

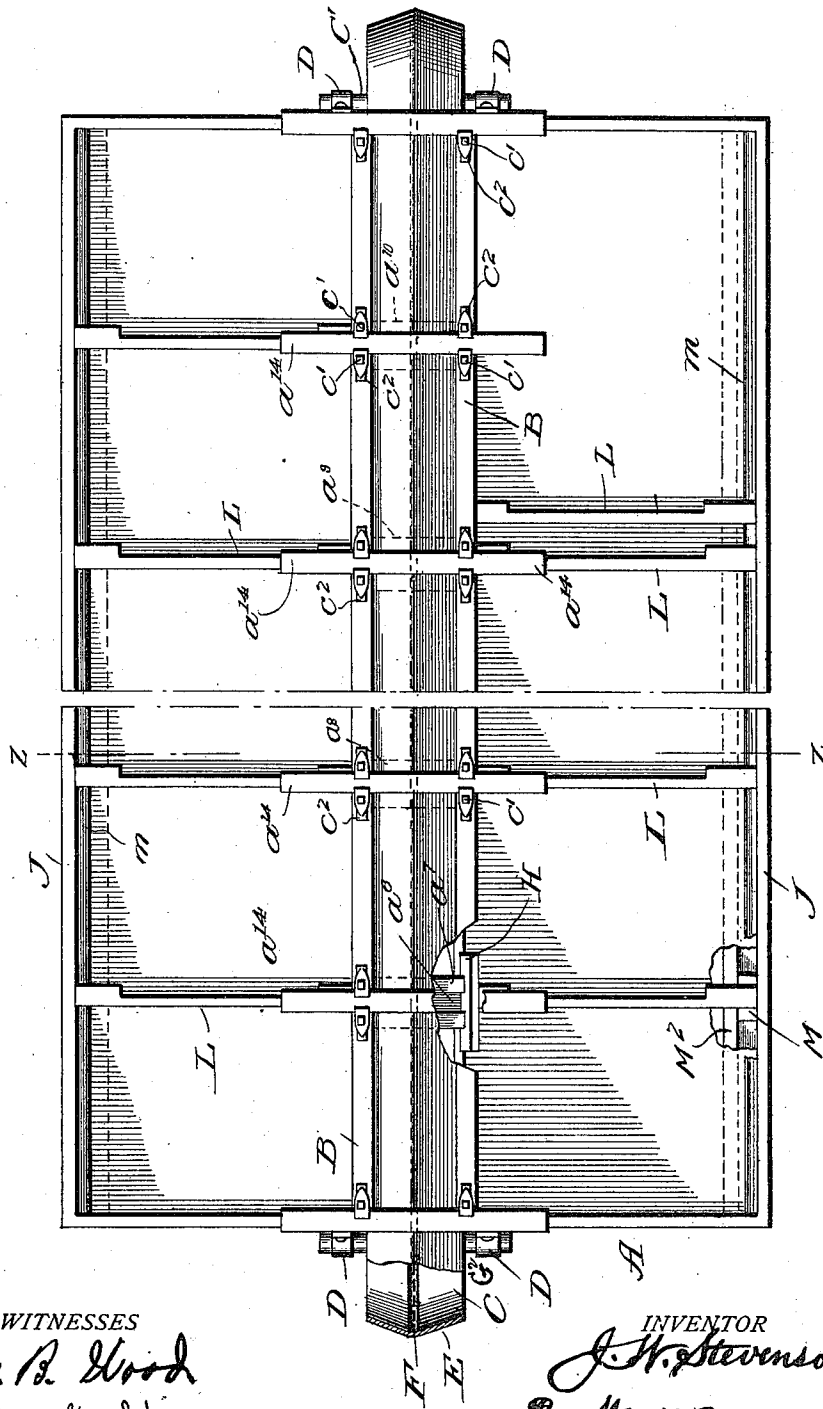
J. W. STEVENSON.
ORANGE SIZING MACHINE.
APPLICATION FILED MAR. 10, 1910.

974,720.

Patented Nov. 1, 1910.

2 SHEETS-SHEET 1.

Fig. 1.



WITNESSES

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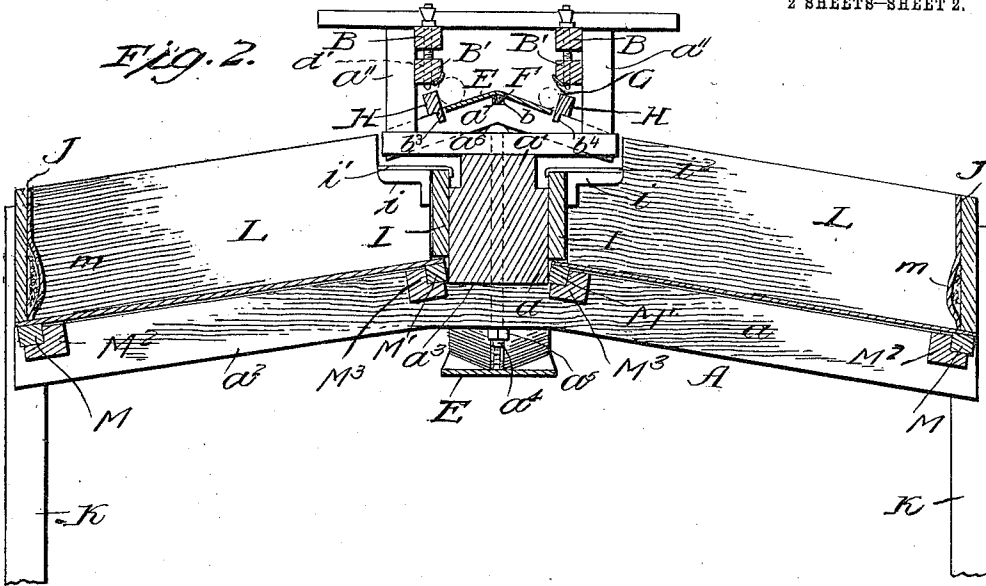
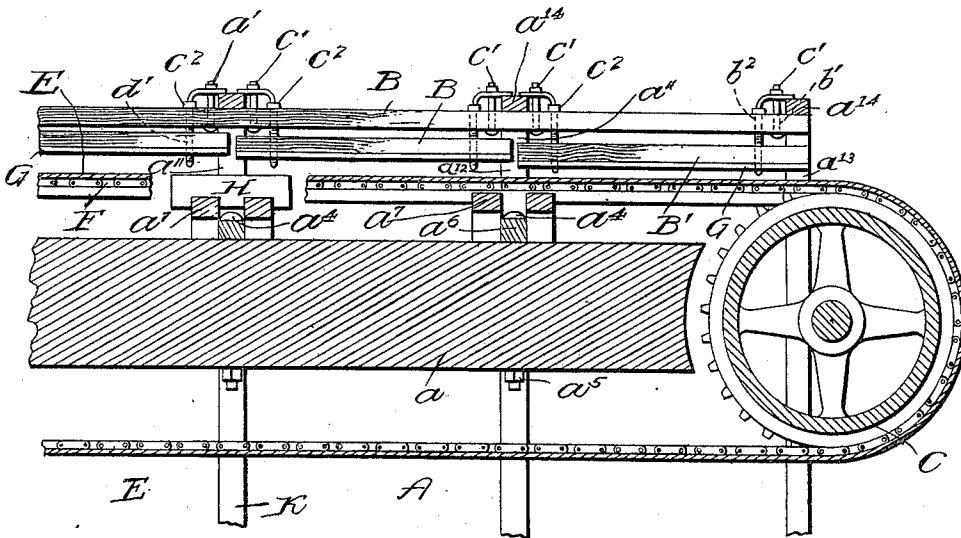


Fig. 3.



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JAMES W. STEVENSON, OF RIVERSIDE, CALIFORNIA, ASSIGNOR OF ONE-HALF TO
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ORANGE-SIZING MACHINE.

974,720.

Specification of Letters Patent.

Patented Nov. 1, 1910.

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To all whom it may concern:

Be it known that I, JAMES W. STEVENSON, citizen of the United States, residing at Riverside, in the county of Riverside and State of California, have invented certain new and useful Improvements in Orange-Sizing Machines, of which the following is a specification.

My invention has relation to improvements in orange sizing machines and it has for its object to provide means for the grading of fruit of different sizes from a substantially inverted V-shaped belt, and belt carriers, the former traveling over the latter and delivering the fruit into a multiple number of adjustable bins which are also correspondingly inclined by means of suitable mechanism especially adapted for the purposes intended, said bins being arranged in series and located upon each side of a centrally disposed beam, the beam and bins being secured to the framework of the machine; and a further object of the invention is to simplify, improve and cheapen the cost of the construction of this class of machines over the existing prior state of the art.

With these and other objects in view the invention consists in the novel construction and combination of parts as will be hereinafter more in detail described and the asserted novelty specifically claimed.

I have fully and clearly illustrated my invention in the accompanying drawings in which;

Figure 1 is a longitudinal plan view of my machine. Fig. 2 is a transverse sectional view of the same on the line Z—Z of Fig. 1, and Fig. 3 is a longitudinal sectional view partly broken away.

Similar letters of reference denote similar parts throughout the several figures.

A designates the frame-work of a machine composed of a longitudinal beam a having an upper reduced portion a' , the underside of which is seated and centrally secured also in a reduced portion of one or more slightly inclined rafters a^2 by means of bolts a^4 and nuts a^5 , the upper portions of the bolts being passed through an opening made midway the length of a multiple number of cross ties or smaller transverse beams. Secured at their lower, and between the outer and free ends of these cross ties or smaller beams a^6 and the outer ends of a multiple number of inverted substantially

V-shaped belt carriers a^7 clearly shown in dotted lines in Fig. 1 are the lower ends of uprights a^{11} , a^{12} , a^{13} . To the upper ends of said uprights are secured transverse bars or cross ties a^{14} for supporting a paper rack or cull conveyer. In the apex of each of the inverted substantially V-shaped belt carriers are formed notches or grooves as at b , more clearly shown in Fig. 2. These notches or grooves in the belt carriers are in alinement with each other and run the full length of the machine and which are for a purpose that will be hereinafter explained.

B, B, B', B', designate gage rod supports and adjustable gage rods, the former B, B, being secured to the upper portions and inner faces of the uprights and provided with perforations b' , b^2 through which a corresponding number of long and short bolts c' , c^2 are passed, said bolts being provided with the usual nuts thereon, the nuts of the long bolts being threaded and provided with slotted clamping plates. These clamping plates are centered and countersunk into the heads of the bolts in such a manner as to admit of the bolts being turned with a wrench to raise and lower the gage rods and at the same time holding the bolts and gage rods firmly in position upon their upper ends which are bent over in opposite directions clamping the cross ties or bars a^{14} , the shorter bolts having their upper ends passed through the slots in the clamping plates of the longer bolts, the gage rods are adjustable, and made in sections and are also provided with perforations d' which are in alinement with the perforations in the gage rod supports to admit of the gage rods being vertically adjusted relatively with the gage rod supports to allow of the varying sizes of fruit to pass through the openings under the gage rods which lead to adjustable bins secured to the frame-work of the machine.

C, C designate pulleys peripherally inclined from the center outwardly and downwardly and secured to short axles C' , C^2 which are journaled in bearings D, D, D, D, secured to the ends of the machine, and centrally disposed over these pulleys are a multiple number of sprocket teeth which mesh with a sprocket chain which will be presently described, and over these pulleys and the belt carriers a^7 , a^8 , a^9 , a^{10} , travels an endless belt E, and as it travels over the belt carriers conforms in shape to said carriers

and upon this belt the fruit is laid preparatory to the sizing thereof and its passage through the openings under the gage rods.

F designates an endless sprocket chain secured to the main belt E and interposed between the upper and lower portions of this belt, said sprocket chain being adapted to travel over the pulleys C, C, with the main belt, the teeth upon the pulleys C, C meshing therewith. The sprocket chain F travels along with the main belt, and within the grooves or notches formed in the apices of the belt carriers.

G, G, designate strips of rubber or felt secured in any suitable manner to the lower inside corners which are rounded at these points of the gage rods B', B', for preventing damage to the fruit as it passes down each side of the belt E and through the openings below the gage rods.

H, H, designate suitably sized sliding or adjustable blocks, the lower inner edges of which are tongued on the lower edge and projected in grooves formed in the upper edges of the belt carriers. These sliding or adjustable blocks are for the purpose of regulating the openings, also below the gage rods, in a longitudinal direction and preventing the fruit from striking the frame-work of the machine and can be moved with the movable bin boards, thus causing the fruit to fall into the proper bin. The bins can be made of any desirable width and more packers can work on the same size fruit. The lower frame is made such that if the division boards should be taken out it would be one bin. When necessary to tighten the bottom of the machine a short piece of gas pipe or round bar of iron may be used.

I, I, designate centrally disposed longitudinal side boards secured between the longitudinal beam *a* and the inner ends of bin boards by means of angle irons *i*, *i*, and the inner bent ends of small rods *i'*, *i'*, secured to the upper edges and inner ends of bin boards.

J, J, designate longitudinal outer end boards of the bins which are secured to the upper and reduced portions of a suitable number of supporting legs K, K, upon which the machine is mounted.

L, L, designate adjustable laterally disposed division boards, said boards having an adjustability lengthwise of the machine which varies the size or capacity of the several bins as occasion demands.

M, M', designate blocks of wood slidable in longitudinally grooved strips M², M³, secured to the rafters *a*² of the machine, pieces being let out of the upper edges of the rafters for that purpose and in which they are seated, and between the upper edges of these blocks and the lower edges of the longitudinal side boards I, I, and J, J, the bottoms of the bins are secured which consists of a

heavy piece of duck material. Either side of this duck material is nailed to short strips of wood the entire length of the machine, these are slidable under the central bin boards I and outer bin boards J. Under the duck material and inside of the strips is a stringer running lengthwise of the machine. This keeps the duck material or cloth tight sidewise and when the gas pipe windlass is turned to tighten the duck material or cloth these short strips to which the material or cloth is nailed moves endwise with the cloth. To the inner faces of the longitudinal side boards J, J, there is secured padding *m*, *m*, of felt or any suitable material adapted for the purpose which is to prevent the fruit from getting bruised when they roll down to the outer side boards of the bins or machine.

Upon the application of any suitable motor adapted for the purpose to the machine the operating mechanism is readily put in motion, the fruit being previously laid upon the endless belt regardless of the size of the fruit, and as the belt is carried around by the pulleys from end to end of the machine the different sized fruit is brought to the openings located upon either side of the machine and rolls down the double inclined belt to said openings, the openings being adjusted through the medium of the gage rods and blocks relatively to each other by means of the long screw-bolts and slidably adjustable blocks which admit the passage of the fruit according to size to drop within the inclined bins of different sizes secured to the machine upon each side of the double inclined belt, each bin receiving the different sized fruit ready for packing and transportation.

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

1. In a machine of the character described, the combination with the centrally disposed longitudinal beam, bins disposed upon each side of said beam; of the frame-work secured to and located upon the upper surface of the beam composed of uprights, long and short ties, substantially V-shaped inverted belt carriers, notched at their apices, an endless belt supported by said belt carriers, a sprocket chain supported in notched apices of the belt carriers and attached to the under surface of the endless belt, gage rods and gage rod supports, adjusting screws for adjusting the gage rods, adjustable blocks located below the gage rods by means of which and the adjusting screws the size of the openings are diminished or enlarged to admit of the passage of different sized fruit therethrough to the bins.

2. The combination with the inverted substantially V-shaped belt carriers having notches in their apices, rectangular support-

ing framework upon which the carriers are supported, a longitudinal beam supporting the framework, and supporting rafters secured to the underside and ends of the longitudinal and centrally disposed beam, bins disposed upon each side of the longitudinal beam, and secured to, and supported upon the bin supporting rafters; of an endless belt, a sprocket chain secured to the under side of said belt, and operatively passed within the notches of, and over the carriers, sprocket-wheels secured to, and mounted

upon shafts at each end of the machine and having sprocket teeth disposed upon their peripheries which take in the sprocket chain, substantially as and for the purposes set forth.

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

JAS. W. STEVENSON.

Witnesses:

FROST STEVENSON,
CHAS. HORTON.