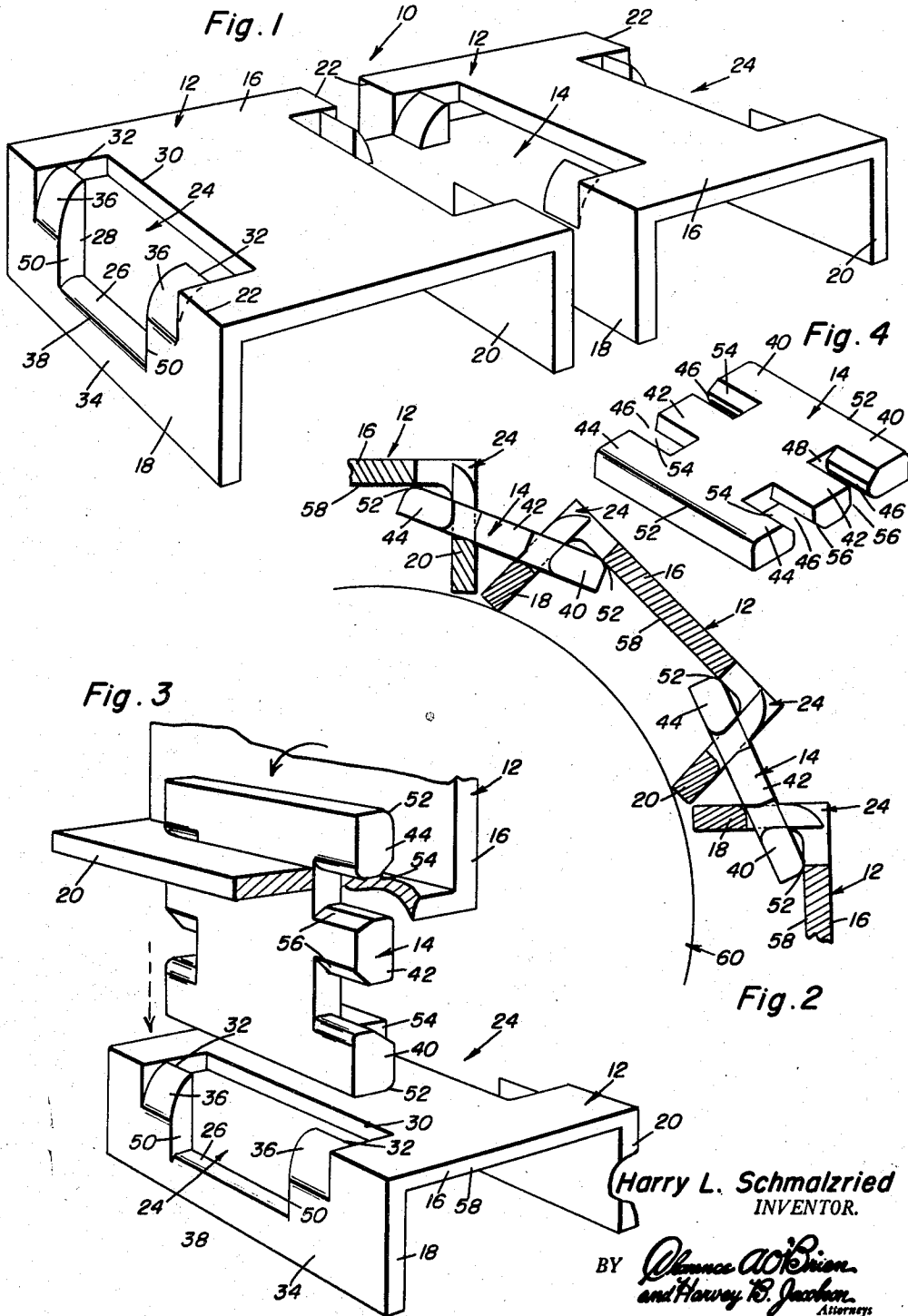


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CHANNEL BARS CONNECTING LINK

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## CHANNEL BARS CONNECTING LINK

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2 Claims. (Cl. 198—189)

This invention relates generally to endless conveyors and is more particularly concerned with an improved endless conveyor connecting link which is economical to manufacture, which may be easily and quickly assembled by relatively unskilled labor, said assembly requiring a minimum of assembling tools.

Another object of the invention is to provide endless conveyor link construction in conformance with that set forth above which will be self-locking when assembled, long wearing, and in which various parts thereof may be readily and quickly replaced while in the field.

And still another object of invention in conformance with those set forth above is to provide a connecting link between adjacent flange portions of a plurality of adjacent U-cross sectioned channel bars whereby said channel bars may be utilized as an elongated conveyor train in a single plane in which conveyor may be moved through the application of pressure on an end member of a train of said channel bars.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a perspective view of a pair of link elements retained in assembled relationship by a connector element;

Figure 2 is a longitudinal sectional view taken through a plurality of link and connector elements illustrating the position thereof if the endless conveyor were journalled over a drive drum;

Figure 3 is a perspective view of an underside of a link element and connector in assembled relation therewith and the position of a second link element relative to the first mentioned link element and connector; and

Figure 4 is a perspective view of a connector element. A portion of an endless conveyor or belt is indicated generally at 10 and includes link elements 12 secured together by means of a connector element 14.

The link elements 12 each are of a substantial channel-shaped construction having a U-shaped cross section when observed in end elevation. The link elements include a top web portion 16 terminating in right angled side flanges 18 and 20. The intersecting corners 22 between the web 16 and side flanges include a transversely disposed aperture 24 which is partially included in both said web and portion of a side flange. Inasmuch as the apertures on opposite sides of said link element are identical, it is believed only necessary to describe one of said connecting apertures 24 in detail. The connecting aperture 24 includes in the flange 18, see Figure 1, a centrally disposed notch 26 which opens into the web 16. The flange 18, includes where its rear side 28 would intersect the upper surface of the web 16, a rearwardly disposed notched out portion 30 which has a width approximately that of the connector element 14 to be subsequently described. Extending from portions 32 of the notch 30 of the web 16

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of the link elements downwardly into the outer surface 34 of the flange 18, as well as the other flanges, are curved relieved portions 36, the function of which to become subsequently apparent. The notched out portion 26 includes a relief portion 38 at its forward edge extending into the front surface 34 of the flange 18.

The connector elements 14 have a thickness approximately the width of the slots 30 in the link elements, and the connectors are shorter than the length of said slots 30 in order that they may be inserted into the link elements 12, as indicated by the dotted arrow of Figure 3. After such insertion, the upper link element 12 and connector 14 will be rotated counterclockwise as indicated by the solid arrow of Figure 3 whereupon the link and connector elements will assume the position indicated in Figures 1 and 2.

The connector elements 14 include a plurality of laterally extending lug portions 40, 42 and 44. The lug elements 40 and 44 are identical, with the exception they are located on oppositely disposed ends of said connector elements, each of which defining with the lug elements 42 a notched aperture 46 which is of sufficient width to receive therein a relief portion 36 of the flanges 18 and 20. The notches 46 on the connector element 14 extend inwardly on both sides of the connector element 14 terminating in a central web 48 which is adapted to be received between the opposite sides 50 of the notches 26 contained in the flanges 18 and 20. The upper edges 52 of the connector elements are relieved, see Figure 2, and the opposite side edges 54 of the lugs 44 and 40 are also relieved having a semi-circular configuration when viewed in elevation. The lugs 42 include a downwardly extending relief portion 56 on both sides thereof.

The width of the lugs 40 and 44 is greater than the width of elongated notches 30 of the link elements and thus after the link elements 14 are inserted into the apertures 30 as previously mentioned, pivoting of the link elements 14 in the previously mentioned counterclockwise direction results in the rear edge 52 of the lug elements 40 and 44 in contacting the underside 58 of the web 16.

As seen in Figure 2, after the link and connector elements have been assembled as previously mentioned, they may be journalled over a drive drum 60.

The link and connector elements may be disassembled by reversing the assembly procedure previously mentioned. The relieved underside 56 of the lug elements 42 permits the connector element to pivot over the relief portion 36 of the flanges 18 and the relief portion 38 of the notched out portion 26 of the flanges 18 and 20 as well as the relieved top edges 52 of the lugs 40 and 44 increase the relative pivotal movement between the link and connector elements.

Various positional directional terms such as "front," "top," "side," etc., are utilized herein to aid in describing the device and are not intended to require any particular orientation thereof with respect to any external elements.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A conveyor including a plurality of link elements having a U-shaped cross-section defining a web and connecting side flanges, said side flanges including an upwardly opening notch portion intersecting a transverse slot portion in said web, said flanges including a relief portion extending from said slot in said web into an outer surface of said side flanges, and a connector element re-

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movably received in said transverse slot in said web and including a portion reciprocally received within the upwardly opening notch portion in said side flanges, said connector links including pairs of lug elements on opposite ends thereof, a pair of central lug elements extending between the first mentioned lug elements defining between said first mentioned lug elements, base notches engageable on opposite sides of the flanges of said link elements and opposite sides of the upwardly opening notch portion therein.

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2. A conveyor as set forth in claim 1 wherein said central lug includes a lower relief surface rotatable over the relief portion of said link elements which extend from said slot portion in said web into the outer surface of said flanges.

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