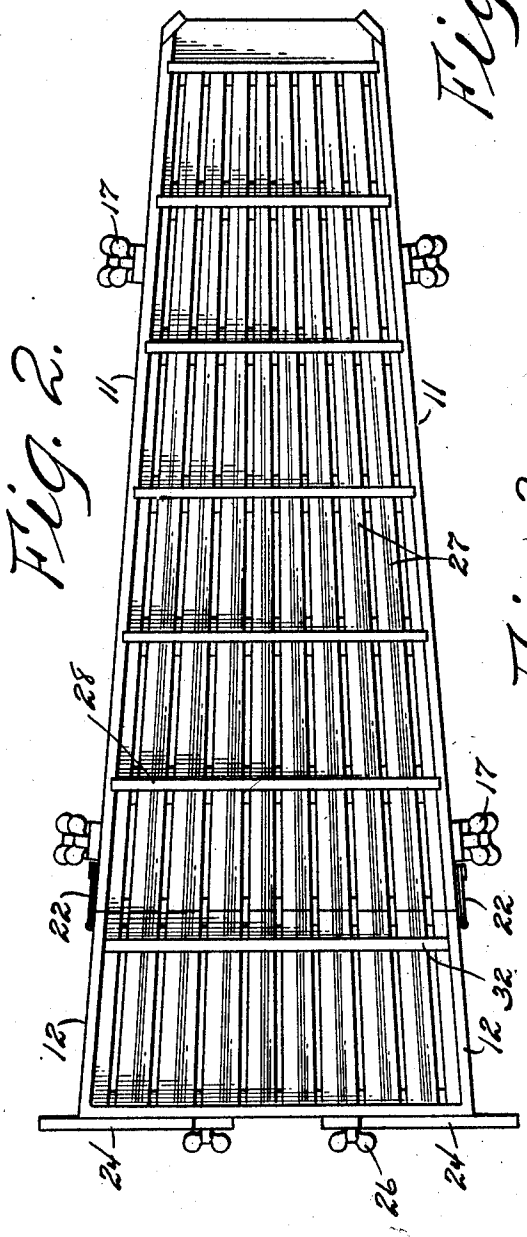


Fig. 2.

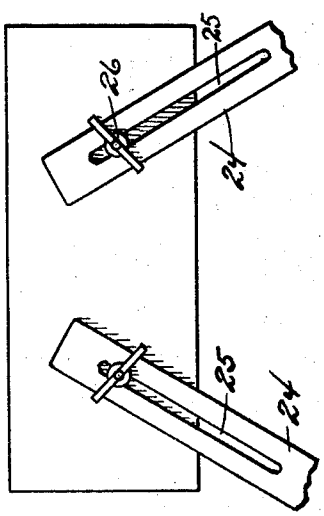


Fig. 4.

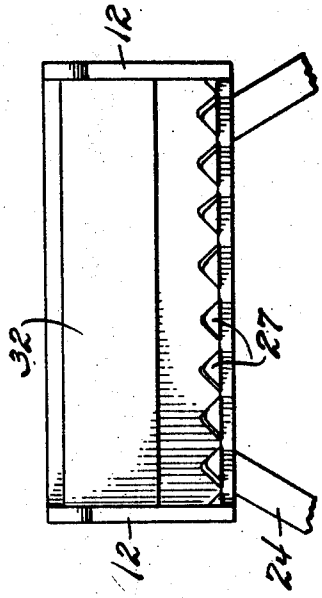


Fig. 3.

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UNITED STATES PATENT OFFICE.

CARL E. RHODES, OF MAURERTOWN, VIRGINIA.

GRADER.

Application filed April 24, 1925. Serial No. 25,675.

To all whom it may concern:

Be it known that I, CARL E. RHODES, a citizen of the United States, residing at Maurertown, in the county of Shenandoah and State of Virginia, have invented new and useful Improvements in Graders, of which the following is a specification.

This invention contemplates the provision of a fruit sorting and grading apparatus, primarily designed for use in small orchards, whereby sorting of fruit with relation to its size, so that all fruit of a particular size is received in one of a plurality of compartments, from which the fruit can be conveniently removed for packing.

The nature and advantages of the invention will be better understood when the following detailed description is read in connection with the accompanying drawings, the invention residing in the construction, combination and arrangement of parts as claimed.

In the drawings forming part of this application, like numerals of reference indicate similar parts in the several views, and wherein:

Figure 1 is a side elevation of the apparatus.

Figure 2 is a top plan view.

Figure 3 is a transverse sectional view.

Figure 4 is an end elevation.

Figure 5 is an enlarged fragmentary transverse sectional view.

Figure 6 is a sectional view on line 6—6 of Figure 5.

Figure 7 is a sectional view on line 7—7 of Figure 1.

The apparatus forming the subject matter of the present invention comprising what I term a table, the bottom of which is indicated at 10, which may be constructed of any suitable material and vary in size without departing from the spirit of the invention, the table also includes opposed vertical side members 11 which are formed with shoulders 12. The table preferably tapers toward one end as clearly shown in Figure 2 and is adapted to be supported at an inclination with relation to the ground or surface by suitable supporting legs, preferably of the construction illustrated in Figure 7. These legs are of relatively different lengths, while each leg includes relatively adjustable sections 13 and 14 respectively, the former being provided with a longitudinal slot 15 to receive the bolt 16 carried by the section 14, so that the length of each leg can be varied as the occasion may required. The sections are held fixed relatively by means of a winged nut 17 associated with bolts 16 in addition to the adjustment of each leg, the upper section 13 is pivoted on the bolt 18 carried by the adjacent side 11 of the table, so that the legs can be folded parallel at opposite sides of the table when the latter is not in use. Hingedly secured to the underside of the table is a support 19 which is pointed at its free end and adapted to be embedded in the ground or surface when arranged in the manner shown in Figure 1. This support can also be folded parallel with the bottom of the table when not in use.

Arranged in end to end relation with the table above described, is a hopper including a bottom 20 and opposed side members 21, these parts are connected by hooks 22 pivoted on the sides 11 of the table and adapted to be received by eyes 23 carried by the adjacent sides of the hopper just referred to. The hopper 20 has associated therewith a pair of tangentially disposed supporting legs 24 each of which is provided with a slot 25 to receive the bolt projecting from the end wall of the hopper and having associated therewith a winged nut 26, this construction allows the legs 24 to be adjusted with relation to the apparatus and held fixed relatively thereto by tightening the nuts 26.

Arranged longitudinally of the apparatus and supported upon the bottom thereof are angular shaped strips 27 which define tracks along which the fruit rolls when deposited within the hopper 20, means being arranged within the apparatus for sorting and grading the fruit with respect to its size, so that all fruit of the particular size is received by one of a plurality of compartments in which the apparatus is divided.

For this purpose, I employ a plurality of spaced partitions 28 which are arranged transversely of the table above described, each partition having its ends slidably received by grooves 29 formed on the adjacent sides 11, and also provided with a shoulder 30 adapted to repose upon the shoulder 12 above referred to. This structure is clearly shown in Figure 5. The partitions 28 divide the table into separate compartments, while each partition is formed with a plurality of tapered openings 31, the openings in each partition being of a

particular size, by varying in this respect from the size of the openings in the next adjacent partition. In other words, the openings in the partitions successively decrease in size from the uppermost to the lowermost partition. Arranged transversely of the hopper 20 and supported by the sides 21 thereof is a transverse strip 22, this strip being spaced an appreciable distance above the bottom of the hopper to prohibit the fruit deposited in the latter from rolling too rapidly in the direction of the first partition 28 in order.

In practice, fruit such as apples, oranges or the like are deposited within the hopper 21, and by reason of the inclination of the apparatus, this fruit rolls from the hopper onto the table above described. The fruit too large to pass through the openings 31 in the first partition 28 is confined in the compartment at one side of this partition, while the fruit of smaller diameter passes through the openings 31 rolling in the direction of the next partition in order. The openings in the last mentioned partition are smaller than the openings in the partition against which the fruit first comes in contact, so that the fruit as it rolls down the table is checked or arrested by the different partitions with a view of separating or sorting the fruit with relation to its size. In this manner, all fruit of one size is received by one of the compartments. It is of course manifest, that the apparatus may be constructed to sort fruit into any number of sizes by varying the number of partitions and the size of the openings 31 thereof.

It is, of course, to be understood that as the fruit enters each compartment, the large fruit is removed therefrom by hand, thus allowing the smaller fruit to pass into the next compartment. In other words all fruit that is too large to pass from one compartment into the other, is removed by hand from the compartment in which it is trapped, thus preventing clogging of the apertures through which the smaller fruit is adapted to pass.

While it is believed that from the foregoing description, the nature and advantages of the invention will be readily apparent, I desire to have it understood that I do not limit myself to what is herein shown and described, and that such changes may be resorted to when desired as fall within the scope of what is claimed.

Having thus described the invention, I claim:

1. An apparatus for sorting and grading fruit comprising a table having opposed sides, means for supporting the table at an inclination, a hopper arranged at one end of the table, a series of spaced transverse partitions arranged on said table and dividing the latter into separate compartments, each partition having a plurality of tapered openings, the openings in said partitions successively decreasing in diameter from one end of the table to the other.

2. An apparatus for sizing and grading fruit comprising a table including opposed side members, adjustable legs for supporting the table at an inclination, a hopper arranged at one end of the table, means for connecting the hopper and table together, spaced longitudinally disposed strips secured to the bottom of the table and said hopper and defining tracks over which the fruit is adapted to roll longitudinally of the apparatus, transverse partitions arranged in said table and equi-distantly spaced apart, each partition having a series of tapered openings, with the openings of the various partitions successively decreasing in diameter, said partitions dividing the table into separate compartments, and a transverse strip arranged in said hopper and spaced above the bottom thereof for the purpose specified.

In testimony whereof I affix my signature.

CARL E. RHODES.