

W. C. ANDERSON.
RAISIN STEMMER.

APPLICATION FILED FEB. 29, 1912.

1,048,269.

Patented Dec. 24, 1912.

3 SHEETS—SHEET 1.

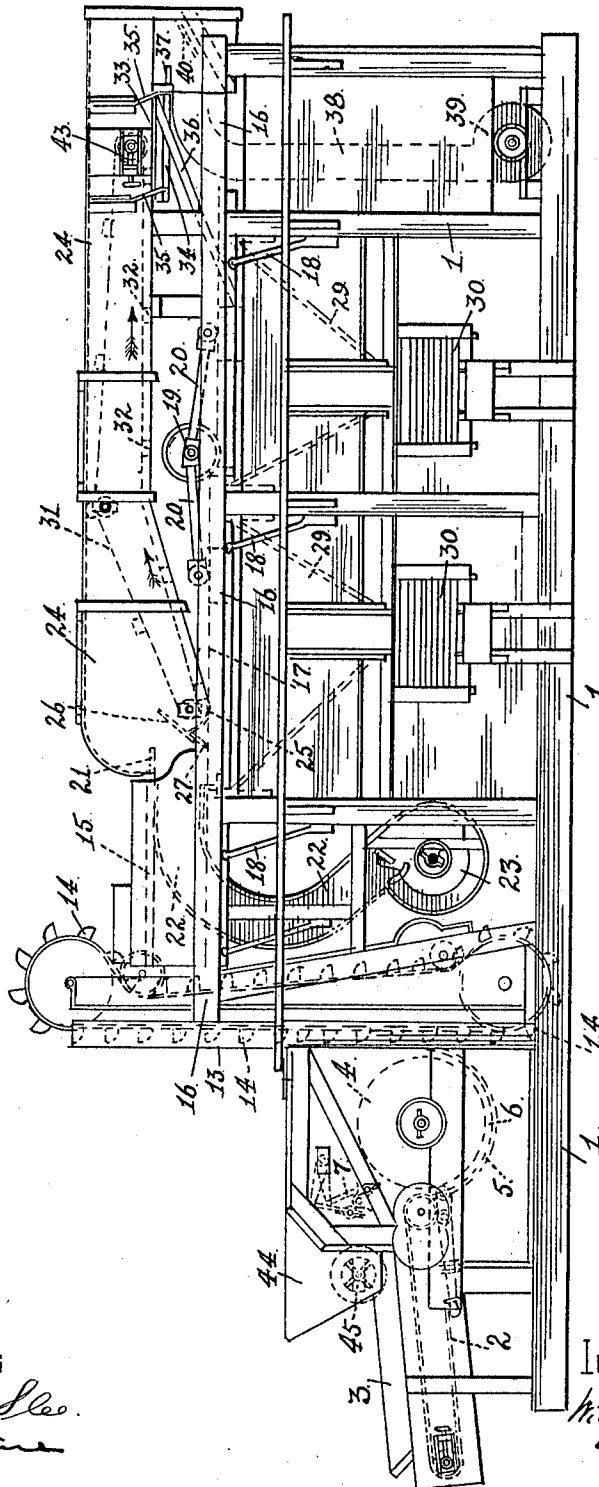


Fig. 1.

Witnesses

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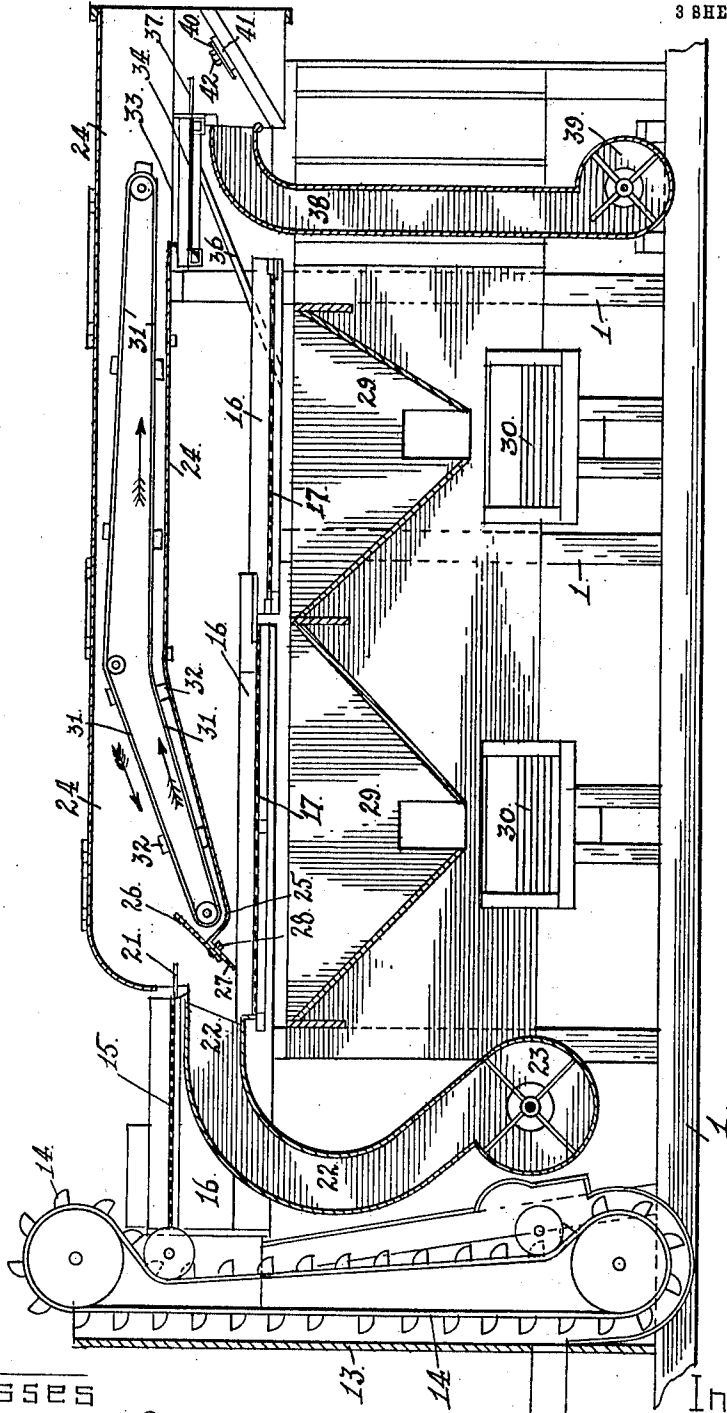
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3 SHEETS-SHEET 2.

Fig. 2.



Witnesses

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3 SHEETS-SHEET 3.

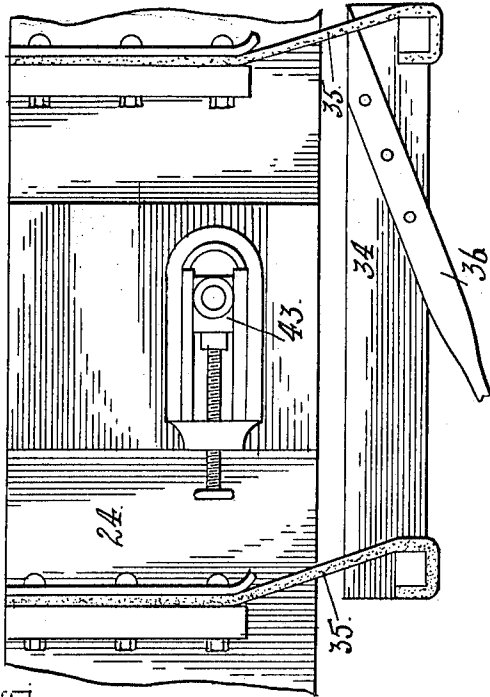


Fig. 5.

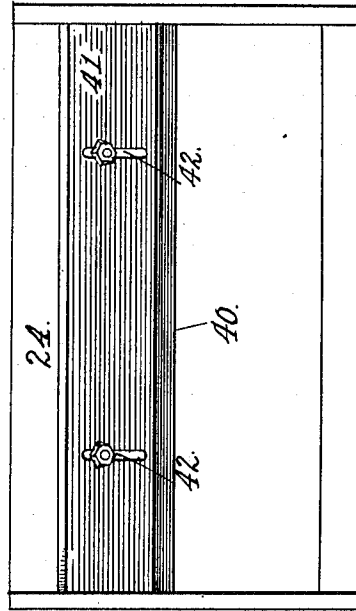


Fig. 7.

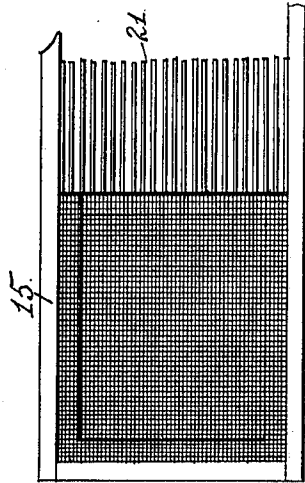


Fig. 6.

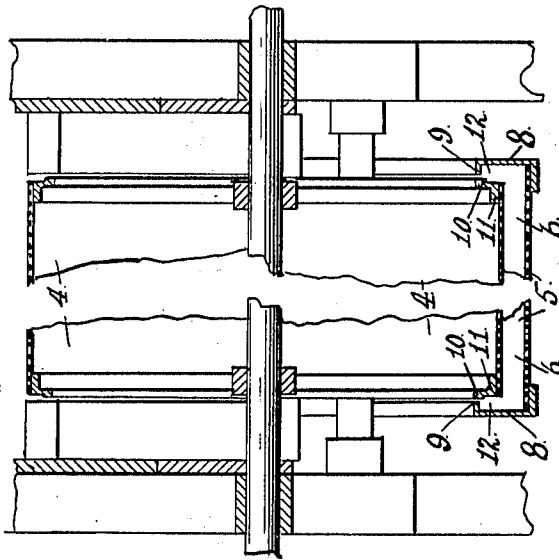


Fig. 3.

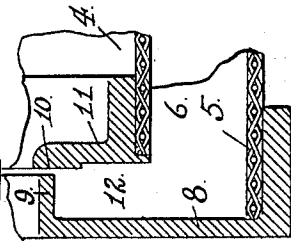


Fig. 4.

WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM C. ANDERSON, OF SAN JOSE, CALIFORNIA, ASSIGNOR TO ANDERSON-BARNGROVER MFG. CO., OF SAN JOSE, CALIFORNIA, A CORPORATION OF CALIFORNIA.

RAISIN-STEMMER.

1,048,269.

Specification of Letters Patent.

Patented Dec. 24, 1912.

Application filed February 29, 1912. Serial No. 680,679.

To all whom it may concern:

Be it known that I, WILLIAM C. ANDERSON, a citizen of the United States, residing at San Jose, in the county of Santa Clara and State of California, have invented certain new and useful Improvements in Raisin-Stemmers, of which the following is a specification.

My invention relates to the class of raisin-stemmers, and particularly to improvements in that stemmer which was patented by me June 28, 1910, No. 962609.

The objects of my present improvements are, first, to prevent the raisins from being crushed by and gumming up the adjacent end surfaces of the cylinder and concave, and, second, to provide for a more efficient segregation of the raisins from the stems and all foreign matter, to the end that a larger percentage of the fruit may be saved, and all well cleaned and accurately graded. The nature of these improvements will be fully understood from the following description, taken in connection with the accompanying drawings, in which—

Figure 1 is a side elevation of my machine. Fig. 2 is a longitudinal sectional view, enlarged, of the portion of the machine succeeding the stem detaching devices. Fig. 3 is a longitudinal section, enlarged and broken, of the stemming cylinder and concave. Fig. 4 is an enlarged detail of one corner of the cylinder and concave. Fig. 5 is a side view, enlarged, of the discharge end of the stem box and the shaking shoe flexibly hung from the box. Fig. 6 is a top view of the receiving table and grating at the head of the main shoe. Fig. 7 is a bottom view of one of the adjustable tail-gates.

1 is the general frame of the machine.

2 is a traveling feed-conveyer upon which the raisins from the sweat-boxes are dumped.

3 are side guides of the conveyer.

4 is the stemming cylinder of the usual wire-cloth or screen covered pattern, and 5 is the concave, of the same screen or wire-cloth type.

6 is the stemming space between the cylinder and concave.

7 indicates a set of fingers for breaking up and evenly distributing the material fed by the conveyer 2 to the stemming space 6.

Heretofore the ends of the cylinder 4 ran in close proximity to the ends of the concave

5. Between these surfaces some raisins would find their way, resulting in their being crushed and gumming up the surfaces.

My first improvement consists in a construction by which this result is avoided. As will be seen in Figs. 3 and 4, the end flanges 8 of the concave 5 are provided with an in-turned guard-lip 9, the free edge of which approaches as closely as need be a smooth facing 10 on the ends 11 of the cylinder 4. The guard-lip 9 thus prevents raisins from working out between the cylinder ends and the concave flange, and said lip has a width sufficient to cause the ends of the cylinder to be separated from the end flanges of the concave by a space wide enough to form a chamber 12 having capacity sufficient to avoid the crushing of any raisins which may get between them. The stemming space 6 delivers into an elevator casing 13 in which operates a bucket elevator 14, by which the material, stems and all, is carried up and discharged upon a receiving table 15 in the head end of a shaking shoe 16 having a screen bottom 17. The receiving table 15 is best made of a fine screen, as shown in Fig. 6, so that a separation of sand and very fine matter may take place at this point.

The shoe 16 is supported by springs 18, the inclination of which is such as to advance the material by reason of the shaking action, a shaking movement being given the shoe by means of a crank shaft 19 and connecting rods 20. At the delivery end of the receiving table 15 is a grating 21 made up of parallel spaced rods or strips, as seen in Fig. 6, which grating delivers the material to the screen bottom 17. Below and just back of this grating 21 is the mouth of the wind-trunk 22 of a fan 23. Enveloping the grating 21 is the mouth or entrance of the stem-box 24 which extends along the top of the machine. The floor of the mouth of the stem box curves downward, as shown at 25, in front of and below the grating, and said stem-box has its mouth in direct communication with the mouth of the wind-trunk 22, the grating extending part way across said communication. In this communication, in front of the grating, is an adjustable tail-gate 26, supported upon the end 27 of the wind-box floor, and adjustable thereon by means of slots and bolts, indicated in Fig.

2 at 28. The arrangement is such that the gate 26 may be extended higher into or withdrawn more from the communicating path of the wind-trunk and stem-box, with the effect of regulating the separation of the lighter from the heavier particles at this point; that is to say, by setting the gate 26 farther up, more raisins will be intercepted and will drop back out of the air-blast than when said gate is set lower down. Now, as the material, delivered to the receiving table 15, advances under the shaking movement of the shoe, and gets upon and travels over the grating 21, it is met by a strong uprising blast of air from the fan 23, which has the effect of blowing the stems upward and onward into the stem-box 24, while the raisins pass on to drop back upon the screen bottom 17 of the shaking shoe 16. The screen bottom of the shaking shoe is the usual grader bottom, enabling the raisins to pass through into separate underlying chutes 29 for delivery into boxes 30.

In the stem box 24 is an endless traveling scraper 31, the cross flights or bars 32 of which travel along the bottom of the stem-box. This scraper extends approximately the length of the box, and travels in the direction of the arrows, dipping down at its head end into the curved floor 25 of the entrance of the stem box, and thence continuing outward over the floor of the box. In this direction of functional travel it differs from the scraper in my previous patent, heretofore mentioned, which operated in the reverse direction, as it was therein contemplated to have the scraper serve the purpose of returning to the receiving table such raisins as might have accompanied the stems into the box and thereafter have dropped from the air-blast, said blast alone being depended upon to carry the stems and lighter particles through the box. In the present case, the scraper 31 operating in the direction indicated by the arrows, provides a more positive means than the air blast alone affords for carrying off the stems and associated particles through the box and thereby preventing any tendency to clog up or to permit any of the excluded particles to rejoin the main body of raisins. In this operation it follows, of course, that all raisins which have been carried by the air-blast over the tail-gate 26 and into the stem-box must accompany said stems through the stem-box, being impelled thereto by the scraper 31; and it follows also that some provision must be made to separate these raisins at some subsequent point, in order that they may be saved, and returned, if necessary, for initial cleaning. For this purpose there is a drop 33 at the end of the floor of the stem-box. Under this drop is a shoe 34 suspended from the box by flexible hangers 35, as seen in Fig. 5, and having a shaking movement

through a connection 36 with the main shaking shoe 16. This shoe 34 has an end grating 37, seen in Fig. 2, composed of parallel spaced rods, similar to the grating shown in Fig. 6. Below this grating is the wind-trunk 38 of a fan 39. In front of and below the grating and exposed in the mouth of the wind-trunk is an adjustable tail-gate 40, which is movable upon a cross board 41 by means of slots and bolts at 42, as seen in Fig. 7. The raisins which, as heretofore mentioned, are carried onward in the stem-box by the scraper, fall from the drop 33 upon the shoe 34. On this they are shaken forward to the grating 37 and there, being subjected to the wind-blast, such stems and other foreign matter as may be with them are blown over the tail-gate 40 and out of the machine, while the raisins drop down into a suitable receptacle below. By adjusting the tail-gate 40 the character of the blown over material may be regulated to the end that only the most worthless raisins are ultimately lost.

In Fig. 5, at 43, is indicated one of the tighteners of the scraper 31.

In Fig. 1, 44, is a hopper having within it, as indicated in dotted lines at 45, a feeder. This hopper and feeder are to receive and to feed to the conveyer 2 the raisins recovered from the end of the machine, so that they may be once more subjected to the operations heretofore described.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is—

1. In a raisin-stemmer, the combination of a stemming cylinder and a stemming concave with end flanges, said cylinder being so disposed relatively to the concave that its ends are separated from the concave flanges by a space forming a chamber for the raisins, and said concave having its end flanges provided with guard-lips inwardly extending and covering said chamber.

2. In a raisin-stemmer, the combination of a stemming cylinder and a stemming concave, said concave having end flanges with in-turned guard-lips at their upper edges, the free edges of said guard-lips approaching the ends of the cylinder.

3. In a raisin-stemmer, the combination of stem-detaching devices; means for producing an air-blast; means for presenting the raisins and stems delivered from the stem-detaching devices to the action of the air-blast; a stem-box to receive the air-blast and the stems carried forward by it; an adjustable gate in and controlling the entrance of the stem-box and adapted by its position to regulate, according to difference in specific gravity, the material blown over it into the stem-box; a traveling scraper in the stem-box arranged to carry the stems forward through said box to their discharge, and

means underlying the entrance of said stem-box to receive the raisins which fall through the air-blast.

4. In a raisin-stemmer, the combination
5 of stem-detaching devices; means for producing an air-blast; means for presenting the raisins and stems delivered from the stem-detaching devices to the action of the air-blast; a stem-box having its entrance
10 arranged in the line of the air-blast beyond the region of presentation of the raisins and stems thereto, whereby said box receives the air-blast and the stems carried forward by it; a traveling scraper in the stem-box arranged
15 to carry the stems forward through said box to their discharge; and means below the sphere of action of the air-blast to receive the raisins which fall through said blast.

20 5. In a raisin-stemmer, the combination of stem-detaching devices; means for producing an air-blast; means for presenting the raisins and stems delivered from the stem-detaching devices to the air-blast; a
25 stem-box having its entrance arranged in the line of the air blast beyond the region of presentation of the raisins and stems thereto, whereby said box receives the air-blast with its load of stems and lighter raisins; means below the sphere of action of
30 the air-blast to receive the heavier raisins which fall through said blast; a traveling scraper in the stem-box arranged to carry the stems and lighter raisins forward through the box; means at the discharge
35 end of the box for producing a second air-blast; and means for presenting the contents of said box to said second air-blast to separate the stems from the lighter raisins.

40 6. In a raisin-stemmer, the combination of stem-detaching devices, means for presenting the raisins and stems delivered from the stem-detaching devices to the action of a blast of air, a stem-box to receive the air-
45 blast with its load of stems and lighter raisins, means for advancing the heavier raisins out of the sphere of the air-blast, a traveling scraper in the stem-box arranged to positively carry the stems and lighter
50 raisins forward through the box, and means at the end of the box for presenting said lighter raisins to a blast of air to further clean them, comprising a shaking shoe upon which said raisins are dropped, said shoe
55 having an end grating, and a wind-trunk to

direct the air blast against the raisins while upon and as they fall from the grating.

7. In a raisin-stemmer, the combination of stem-detaching devices, means for presenting the raisins and stems delivered from the
60 stem-detaching devices to the action of a blast of air, a stem-box to receive the air-blast with its load of stems and lighter raisins, means for advancing the heavier raisins out of the sphere of the air-blast, a traveling
65 scraper in the stem-box arranged to positively carry the stems and lighter raisins forward through the box, and means at the end of the box for presenting said lighter raisins to a blast of air to further clean
70 them, comprising a shaking shoe upon which said raisins are dropped, said shoe having an end grating, a wind-trunk to direct the air blast against the raisins while upon and as they fall from the grating, and an ad-
75 justable gate in the sphere of the air-blast to regulate the material blown over.

8. In a raisin-stemmer, the combination of stem-detaching devices; means for producing an air-blast; means for presenting the
80 raisins and stems delivered from the stem-detaching devices to the action of the air-blast; a stem-box to receive the air-blast with its load of stems and lighter raisins; an adjustable gate in and controlling the en-
85 trance of the stem-box to regulate the material blown over it into said stem-box; means underlying the entrance of said stem-box to receive the heavier raisins which fall through the air-blast; a traveling scraper in
90 the stem-box arranged to positively carry the stems and lighter raisins forward through the box; and means at the end of the box for presenting said lighter raisins to a blast of air to further clean them, compris-
95 ing a shaking shoe upon which said raisins are dropped, said shoe having an end grating, a wind-trunk to direct the air-blast against the raisins while upon and as they fall from the grating, and an adjustable gate
100 in the sphere of the air-blast to regulate the material blown over.

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

WILLIAM C. ANDERSON.

Witnesses:

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D. B. RICHARDS.