April 29, 1930. V. C. KING 1,756,598

CONVEYER BELT

Filed June 1, 1929

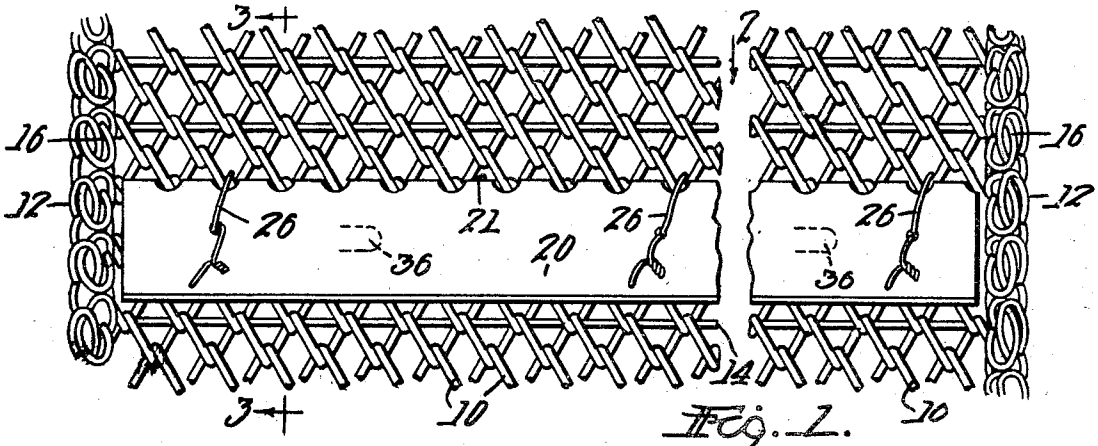


Fig. 1.

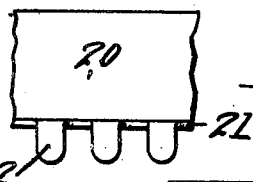


Fig. 2.

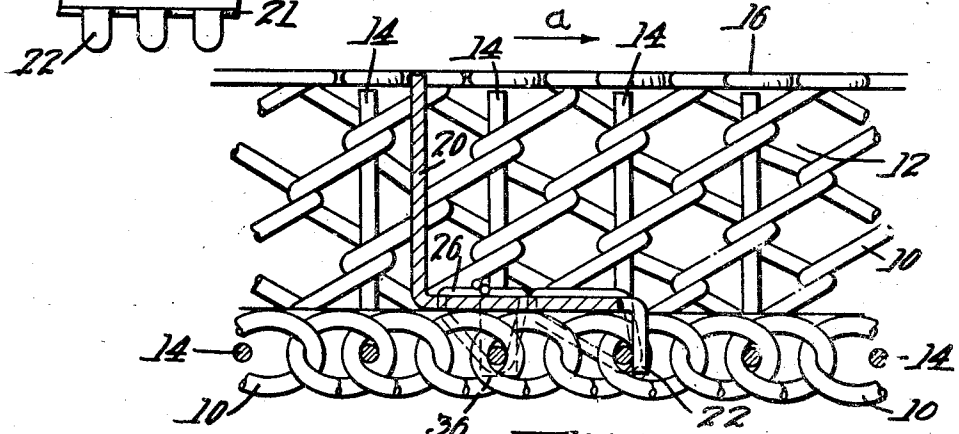


Fig. 3.

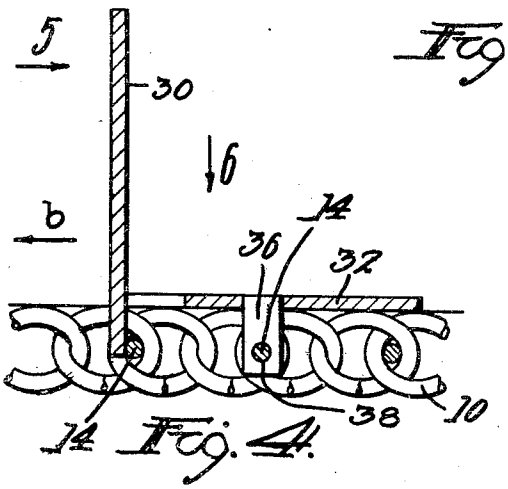


Fig. 4.

Fig. 5.

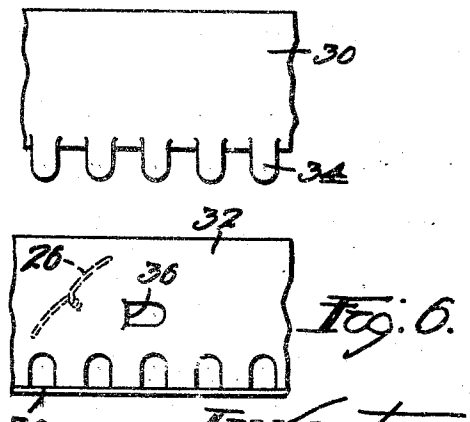


Fig. 6.

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UNITED STATES PATENT OFFICE

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CONVEYER BELT

Application filed June 1, 1929. Serial No. 367,681.

This invention relates to a wire conveyer belt, preferably of the spiral cross wire type, in which material having thin edge portions may be effectively transported.

It is the object of my invention to provide such a belt having transverse flange members or ledges on its transporting surface, so designed that articles having thin edge portions cannot be caught or held under the flange members.

I have also provided improved means for firmly securing such flange members in position, leaving the under face of the belt clear and unobstructed.

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 and a modification thereof are shown in the drawings in which

Fig. 1 is a partial plan view of part of a conveyer belt embodying my improvements;

Fig. 2 is a partial edge view of the flange member, looking in the direction of the arrow 2 in Fig. 1;

Fig. 3 is a partial longitudinal sectional elevation, on enlarged scale, taken along the line 3—3 in Fig. 1;

Fig. 4 is a similar view of a modified construction;

Fig. 5 is a partial side elevation thereof, looking in the direction of the arrow 5 in Fig. 4; and

Fig. 6 is a partial plan view, looking in the direction of the arrow 6 in Fig. 4.

Referring to Figs. 1 to 3, my improved conveyer belt in its preferred form comprises a series of spiral transverse members 10, adjacent spirals being interlaced and the selvage edges of the woven structure being preferably bent upward substantially at right angles, as indicated at 12 in Fig. 3.

Cross rods 14 are inserted in and between adjacent interlaced spiral members 10 and these cross rods are preferably extended into the up-turned flange portions 12 and are effective to assist in holding these flange portions in the desired position substantially perpendicular to the body of the belt.

The ends of the spiral members 10 are preferably twisted together and bent downward to provide a reasonably safe and smooth upper edge to the flange portions 12, as indicated at 16 in Figs. 1 and 3.

When flange members or projections have been used on more or less similar belts heretofore, much trouble has been encountered by the fact that the thin edges of various articles such as spectacle lenses would be caught between the flat or base portion of the flange and the body of the belt, in which position they will either be broken or so secured that they will not readily be displaced.

To solve this objectionable characteristic of wire conveyer belts, I have provided flange members 20 preferably formed as transverse right angled sheet metal bars of right angle cross section and in the form shown in Figs. 1 and 3, I have provided the edge portion 21 of the members 20 with depending or offset projections 22 so spaced laterally that they substantially correspondingly engage the cross wires 14 and that they can project downward between the turns thereof, as indicated in Fig. 3.

It is assumed that the belt shown in Figs. 1 to 3 is to travel in the direction of the arrow *a*. The depending projections 22 prevent the thin edges of glass lenses, washers or other thin articles from slipping between the base of the flange member 20 and the upper surface of the conveyer belt.

Suitable holes or perforations are provided in the base of the flange member 20 and tie wires 26 are inserted through these holes and are passed around certain of the cross rods 14, thereby firmly securing the flange members in position. It will be noted that neither the projections 22 nor the tie wires 26 extend entirely through the body of the belt, so that the lower or pulley-engaging face of the belt is left free and unobstructed.

In Figs. 4 to 6 I have shown a modified construction adapted for use with flange members secured to a belt to travel in the opposite direction, as indicated by the arrow *b* in Fig. 4, the up-standing face 30 of the flange member 32 leading.

I then form the depending projections 34 at the lower edge of the up-standing portion 30 so that they will project into the body of the belt at the front edge of the member 32.

I also provide depending lugs 36 preferably stamped out of the body of the flange member and extending downward, as indicated in Fig. 4, and I provide these depending projections 36 with perforations 38 aligned with one of the cross rods 14 in which the cross rod may be conveniently inserted. With this construction, the flange member is firmly secured to the belt and the projections 34 and 36 leave the under side of the belt free and unobstructed as in the previously described form.

It will be understood that tie wires 26 may be used with the form of my invention shown in Fig. 4, as indicated in dotted lines at 26 in Fig. 6, and it will be also understood that the perforated lugs 36 may be provided in the form shown in Fig. 3, as also indicated in dotted lines in said figure.

Having thus described my invention, it will be evident that I have provided a flange member which may be quickly and easily secured to the face of a conveyer belt and that while traveling in the direction of the arrow *a* in Fig. 3 or the arrow *b* in Fig. 4, the entrance of thin objects under the advancing edge of the flange member is effectively prevented.

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 an interlaced conveyer belt, a body portion, a transverse flange member secured to the work-engaging surface of said belt, said flange member having offset projections on one edge portion thereof extending below the work-engaging surface of said belt, and means to secure said flange member in position.

2. In an interlaced conveyer belt, a body portion, a transverse flange member secured to the work-engaging surface of said belt, said flange member having offset projections on one edge portion thereof extending below the work-engaging surface of said belt, and means to secure said flange member in position, said offset projections and said securing means extending only partially through said body portion and leaving the under side of said belt clear and unobstructed.

3. In an interlaced conveyer belt, a body portion, a transverse flange member secured to the work-engaging surface of said belt, said flange member having offset projections on one edge portion thereof extending below the work-engaging surface of said belt, and means to secure said flange member in position, said belt being made of interlaced spiral wires, cross bars extending transversely of said belt in and between adjacent spiral wires and said flange member having additional lugs projecting into the path of said belt and perforated to receive one of said cross rods by which said flange member is held from displacement.

In testimony whereof I have hereunto affixed my signature.

VERNON C. KING.