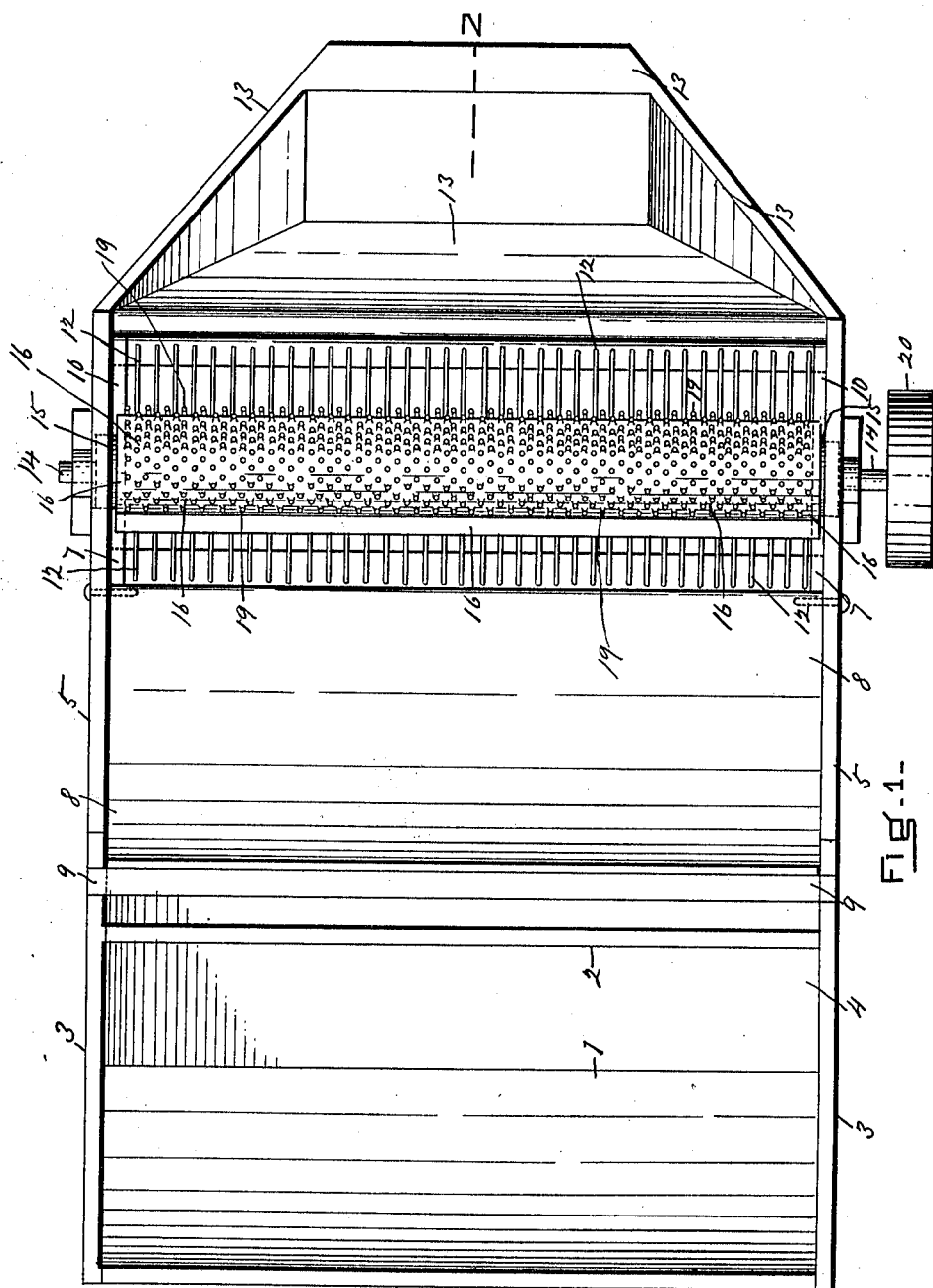


L. A. HAYDEN.
CRANBERRY GRADER.
APPLICATION FILED AUG. 18, 1911.

1,021,311.

Patented Mar. 26, 1912.

2 SHEETS-SHEET 1.



WITNESSES:
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By J. W. Harrison
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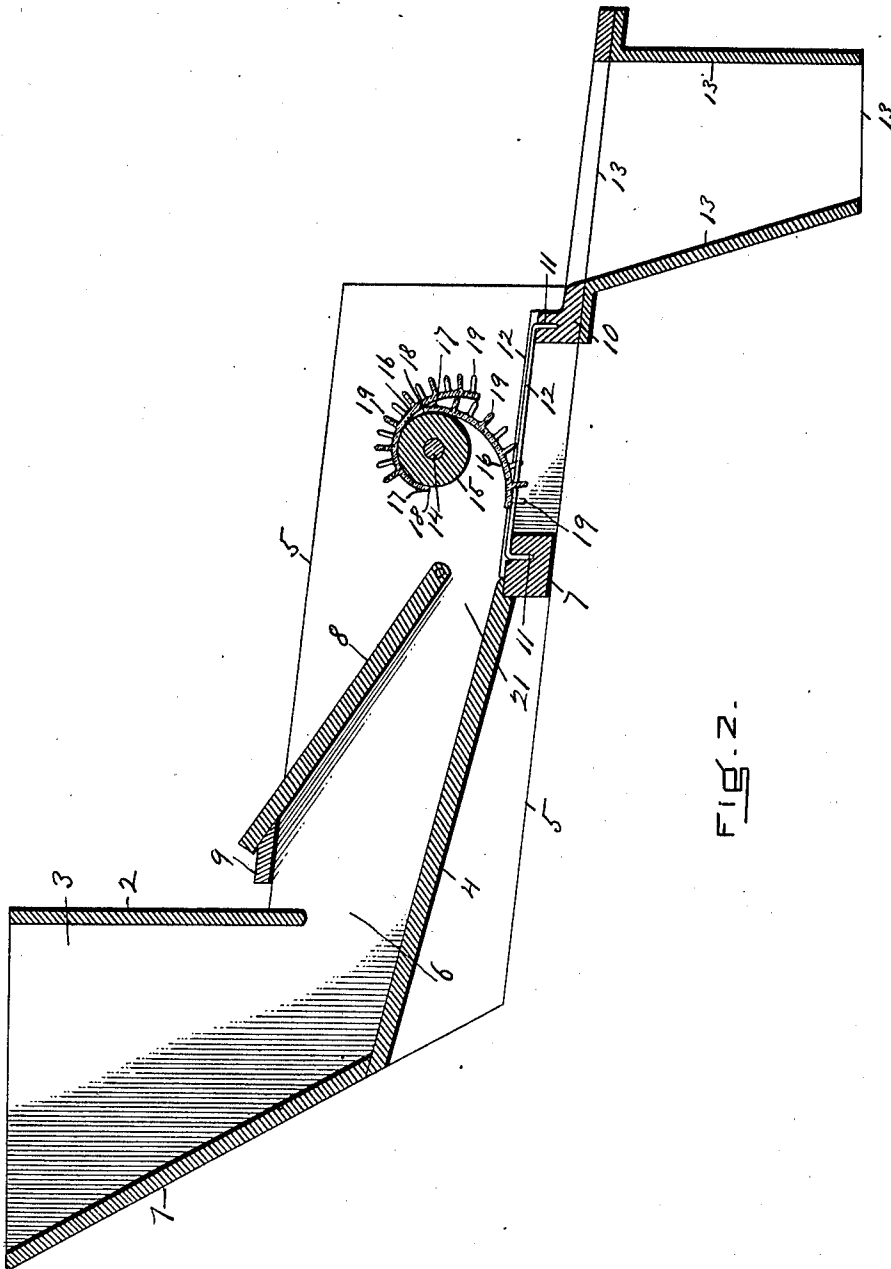


FIG. 2.

WITNESSES:
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UNITED STATES PATENT OFFICE.

LOTHROP A. HAYDEN, OF CARVER, MASSACHUSETTS.

CRANBERRY-GRADER.

1,021,311.

Specification of Letters Patent.

Patented Mar. 26, 1912.

Application filed August 18, 1911. Serial No. 644,809.

To all whom it may concern:

Be it known that I, LOTHROP A. HAYDEN, a citizen of the United States, residing at Carver, in the county of Plymouth and State of Massachusetts, have invented new and useful Improvements in Cranberry-Graders, of which the following is a specification.

This invention relates to a new and improved device or apparatus for grading cranberries as to size.

Although the device may be employed in connection with a cranberry-separator, it is an independent and complete machine, and may be used without connection with or relation to a separator, and may moreover be utilized for grading any kind of berries in which grading by size is desirable. The machine is particularly adapted however for grading cranberries, which while passing through the device are divided into two sets, one containing cranberries above a certain thickness and the other berries less than such thickness or diameter, the two sets being discharged in different manners and directions from the apparatus.

The nature of the invention is fully described below, and illustrated in the accompanying drawings, in which:—

Figure 1 is a plan view of my improved cranberry-grader, and Fig. 2 is a central longitudinal section of the same taken on line 2—2, Fig. 1.

Similar numerals of reference indicate corresponding parts.

Reference numeral 1 represents the inclined rear wall, 2 the substantially vertical front wall, and 3 the end walls of a hopper into and through which the berries are poured onto an inclined floor 4 supported between the parallel side walls 5. The rear wall 1 extends to the floor 4, and the lower edge of the front wall 2 is sufficiently above the floor to provide a passage 6 for the berries. The front end of the floor is supported by a crosspiece 7 secured to the sides 5. 8 represents a guard located between the walls and preferably pivotally supported thereby at its front lower edge, its rear upper edge resting on the cross-bar 9 supported by the sides 5.

Supported by and between the sides 5 parallel with the cross-bar 7 is the bar 10, and these two bars receive and support the downturned ends 11 of the series of parallel rods or bars 12 which constitute the grate

or screen (not new by itself considered) said rods 12 being at even distance from each other. A discharge-chute 13 is secured to and extends from the front lower end of the apparatus.

Mounted on a horizontal shaft 14 extending across the apparatus and supported by the side walls 5 is a roll 15, and secured to this roll are two preferably rectangular aprons 16. Each apron is secured at next the rear edge 18 to the roll, while its front edge is free to overlap the rear edge of the other apron. These aprons are made of elastic material, preferably rubber, and extending up from the face or outer surface of the aprons are numerous flexible fingers 19 arranged in rows and preferably staggered, as shown, and adapted to extend between the rods or bars 12 of the screen as the roll is rotated.

In practical operation, power being applied to the shaft by means of a suitable pulley 20, the roll is rotated rearward, *i. e.*, in the direction of the edges 18 of the aprons, and the cranberries to be graded are dropped into the hopper 1, 2, 3. They fall upon the inclined floor and are prevented from bounding over the shaft and aprons or out of the machine by the guard or cover 8. The berries roll down the floor 4 and through the mouth or passage 21 produced by the forward edges to the converging parts 4 and 8, upon the screen 12 which is constantly swept by the fingers 19 of the two aprons 16, which are held to their work by the spring of the material of which they are made. The berries which are thicker or larger in diameter than the distance between the bars of the screen roll down the screen and are swept into the chute 13, and thus guided to a suitable receptacle. The berries whose diameters are less than the distance between the bars of the screen fall through it into a suitable receptacle beneath. Thus the berries are divided quickly and accurately into two grades, and the berries thus graded are conducted out of the apparatus at two points, *viz.*, over the lower edge and through the screen. Either grade of berries may be conducted or applied to a separator of any suitable type, by any suitable means.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is:—

1. In a cranberry-grader, a screen com-

prising parallel bars or rods, a roll mounted above the screen, flexible aprons secured at one edge to the roll and with their outer edges free, fingers extending from the outer surfaces of the aprons and operative between the bars or rods when the roll is rotated, and means for rotating the roll.

2. In a cranberry-grader, a screen comprising parallel bars or rods, a frame supporting the screen and provided with a discharge-opening beneath, a roll mounted near the surface of the screen, flexible aprons secured at one edge to the roll and with their outer edges free, fingers integral with the aprons and extending at substantially right angles with the surface thereof and operative between the bars or rods when the roll is rotated, and means for rotating the roll.

3. In a cranberry-grader, a screen comprising parallel bars or rods, a roll mounted above the screen, flexible aprons secured at one edge to the roll and with their outer edges free, fingers extending from the outer

surfaces of the aprons and operative between the bars or rods when the roll is rotated, means for conducting the berries to the screen, and means for rotating the roll.

4. In a cranberry-grader, a screen comprising parallel bars or rods, a roll mounted above the screen, flexible aprons secured at one edge to the roll and with their outer edges free, fingers extending from the outer surfaces of the aprons and operative between the bars or rods when the roll is rotated, means for conducting the berries to the aprons, a guard for preventing the berries from bounding over the screen or aprons, and means for rotating the roll.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LOTHROP A. HAYDEN.

Witnesses:

ROBERT A. CARROLL,

GEORGE L. HATHAWAY.

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