April 14, 1931. F. N. WOODMAN 1,800,880

WEAR RESISTING DEVICE FOR WIRE CONVEYER BELTS

Filed April 12, 1929

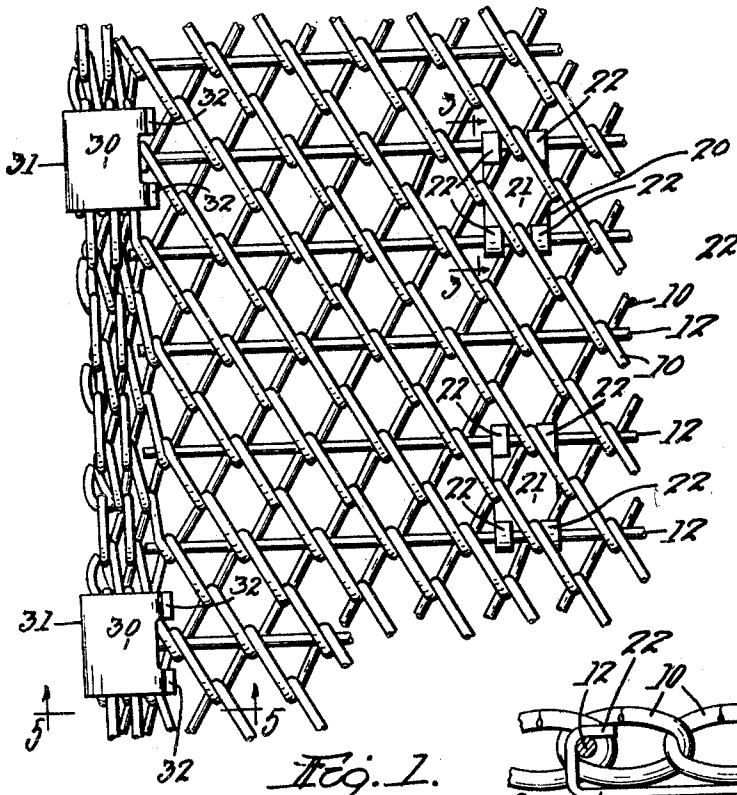


Fig. 1.

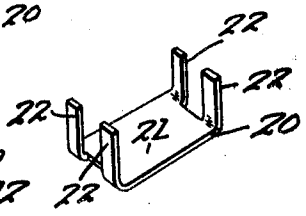


Fig. 2.

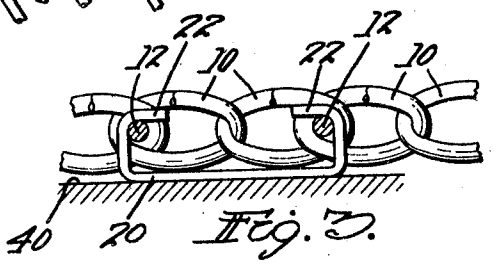


Fig. 3.

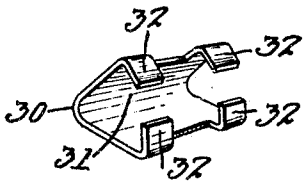


Fig. 4.

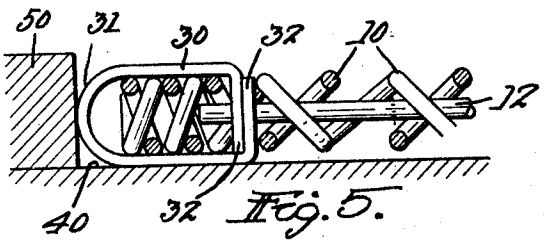


Fig. 5.

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UNITED STATES PATENT OFFICE

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WEAR-RESISTING DEVICE FOR WIRE-CONVEYER BELTS

Application filed April 12, 1929. Serial No. 354,619.

This invention relates to devices for prolonging the life and for resisting the wear of wire conveyer belts.

It is the general object of my invention to provide devices which are adapted to be attached to the surface or to the selvage of a wire conveyer belt and which are effective to resist in large part the wear which would otherwise be sustained by the belt itself.

A further object of my invention is to provide wear-resisting devices so designed and constructed that they may be readily removed and replaced when worn or defective.

My 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 plan view of a portion of a wire conveyer belt having my invention applied thereto;

Fig. 2 is a perspective view of one form of wear-resisting device;

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

Fig. 4 is a perspective view of a second form of wear-resisting device, and

Fig. 5 is a detail sectional elevation, taken along the line 5—5 in Fig. 1.

Referring to the drawings, I have shown a portion of a wire conveyer belt comprising spiral members 10 extending crosswise of the fabric and each interwoven with adjacent spiral members at both sides thereof. Adjacent the selvage, as shown at the left in Figure 1, the turns of the members 10 are compressed or crowded together transversely of the belt to produce a reenforced edge portion.

Spreader bars 12 are inserted between the turns of adjacent members 10 and are effective to greatly reduce transverse shrinkage of the belt when in use, particularly when the belt is exposed to high temperatures. The turns of the members 10 frictionally engage the opposite sides of the spreader bars 12 and it is found that this engagement strongly resists lateral shrinkage of the belt.

The belt thus far described is of a commercial form and the described features thereof form no part of my present invention, which relates particularly to the provision of wear-resisting devices for prolonging the life of this general type of belt.

In Fig. 2, I have shown a form of wear-resisting device adapted to be applied to a flat surface of the belt. The device is in the form of a metal clip 20 having an extended wear-resisting portion 21, and having offset prongs 22 projecting laterally from opposite edges of the portion 21.

The clips 20 are preferably secured to the conveyer belt by inserting the prongs 22 alongside certain of the spreader bars 12 and by bending the prongs inward with a hammer or other suitable tool, thus firmly securing the devices 20 in position on the face of the conveyer belt.

I also provide a slightly different form of clip 30, as indicated in Figs. 4 and 5, for protecting the selvages of the belt. This clip is substantially similar to the clip 20, except that the body portion 31 is bent to a substantially U-shaped section when in use, and that the prongs 32 overlap each other and are of such length that they do not extend beyond the opposite surface of the belt.

The devices 20 and 30 are affixed in spaced relation to the surface or selvages of the wire conveyer belt or preferably to both the surface and selvages. The clips 20 on the lower face of the belt are adapted to engage the surface of a hearth or other support 40 (Fig. 3), over which the belt is dragged and thus largely protect the wire members 10 from contact and wear.

Similarly the selvage clips 30 protect the edges of the belt from contact with an edge guide such as is indicated at 50 in Fig. 5. The devices are readily attached by the use of a hammer or other similar tool, and when worn or defective they may be very readily removed and replaced, thus indefinitely prolonging the life of the belt to which they are applied.

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

1. In a conveyer belt, in combination, a woven wire fabric comprising interwoven spiral wire members, a plurality of rigid wear-resisting plates, and means to separately and detachably secure each one of said plates to said interwoven wire fabric, said fabric retaining its complete interwoven structure when said plates are removed therefrom.

2. In a conveyer belt, in combination, a woven wire fabric, and a plurality of separate wear-resisting devices secured in spaced relation thereon, said devices comprising metal clips each having an extended wearing surface and each having a plurality of offset attaching prongs.

3. In a conveyer belt, in combination, a woven wire fabric, and a plurality of separate wear-resisting devices secured in spaced relation thereon, said devices comprising sheet metal clips each having an extended wearing surface and each having a plurality of offset attaching prongs at the opposite edges thereof, said prongs embracing structural elements of said belt when assembled in operative relation therewith.

4. In a conveyer belt, a plurality of interwoven spiral wire members, spreader bars interposed between the turns of adjacent wire members, and wear-resisting metal clips each having an extended wearing surface and each having offset prongs at opposite edges thereof embracing certain of said spreader rods when attached to said belt.

In testimony whereof I have hereunto affixed my signature.

FRANCIS N. WOODMAN.