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LINK CONVEYER FOR DRIERS OF SHORT-LENGTH  
FOOD-PASTE PRODUCTS AND THE LIKE  
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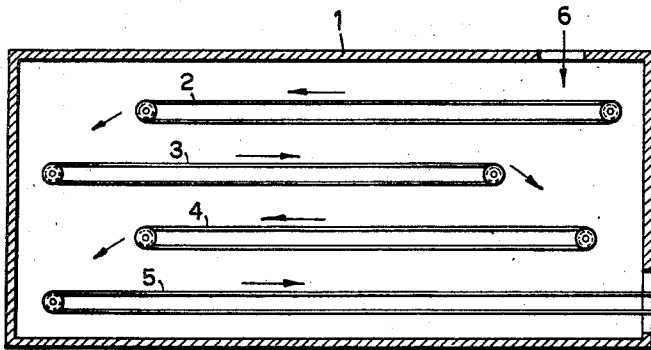


Fig. 1

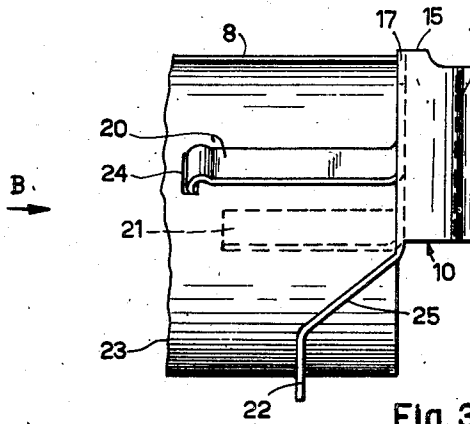


Fig. 3

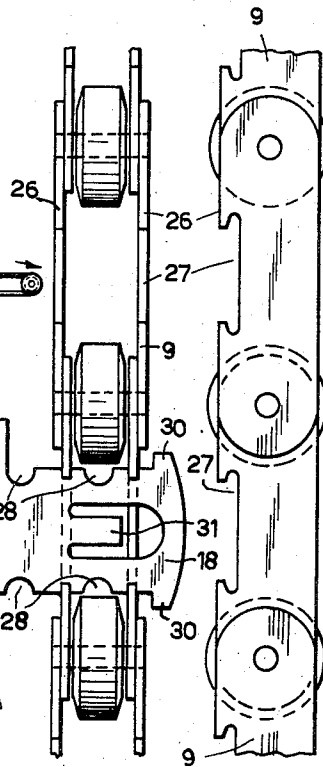


Fig. 6

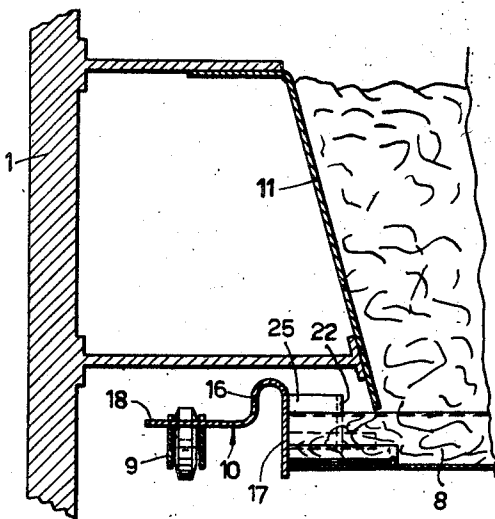


Fig. 2

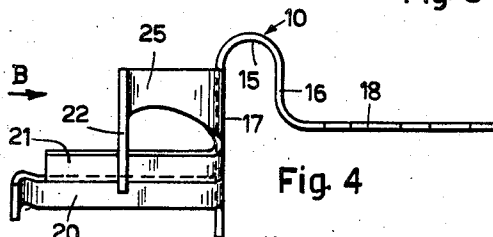


Fig. 4

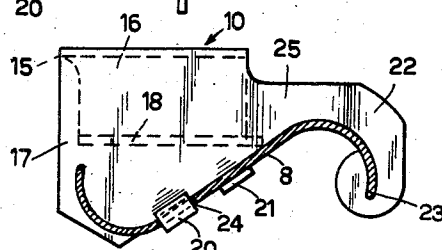


Fig. 5

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## LINK CONVEYER FOR DRIERS OF SHORT-LENGTH FOOD-PASTE PRODUCTS AND THE LIKE

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8 Claims. (Cl. 198—196)

In known food-paste or alimentary driers, link conveyers comprising two lateral chains and a plurality of cross-members have been used for conveying the goods to be dried, which members are S-shaped in cross-section. So far no simple and inexpensive connecting elements between the chains and the cross-members have been known.

The present invention discloses an improved connecting element and relates to a link conveyer of the type indicated, which is characterized in that the connecting elements between the chains and the cross-members consist of suitably cut and bent pieces of sheet metal, each comprising an intermediate or central U-shaped portion of which the wings are vertically disposed, the first wing carrying a flat lug secured to one of the side chains, and the second wing being provided with lugs between which one of said cross-members may be clampedly engaged.

One form of the invention is shown, by way of example, in the accompanying drawing, in which—

Fig. 1 is a schematical vertical section through a drier,

Fig. 2 is an enlarged partial transverse vertical section through a link conveyer,

Fig. 3 is a top plan view of a connecting element assembled with two links of a side chain and with a cross-member,

Fig. 4 is a side elevational view of the connecting element as seen in the direction of arrow A in Fig. 3, the cross-member having been omitted,

Fig. 5 is an end view of the connecting element in the direction of arrow B in Figs. 3 and 4, with the cross-member in place, and

Fig. 6 is a side elevational view of the chain shown in Fig. 3.

Fig. 1 shows schematically a drier for short-length food-paste products. In the drier 1 are arranged four link conveyers 2 to 5 in superposed relation. The goods to be dried are poured through an opening 6 onto the top conveyor 2 whence they are successively cast onto the conveyers 3 to 5 and then discharged from the drier.

The link conveyer of the present invention (see Fig. 2) comprises cross-members 8 of S-shaped cross-section which are driven by means of two side chains 9 via connecting elements 10. A wall 11 fixed to the rigid portion of drier 1 forms one side of a trough for the goods.

Each connecting element 10 is a stamped and bent piece of sheet metal which comprises a central U-shaped portion 15 of which the two wings 16, 17 are vertically disposed. Wing 16 is integral with a flat lug 18 which is secured to chain 9, and wing 17 carries three lugs 20 to 22 for clampingly engaging the cross-member 8. Lug 20 is adjacent to the upper side of member 8 near the latter's central portion (see Figs. 3 and 5). Lug 21 bears against the underside of member 8, and the hook-shaped lug 22 engages the tip 23 of member 8. To secure element 10 against movement in the longitudinal direction of member 8, the free end of lug 20 is bent downwardly

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and is received in a slot 24 in member 8. Lug 20 is yieldably received in the slot 24 when the elements 8 and 10 are assembled.

Wing 17 and lug 22 enclose that portion of member 8 which is loaded with goods, and hence the goods accumulated in the tray-like portion of member 8 below wall 11 cannot fall out of the link conveyer. Portion 25 of lug 22 is bent out of the plane of wing 17 toward the interior of member 8 so that, upon discharge of the goods onto the next-following link conveyer, the small quantity of goods which has slid underneath wall 11 is led toward the central portion of member 8.

Chain 9 (see Fig. 6) comprises flat links 26 each of which has a T-shaped recess 27 in one of its longitudinal end faces. For the purpose of assembling a connecting element 10 with a pair of chain links 26, lug 18 comprises two pairs of assembly notches 28 whose spacing is equal to that of two adjacent chain links at right angles to the direction of movement of the conveyer. With the aid of notches 28, connecting element 10 may be inserted into recess 27 and then slid into the position shown in Fig. 3. Lug 18 also comprises a tongue 31 which, upon insertion of the lug into the recess 27, is bent slightly in downward direction to prevent excessive lateral movements of the connecting member 10 with respect to the chain links 26, together with two projections 30 at the free end of lug 18. Tongues 31 and projections 30 thus connect element 10 to chain 9 at right angles to the direction of movement of the conveyer.

It will be seen that the connecting element 10 is of simple construction and may be readily assembled. It is stamped and bent to shape from a single piece of sheet metal, and no screws or other fastening means are required for its assembly with the chains and the cross-members.

What I claim and desire to secure by Letters Patent is:

1. A link conveyor consisting of two side chains; a plurality of cross-members of S-shaped cross-sectional contour; and a plurality of unitary connecting elements, two for each of said cross members, each of said connecting elements comprising a median U-shaped portion having a pair of vertical wings, a flat lug integral with one of said wings and detachably secured to one of said chains, and a plurality of lugs integral with the other of said wings for clampingly engaging the adjacent one of said cross-members.

2. A link conveyor consisting of two side chains; a plurality of cross members of S-shaped cross sectional contour, each of said cross members having a pair of major surfaces, a pair of longitudinal edges and a pair of transverse edges; and a plurality of unitary connecting elements, two for each of said cross members, each of said connecting elements comprising a median U-shaped portion having a pair of vertical wings, a flat lug integral with one of said wings and detachably secured to one of said chains, and three lugs integral with the other of said wings for clampingly engaging the adjacent one of said cross members, the first of said lugs extending along one of said major surfaces of the adjacent one of said cross members and engaging a median portion thereof, the second of said lugs extending along the other major surface of said cross member, and the third of said lugs having a hook-shaped portion for engaging one of said longitudinal edges of said cross member.

3. The structure according to claim 2, wherein the free extremity of said first lug of each of said connecting elements is bent out of the general plane of said first lug, each of said cross members having a pair of apertures for reception of said bent extremities of the first lugs of two adjacent ones of said connecting elements.

4. The structure according to claim 2, wherein said

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last mentioned wing of each of said connecting elements is adjacent to one of said transverse edges of one of said cross members and said third lug is inclined with respect to said last mentioned wing, whereby said last mentioned wing and said third lug of each of said connecting elements define a pair of retaining walls for the material conveyed by said cross members.

5. The structure according to claim 4, wherein at least a portion of said third lug of each of said connecting elements is inclined toward the center of the adjacent one of said cross members.

6. A link conveyer consisting of two side chains, each of said chains comprising a plurality of spaced pairs of links, each of said links having a T-shaped recess in one of the longitudinal edges thereof; a plurality of cross members of S-shaped cross sectional contour; and a plurality of unitary connecting elements, two for each of said cross members, each of said connecting elements comprising a median U-shaped portion having a pair of vertical wings, a plurality of lugs integral with one of said wings for clampingly engaging the adjacent one of said cross members, and a flat lug integral with the other of said wings and detachably received in said T-shaped recesses in the adjacent pair of said links, each of said flat lugs having two pairs of assembly notches with the distance between two notches constituting one of said pairs equal to the spacing between said pairs of links at right angles to the direction of movement of said conveyer.

7. A link conveyer consisting of two side chains, each of said chains comprising a plurality of spaced pairs of links, each of said links having a T-shaped recess in one of the longitudinal edges thereof; a plurality of cross members of S-shaped cross sectional contour; and a plurality of unitary connecting elements, two for each of said cross members each of said connecting elements comprising a median U-shaped portion having a pair of vertical wings, a plurality of lugs integral with one of said wings for clampingly engaging the adjacent one of said cross members, and a flat lug integral with the other

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of said wings and detachably received in said T-shaped recesses in the adjacent pair of said links, each of said flat lugs having two pairs of assembly notches with the distance between two notches constituting one of said pairs equal to the spacing between said pairs of links at right angles to the direction of movement of said conveyer, each of said flat lugs having a median tongue and a pair of projections at its extremity distant from said last mentioned wing, said tongue being bent out of the general plane of said flat lug and located between the adjacent pair of said links when said flat lug is received in said T-shaped recesses, one of said links being disposed between said tongue and said projections.

8. As a novel article of manufacture, a unitary connecting element comprising a U-shaped median portion having a pair of substantially parallel wings; a flat lug of substantially uniform width integral with and extending substantially at right angles from one of said wings, said flat lug having a cutout in the median portion thereof defining a tongue adapted to be bent out of the general plane of said flat lug, said flat lug further having two pairs of equally spaced notches, one pair in each of its longitudinal edges, and a pair of transverse projections at its extremity distant from said wing; and three lugs integral with and bent out of the general plane of the other of said wings, two of said lugs extending substantially at right angles from said last mentioned wing with one thereof having a bent over extremity distant from said last mentioned wing, and the third of said lugs having a hook-shaped extremity.

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