

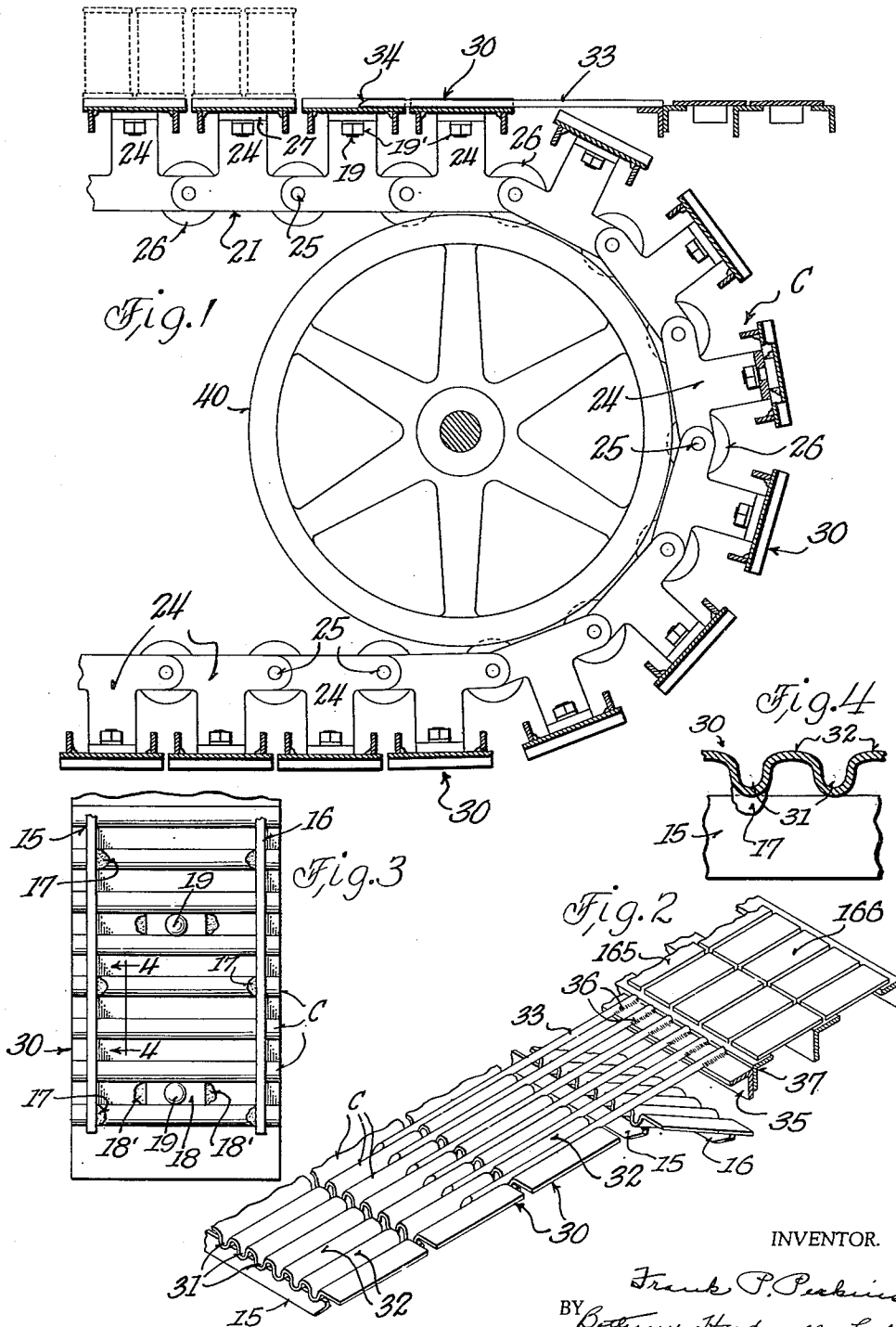
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CONVEYER

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CONVEYER

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6 Claims. (Cl. 198—20)

This invention relates in general to conveyers and is in the nature of an improvement of my application for conveyers, filed October 19, 1935, Serial No. 45,694.

One of the principal objects of the invention is to provide a novel form of conveyer element adapted to cooperate effectively with transfer or bridge rods at the discharge end of the conveyer and susceptible of convenient and economical manufacture from materials and by means of facilities readily available.

As distinguished from my application above referred to my present invention facilitates and renders more economical the production of the conveyer elements, enhances their strength, rigidity and durability and improves their capacity for efficient cooperation with the transfer or bridge rods at the discharge end of the machine.

Other objects and advantages reside in certain novel features of the construction, arrangement and combination of parts which will be hereinafter more fully described and particularly pointed out in the appended claims, reference being had to the accompanying drawing forming a part of this specification, and in which:

Figure 1 is a fragmentary view partly in longitudinal vertical section and partly in elevation showing one construction in which the invention may be embodied;

Figure 2 is a fragmentary perspective view of the upper portion of the discharge end of the conveyer and associated structure shown in Figure 1;

Figure 3 is a fragmentary view in bottom plan showing certain features of the construction of the conveyer elements; and

Figure 4 is a fragmentary sectional view taken on line 4—4 of Figure 3.

Referring to the drawing, the reference character C designates generally the main conveyer which may be advantageously used in a pasteurizing machine corresponding in its general construction to that shown and described in my application filed September 1, 1933, Serial No. 687,814.

While only a fragment of this main conveyer C is shown, it will be understood that it is of the endless type and consists of a suitable number of endless chains of which one is designated at 21. Each endless chain is made up of T-shaped links 24, the adjacent ends of the cross members of the T-shaped links being pivotally connected by pivot pins 25. Each pivot pin also serves as a pintle or axle for a roller 26 rotatably mounted thereon. These endless chains 21 and their

rollers 26 travel about suitable sprockets, one of which is designated at 40. The legs of the T-shaped links are flanged outwardly as at 27 and the flanges of the laterally aligned links of the several chains are secured to the cross members or conveyer elements 30 which make up the belt or carrying apron of the conveyer in a manner which will be hereinafter more fully described.

Each conveyer element or cross member 30 is made up from a narrow and elongated plate of metal of suitable resiliency and other properties. For example, mild steel may be employed. A flat plate of such metal is subjected to a series of operations to provide corrugations designated generally at c therein. This may be conveniently carried out by subjecting the plate to the action of suitable tools or dies in a press so as to depress closely adjacent portions thereof, thereby forming the corrugations c with the result that the top structure of the plate presents narrow, flat ridges 32 which merge into shallow grooves 31. The grooves and ridges 31 and 32 making up the corrugations c are disposed parallel to each other and at right angles to the long axis of the conveyer elements. As a consequence, these grooves and ridges are disposed parallel to the direction of movement of the upper run of the conveyer.

Each conveyer element is completed by providing reinforcing strips 15 and 16 on the underside thereof and welding these strips to the metal of the body of the conveyer element by means of welds 17. To provide for the attachment of the conveyer elements to the flanges 27 of the links of the endless chains mounting fixtures are also welded to the underside of each conveyer element, these mounting fixtures conveniently comprising mounting blocks 18 welded as at 18' to the body of the conveyer element and having threaded studs 19 adapted to project down through openings in the flanges 27 and to be secured thereto by nuts and washers 19'.

At the discharge or unloading end of the main conveyer a plurality of transfer rods or bridge rods 33 are provided, there being one such rod for each groove 31. For a portion of their length these bridge rods lie within the grooves of the cross channels which are at or approach the unloading end of the main conveyer. The dimensions of the grooves and rods are such that the topmost surfaces of the rods are coplanar with or below the top surfaces of the channels and, if desired, the inner ends of the rods may be beveled as at 34. The outer ends of the rods rest on and are suitably secured to a supporting angle 35. If desired, the rods 33 may be welded

as at 36 to the supporting angle 35. The angle 35 is in turn supported in any suitable manner as upon an angle 37 of one of the unloading conveyers designated at 165. There are two such conveyers, the other being designated at 166 and they may be the same as the corresponding conveyers in my application above referred to. The top surfaces of the conveyers 165 and 166 are coplanar with or slightly below the top surfaces of the rods 33.

It will be understood that the bridge rods or transfer rods 33 take the place of the corresponding bridge plate in my pending application and coacting as they do with the grooves of the cross channels of the main conveyer they provide for effective transfer of the cans or containers from the main conveyer onto the unloading conveyers. Since all points or surfaces of the rods are disposed at or below the supporting surfaces of the channels of the main conveyer no projections or shoulders are presented on which the sharp corners of the cans may catch.

While I have shown and described one construction in which the invention may be advantageously embodied, it is to be understood that this construction has been selected merely for the purpose of illustration or example and that various changes in the size, shape and arrangement of the parts may be made without departing from the spirit of the invention or the scope of the subjoined claims.

The invention claimed is:

1. A device of the character described comprising a main conveyer including a plurality of cross members of channel formation, each cross member comprising a metal body plate having adjacent portions alternately displaced in opposite directions to provide on the outer sides of the cross members article supporting surfaces and parallel, smooth and unobstructed grooves disposed between said surfaces, said grooves extending longitudinally of the conveyer with the grooves of one cross member aligned with the grooves of the other, and transverse metal strips set on edge and having longitudinal edges abutting and welded to the inner sides of the body plates to complete the channel formation of the cross members and strengthen and reinforce the structures, means connected with the inner sides only of said body plates for flexibly interconnecting the cross members and supporting and driving said main conveyer, an unloading conveyer at the discharge end of the main conveyer, a plurality of gap rods, one for each groove of the main conveyer, said gap rods extending between the discharge end of the main conveyer and the unloading conveyer, said gap rods having free ends projecting into and accommodated within said grooves so as not to interfere with or present obstructions which would catch corners or other parts of articles traveling along the main conveyer, and means spaced from the free ends of said rods for supporting the rods so that articles pushed thereacross will be deposited on the unloading conveyer without catching upon any obstruction.

2. A device of the character described comprising a main conveyer including a plurality of cross members, each cross member comprising a metal body plate having adjacent portions alternately displaced in opposite directions to provide on the outer sides of the cross members article supporting surfaces and parallel, smooth and unobstructed grooves disposed between said surfaces, said grooves extending longitudinally of the

conveyer with the grooves of one cross member aligned with the grooves of the other, means connected with the inner sides only of said body plates for flexibly interconnecting the cross members and supporting and driving said main conveyer, an unloading conveyer at the discharge end of the main conveyer, a plurality of gap rods, one for each groove of the main conveyer, said gap rods extending between the discharge end of the main conveyer and the unloading conveyer, said gap rods having free ends projecting into and accommodated within the said grooves so as not to interfere with or present obstructions which would catch corners or other parts of articles traveling along the main conveyer, and means spaced from the free ends of said rods for supporting the rods so that articles pushed thereacross will be deposited on the unloading conveyer without catching upon any obstruction.

3. A device of the character described comprising a main conveyer including a plurality of flexibly interconnected cross members, each cross member comprising a metal body plate of corrugated form, the corrugations of the members of the conveyer extending longitudinally of the conveyer and being longitudinally aligned and presenting smooth and unobstructed grooves as well as article supporting surfaces above said grooves, means connected with the inner sides only of the body plates for supporting and driving the conveyer, an unloading conveyer at the discharge end of the main conveyer, a plurality of gap rods, one for each groove of the main conveyer, said gap rods extending between the discharge end of the main conveyer and the unloading conveyer, said gap rods having free ends projecting into and entirely contained within said grooves so as not to interfere with or present obstructions which would catch corners or other parts of articles traveling along the main conveyer, and means spaced from the free ends of said rods for supporting the rods so that articles pushed thereacross will be deposited on the unloading conveyer without catching upon any obstruction.

4. A device of the character described comprising a main conveyer including a plurality of flexibly interconnected cross members, each cross member comprising a metal body plate of corrugated form, the corrugations of the members of the conveyer extending longitudinally of the conveyer and being longitudinally aligned and presenting smooth and unobstructed grooves as well as article supporting surfaces above said grooves, mounting fixtures disposed against and welded to the inner sides of the body plate of each cross member, means including endless flexible members connected to said mounting fixtures for supporting and driving said main conveyer, an unloading conveyer at the discharge end of the main conveyer, a plurality of gap rods, one for each groove of the main conveyer, said gap rods extending between the discharge end of the main conveyer and the unloading conveyer, said gap rods having free ends projecting into and entirely contained within said grooves so as not to interfere with or present obstructions which would catch corners or other parts of articles traveling along the main conveyer, and means spaced from the free ends of said rods for supporting the rods so that articles pushed thereacross will be deposited on the unloading conveyer without catching upon any obstruction.

5. A device of the character described comprising a main conveyer including a plurality of flexibly interconnected cross members, each cross

member comprising a metal body plate of corrugated form, the corrugations of the members of the conveyer extending longitudinally of the conveyer and being longitudinally alined and presenting smooth and unobstructed grooves as well as article supporting surfaces above said grooves, mounting blocks disposed against and welded to the inner sides of the body plates of the cross members, studs secured to and projecting inwardly from said mounting blocks, means including endless chains having flanged links co-operable with said studs for supporting and driving said conveyer, an unloading conveyer at the discharge end of the main conveyer, a plurality of gap rods, one for each groove of the main conveyer, said gap rods extending between the discharge end of the main conveyer and the unloading conveyer, said gap rods having free ends projecting into and entirely contained within said grooves so as not to interfere with or present obstructions which would catch corners or other parts of articles traveling along the main conveyer, and means spaced from the free ends of said rods for supporting the rods so that articles pushed thereacross will be deposited on the unloading conveyer without catching upon any obstruction.

6. A device of the character described comprising a main conveyer including a plurality of flexibly interconnected cross members, each cross

member comprising a metal body plate of corrugated form, the corrugations of the members of the conveyer extending longitudinally of the conveyer and being longitudinally alined and presenting smooth and unobstructed grooves as well as article supporting surfaces above said grooves, mounting fixtures disposed against and welded to the inner sides of the body plate of each cross member, means including endless flexible members connected to said mounting fixtures for supporting and driving said main conveyer, an unloading conveyer at the discharge end of the main conveyer, a plurality of gap rods, one for each groove of the main conveyer, said gap rods extending between the discharge end of the main conveyer and the unloading conveyer, said gap rods having free ends projecting into and entirely contained within said grooves so as not to interfere with or present obstructions which would catch corners or other parts of articles traveling along the main conveyer, means spaced from the free ends of said rods for supporting the rods so that articles pushed thereacross will be deposited on the unloading conveyer without catching upon any obstruction, and transverse reinforcing strips set on edge on the inner side of each body plate and on the opposite sides of the mounting fixtures thereof and welded to the said body plate.

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