June 5, 1928. 1,672,441

E. M. WAYLAND

FRUIT GRADING MACHINE

Filed Feb. 8, 1927

Fig. 1.

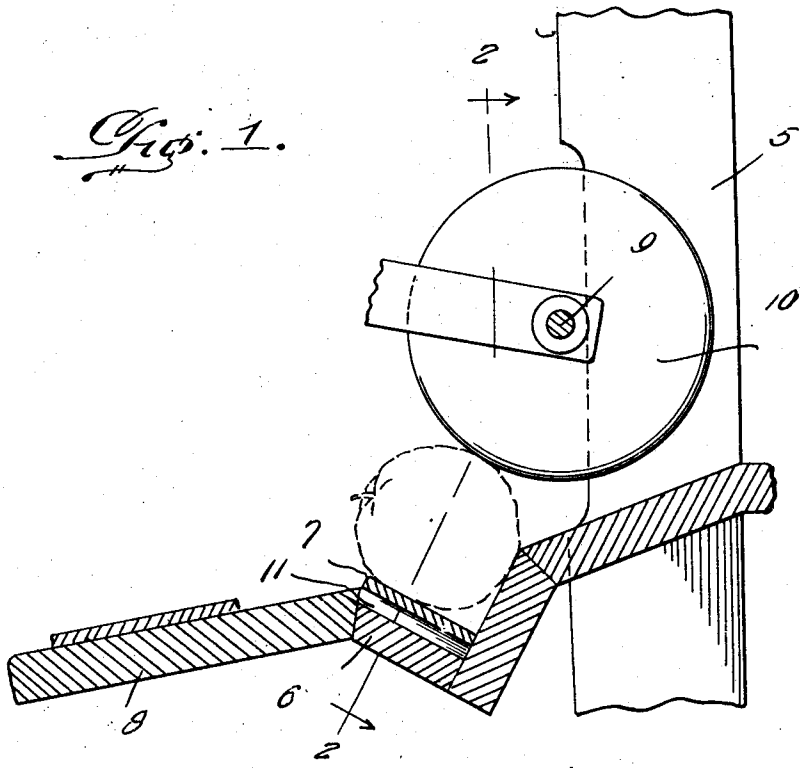
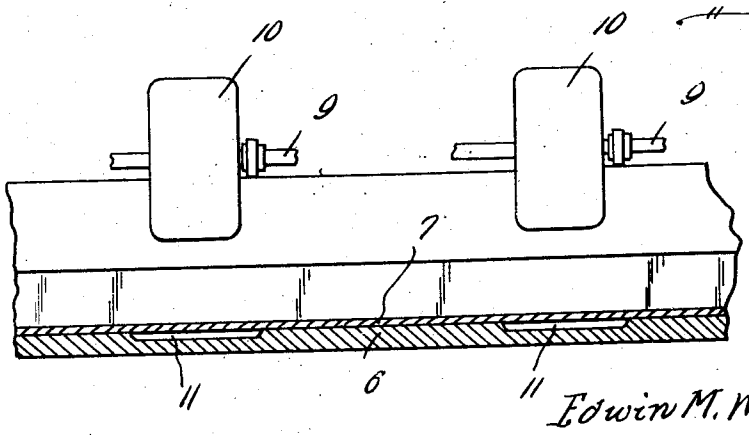


Fig. 2.



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UNITED STATES PATENT OFFICE.

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FRUIT-GRADING MACHINE.

Application filed February 8, 1927. Serial No. 166,741.

This invention relates to new and useful improvements in fruit grading machines of the kicker wheel character, and aims to provide a sizing belt deck having recesses formed therein beneath the various kicker wheels so that the sizing belt passing thereover will act as a cushion for the fruit that is engaged by the various kicker wheels to prevent the bruising, crushing, or otherwise marring of the same.

In the drawings:—

Figure 1 is a fragmentary section, mainly through the decking of a kicker wheel type of grader constructed in accordance with the present invention; and

Figure 2 is a fragmentary longitudinal section through the sizing belt deck constructed in accordance with the present invention.

Now having particular reference to the drawing, 5 designates one of the usual vertical posts of a kicker wheel type of fruit grading machines, while 6 designates the transversely inclined sizing belt deck over which travels the sizing belt 7. At the outer edge of this sizing belt decking 6 is the usual oppositely inclined distributing belt decking 8, while secured upon the usual shaft 9 above and to the side of the sizing belt decking 6 are the usual kicker wheels 10, only two of which are shown in the present instance.

In carrying out my invention the top surface of the sizing belt decking 6 is formed directly beneath the various kicker wheels with recesses 11 so that a space will be created between the sizing belt 7 and said decking with the end in view that the sizing belt at the points directly above the recesses will act as cushions for the fruit when the same are engaged by the various predetermined positions of the kicker wheels 10—10.

The decking 6 is inclined transversely, and the recesses 11 are extended throughout the width of the said decking 6. The decking 6 being inclined as stated, and the sizing belt 7 being correspondingly inclined, it follows that when a piece of fruit is on the belt 7, and in vertical alinement with one of the recesses 11 and the kicker wheel 10 complementary to said recess 11, the portion of the belt above the recess 11 is entirely unsupported throughout the width of the belt and throughout the length of the recess 11. It will also be noted that the portion of the belt above the recess 11 is entirely unsupported throughout the width of the recess 11 and also throughout the width of the deck 6. In other words, by virtue of the recess 11 relatively arranged as stated, a gap is afforded below and transverse of the belt and said gap is carried clear to the edge and beyond the belt, and the gap is so small that the belt has no opportunity to sag in passing over it, and only an almost imperceptible but sufficient give or springiness is peculiar to the belt over the recess or gap 11 which will positively prevent fruit from being pinched at all and at the same time obviates the necessity of providing any give in the kicker wheel shaft 9.

Even though I have herein shown and described the sizing belt decking 6 as being formed with recesses in its top surface it is of course obvious that the decking may be provided with openings or the like so that the sizing belt will not be backed by the decking at points directly beneath the kicker wheel.

Having thus described the invention, what I claim is:—

1. In a sizing belt decking for fruit grading machines including a plurality of kicker elements arranged above a sizing belt, which belt travels over said decking, said decking being formed with recesses directly beneath the belt and extending throughout the width of the decking and in coincidence with the kicker elements so that the belt will be able to give throughout its width opposite the kicker elements.

2. In a sizing belt decking for fruit grading machines including a plurality of kicker elements arranged above a sizing belt which belt travels over said decking, said decking with gaps at points beneath the kicker elements so that the belt will be unsupported throughout its width at these points for effecting a cushion for the fruit.

3. In combination, a sizing belt decking, a sizing belt arranged to travel over said decking, and a kicking element above the sizing belt; the said decking having directly beneath the belt and in coincidence with the kicker element a gap extending throughout the width of the decking so that the belt will be able to give throughout its width opposite the kicker element.

In testimony whereof I affix my signature.

EDWIN M. WAYLAND.