May 10, 1927. 1,628,436

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CONVEYER BELT AND MEANS FOR GUIDING THE SAME

Original Filed Jan. 5, 1923

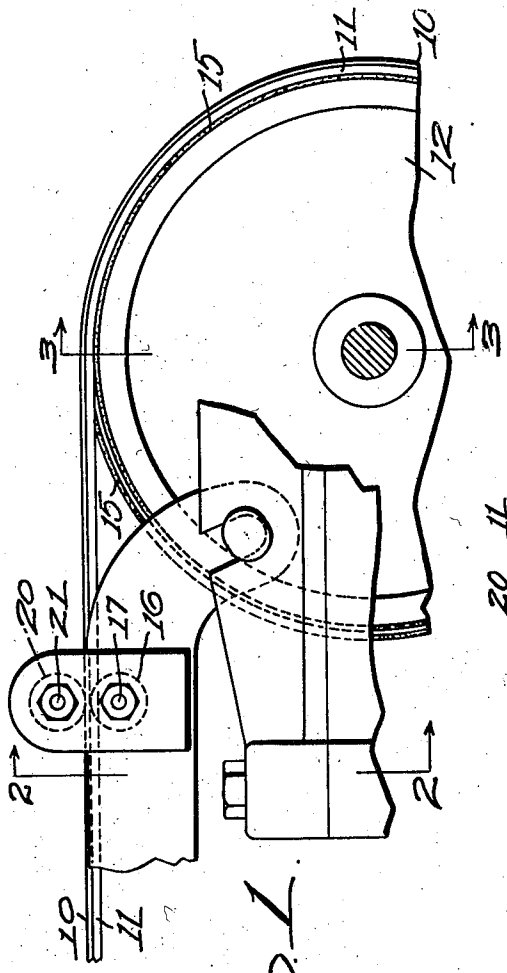


Fig. 1.

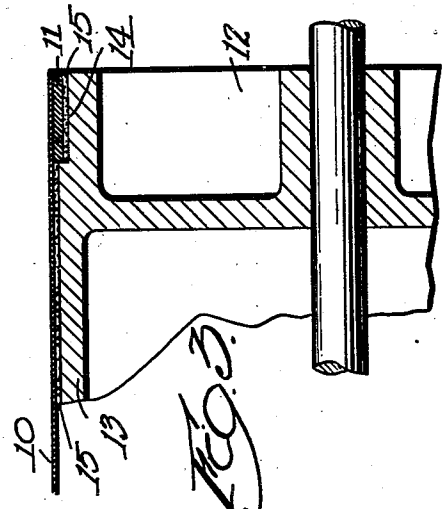


Fig. 3.

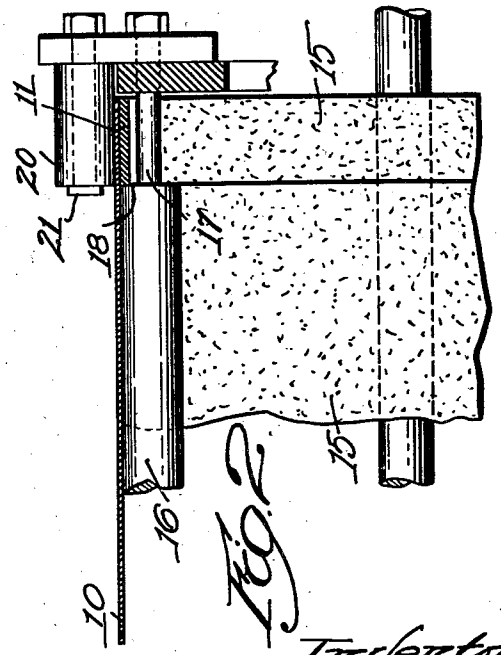


Fig. 2.

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Patented May 10, 1927. 1,628,436

UNITED STATES PATENT OFFICE.

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CONVEYER BELT AND MEANS FOR GUIDING THE SAME.

Original application filed January 5, 1923, Serial No. 610,799. Divided and this application filed October 12, 1925. Serial No. 61,886.

This invention relates to a conveyer belt and to means for guiding said belt, the application being a division of our prior application, Serial No. 610,799, filed January 5, 1923, on a coating machine.

It is one object of our invention to provide a conveyer belt of special construction and having strongly reinforced or thickened edges.

It is another object of our invention to provide guide pulleys, rolls, or other devices for such a belt, so constructed that they will co-operate with the reinforced edges of the belt and will cause the belt to travel in a straight path.

Our invention further relates to arrangements and combinations of parts which will be hereinafter described and more particularly pointed out in the appended claims.

A preferred form of the invention is shown in the drawings, in which

Fig. 1 is a side elevation of a portion of our improved belt and a guiding drum or pulley therefor;

Fig. 2 is a sectional elevation, taken along the line 2—2 in Fig. 1; and

Fig. 3 is a sectional elevation, taken along the line 3—3 in Fig. 1.

Referring to the drawings, I have shown a portion of my improved conveyer belt comprising a main or body portion 10 formed of a suitable flexible sheet material such as a duck or canvas of substantial thickness. At one or both edges, the belt is thickened, preferably by a reinforcing band or strip 11 forming an abrupt shoulder and secured to one face of the belt, in position for engagement with the supporting drums, pulleys or other guiding devices therefor.

In the drawings, we have shown our improved conveyer belt as running over a drum 12 having a cylindrical portion 13 and having a depressed portion or recess 14 formed at one or both ends of said portion 13.

Both the cylindrical portion 13 and the recessed portion 14 may be covered with a layer of felt or fabric 15, as indicated in Fig. 3, if so desired. This fabric 15 acts to cushion the conveyer belt, thus reducing the wear, and also increases the friction for driving the belt.

As the belt 10 runs over the drum 12, the reinforced edge or edges of the belt are received in the recessed portions 14 of the drum and the belt is thus forced to follow a straight path and is prevented from working out of alignment toward either end of the drum.

In Figs. 1 and 2, we have indicated the construction of an additional supporting roll 16, one or more which it is desirable to use where the conveyer is of substantial length.

Each of these rolls 16 is reduced in diameter at its end portions, as indicated at 17, thus providing shoulders 18 which engage the inner edges of the reinforcing strips 11 and assist the drums 12 in guiding the belt in a straight path.

To prevent upward displacement of the belt as it passes over the guide rolls 16, we preferably provide idle rolls 20 mounted on studs 21 and positioned so closely adjacent the rolls 16 that the belt cannot lift away from the rolls sufficiently to carry the reinforcing strip 15 above the shoulder 18.

While this conveyer belt has been found particularly useful in candy coating machines, it is also capable of general application and we do not desire to be limited to the use of our improved belt for any specific purpose. The addition of the reinforcing strips 15 not only enables us to guide our belt in a straight path but also increases the strength and durability of the belt, as the edge portions, which commonly wear most rapidly, are strongly reinforced and are well adapted to sustain the increased wear. It will be understood that the thickened edge portions are not necessarily formed by attaching a strip of separate material thereto.

Having thus described our invention and the advantages thereof, we do not wish to be limited to the details herein disclosed otherwise than as set forth in the claims, but what we claim is:—

1. A conveyer belt formed of flexible sheet material having along its edge a reinforcing guide strip of substantial thickness applied to that side of the belt which engages the supporting and guiding devices therefor, and a guiding device therefor having a re-

cessed end portion to receive said reinforcing strip and having a shoulder by which said strip is aligned.

2. A conveyer belt having thickened edges, a rotating guiding device having recessed portions to receive said thickened edges, and holding devices adjacent said recessed rolls, said holding device having recessed portions to engage said thickened edges and effective to retain the thickened edges of said roll belt in said recess.

3. A conveyer belt having thickened edges, a rotating guiding device having recessed portions to receive said thickened edges, and holding rolls adjacent said recessed portions and spaced from the normal surface of said guiding device by less than the thickness of said belt edges, said holding rolls having recessed ends to engage said thickened edges whereby to retain the thickened edges of said belt in said recessed portions.

4. A conveyer belt having thickened edges, a rotating guiding device having recessed portions to receive said thickened edges and holding rolls adjacent said recessed portions effective to retain the thickened edges of said belt in said recessed portions, and an idle roll mounted above said belt adjacent said guiding device effective to retain said belt in engagement with said guiding device.

5. A conveyer belt having thickened edges, a rotated guiding device having recessed portions to receive said thickened edges, and holding devices adjacent said recessed guiding device mounted transversely of the underside of said belt and effective to retain the thickened edges of said belt in said recess.

In testimony whereof we have hereunto affixed our signatures.

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