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CONVEYER BELT

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4 Claims. (Cl. 198—201)

This invention relates to conveyer belts, and more particularly to a means for increasing the capacity of a conveyer belt without unduly increasing the width thereof.

5 An object of this invention is to provide a conveyer belt construction which will provide increased capacity without increasing the space occupied by the belt.

10 Another object of this invention is to provide a conveyer belt which is so constructed that the driving means therefor may engage the side portions of the belt so that the length of the belt may be increased to any extent desired without a proportionate increase in the thickness of the belt.

15 A further object of this invention is to provide a flexible conveyer belt which is provided with upstanding side walls which are constructed integral with the body portion thereof and which are constructed in a manner whereby the belt may easily pass over the supporting rollers at each end thereof.

20 With the foregoing and other objects in view, the invention will be more fully described hereinafter, and will be more particularly pointed out in the claims appended hereto.

In the drawing, wherein like symbols refer to like or corresponding parts throughout the several views:

25 Figure 1 is a top plan view of a fragmentary portion of a conveyer belt constructed according to an embodiment of this invention.

Figure 2 is a sectional view taken on the line 2—2 of Fig. 1.

30 Figure 3 is a transverse sectional view of the upper and lower runs of a conveyer belt constructed according to this invention.

Referring to the drawing, Figures 1, 2 and 3 show a conveyer belt constructed according to this invention where the body portion 17 of the belt is flat, and provided with corrugated side edges 16. As shown in Figure 1, the corrugations are arranged staggered to each other. The upstanding sides 18 which preferably taper in an upward direction are corrugated. The peaks 15 of the corrugations of the sides fit into the valleys 14 of the body portion or bottom 17 and the valleys 13 of the corrugations of the sides are engaged by the peaks 12 of the bottom 17. By this arrangement, the corrugations of the two sides are staggered in respect to each other. The side walls 18 of the body 17 are formed in fluted or corrugated configuration so that when the belt passes over the end rollers or supporting means 55 the side walls 18 may straighten out longitudinally

without bending downwardly in an inclination in respect to the plane of the bottom 17.

The belt 19 shown in Figs. 1, 2 and 3 may be supported at the upper run D thereof by rollers 20, and the lower run E may be supported in inverted position on rails 21 or the like. These rails 21 will engage between the inverted side walls 18 of the belt and thus prevent lateral movement of the lower run E.

10 It will be noted that the quantity of material 22 which may be supported by the upper run D of the belt 19 is considerable. The side walls 18 of the belt 19 also provide a means whereby a driving means may be associated with the belt at points intermediate the ends of the upper and lower runs in addition to the end driving means normally provided, and in this manner the driving means will not act to strain the belt as much as in the case where only end driving means are provided.

20 The corrugation or fluting of the side walls 18 not only provides a means whereby the belt may readily pass over the end rollers without flattening the side walls, but also provide a strengthened construction which will permit the use of flexible material throughout the belt construction, with the side walls constructed in such a manner as to prevent collapsing thereof under the action of the material placed upon the belt 19. The height of the side walls 18, that is the depth of the corrugations, will determine the capacity of the belt 19, and it will be understood that these side walls may be of any suitable height, depending in great part upon the character of material which is to be conveyed.

25 A conveyer constructed as shown in Figures 1, 2 and 3 may be produced at a low cost.

30 From the foregoing, it will be seen that there has been described as an embodiment of the invention a conveyer belt comprising an endless strip flat in transverse bottom section and having corrugated side edges comprising marginal peaks and valleys with side walls each consisting of corrugations extending from the top to the bottom thereof, the inner peaks of the side wall corrugations engaging the valleys of the side edges, and the inner valleys of the side wall corrugations engaging the peaks of the side edges, the outer peaks and valleys of the side walls extending as continuous walls from the upper ends of the side walls to the under surface of the bottom section, both the bottom section and side walls forming continuous corrugations in the longitudinal direction of the belt, and laterally thereof.

35 I do not wish to be restricted to the size, form

and proportions of the various parts, and obviously changes could be made in the construction herein described without departing from the spirit of the invention, it being only necessary that such changes fall within the scope of the appended claims.

What is claimed is:

1. A conveyer belt comprising an endless strip flat in transverse bottom section and having corrugated side edges comprising marginal peaks and valleys, side walls each consisting of corrugations extending from the top to the bottom thereof, the inner peaks of the side wall corrugations engaging the valleys of the side edges, and the inner valleys of the side wall corrugations engaging the peaks of the side edges, the outer surfaces of the peaks and valleys of the side walls extending from the top of the side walls to the under surface of the bottom section, both the bottom section and side walls forming continuous corrugations in the longitudinal direction of the belt, and laterally thereof.
2. A conveyer belt comprising an endless strip flat in transverse bottom section and having corrugated side edges, side walls each consisting of corrugations which extend from the top to the bottom thereof, the inner peaks of the side wall corrugations engaging the valleys of the side edges, and the inner valleys of the side wall corrugations engaging the peaks of the side edges, the side walls tapering upwardly being thickest at the part adjacent the bottom section, the inner surfaces of which incline away from the upper surface of the bottom section, the outer peaks and valleys of the side walls forming a continuation

of the outer peaks and valleys of the bottom section, both the bottom section and side walls forming continuous corrugations in the longitudinal direction of the belt, and laterally thereof.

3. A conveyer belt comprising an endless strip flat in transverse bottom section and having corrugated side edges, side walls each consisting of corrugations having marginal peaks and valleys, the inner peaks of the side wall corrugations engaging the valleys of the side edges, and the inner valleys of the side wall corrugations engaging the peaks of the side edges, the bottom section and side walls having their valleys and peaks opposite to each other, arranged transversely of the bottom section, the outer peaks and valleys of the side walls forming a continuation of the outer peaks and valleys of the bottom section, both the bottom section and side walls forming continuous corrugations in the longitudinal direction of the belt, and laterally thereof.

4. A one-piece conveyer belt comprising a bottom portion and lateral walls formed integrally therewith, said walls being corrugated and said corrugations extending as continuous sides from the top edge to the underface of said bottom portion at the outer sides of the belt, said bottom portion having marginal peaks and valleys in registration with those of the side walls, whereby the belt in passing over the guide rolls enables the side walls to expand without bending the side walls in the direction of the bottom, both the bottom section and side walls forming continuous corrugations in the longitudinal direction of the belt, and laterally thereof.

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