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M. COHEN

2,334,384

SWITCHING CONVEYER MEANS

Original Filed Aug. 26, 1940

Fig. 1

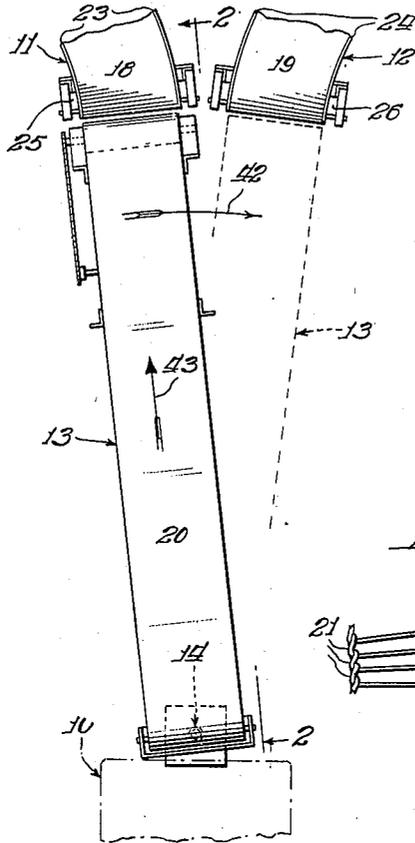


Fig. 3



Fig. 2

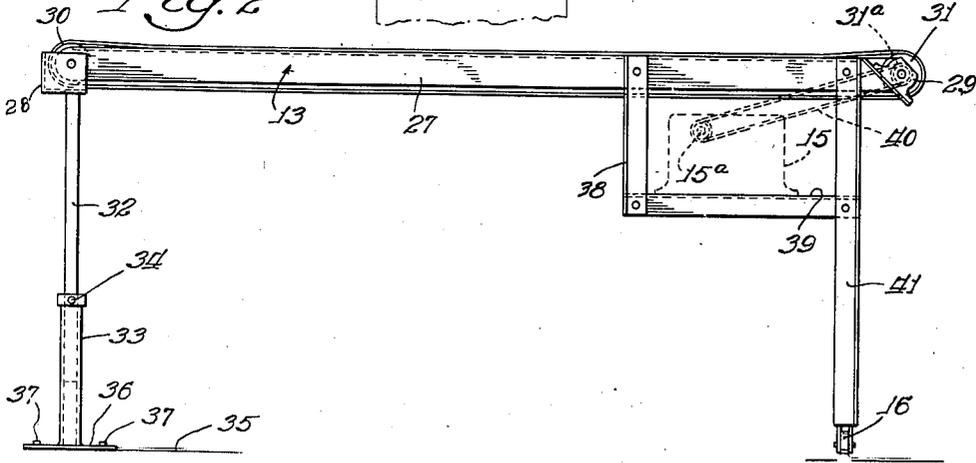
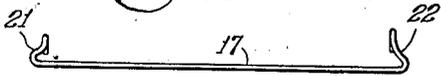


Fig. 4



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SWITCHING CONVEYER MEANS

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Original application August 26, 1940, Serial No. 354,189. Divided and this application June 5, 1942, Serial No. 445,870

1 Claim. (Cl. 198—75)

This invention relates to switching conveyer means more particularly for bakery goods units such as wrapped loaves of bread which are to be allocated, in varying numbers of such units, to a plurality of delivery vehicles.

Among other objects the invention contemplates simple and improved means whereby a plurality of conveyer frames may be spread apart and supplied by a single bread wrapping machine, for example, with a minimum of labor and mechanism and with consequent enhanced speed of operation and reduction of cost of the individual units.

This is a division of my co-pending application, Serial No. 354,189, filed August 26, 1940, and issued as Patent No. 2,310,160 on February 2, 1943.

The invention will be understood by reference to the following description, taken together with the accompanying drawing, in which—

Figure 1 is a plan view of my improved and simplified switching conveyer means;

Figure 2 is a side elevational view of a portion of the structure shown in Fig. 1 and being a view taken on the line 2—2 of Fig. 1;

Figure 3 is a fragmentary detail plan view of improved conveyer parts; and

Figure 4 is a further enlarged detail plan view of one of the parts shown in Fig. 3.

Referring in detail to the exemplary construction shown in the drawing, the numeral 10 indicates diagrammatically an article discharging device which may be, in one instance, a bread wrapping machine of the conventional type for wrapping loaves of bread in sequence and discharging them onto a conveyer for purposes of distribution and delivery, to, say, vehicle stations on a shipping room floor.

In order that such a floor be not unduly lengthened in proportion to its width to accommodate a number of such stations it may be desirable to have a plurality of conveyer frames served by a single wrapping machine and I have here shown two such frames which, in order that they may be spaced apart while still directed toward the single wrapping machine 10, desirably at their ends nearest the wrapping machine have curved conveyer frame sections 11 and 12.

In operative cooperation with both the wrapping machine 10 and the curved conveyer frame sections 11 and 12, I have shown a separate switching conveyer frame 13, pivoted at 14 whereby it may be tangentially disposed with respect to each of the conveyer frame sections 11 and 12 selectively, said tangentially located conveyer

13 carrying its own prime mover such as the motor reducer 15 at its end opposite its pivot end and mobilizing means thereat such as the casters 16.

The conveyers preferably include endless conveyer belts 18, 19 and 20 respectively, some or all of which may desirably be made up of metal bars 17, one of which is shown in Fig. 4 each having offset end portions which are sinuously bent and looped around the next adjacent bar to form a continuous flexible belt as indicated in Fig. 3, the bars being spaced apart a distance less than the smallest dimension of the articles, such as wrapped loaves of bread, which are intended to be conveyed thereon.

In accordance with the present invention, the belts 18 and 19 for the curved conveyer frame sections 11 and 12 are constructed on an arc lying in the plane of the conveyers by expedients which will be next described, the detailed description next given relating particularly to the belt 18 on the conveyer frame section 11. It is to be understood that the belt 19 for the conveyer frame section 12 may be similarly constructed but complementary thereto.

As here shown, for the belt 18, each belt bar 17 has offset portions 21 and 22 at opposite ends thereof, formed as previously indicated, the offset portion 22 being longer in the case of each bar 17 than the offset portion 21 thereof, whereby when the bars are interconnected as shown in Fig. 3 to form the belt 18, the bars 17 are arranged in radial relation, with the offset portions 21 forming a smaller arc than the offset portions 22, thus adapting the belt 18 to the curved frame of the conveyer section 11. Side rails 23, for the belt 18, and 24, for the belt 19, on the conveyer sections 11 and 12, respectively, guide the belts 18 and 19 so constructed, in arcuate form, in endless belt travel about the usual rollers, only those adjacent the tangentially located conveyer 13 being here shown, such as the roller 25 for the conveyer section 11, and 26 for the conveyer section 12. Suitable mechanism, not here shown, may be provided for driving the belts 18 and 19 in the usual way.

Reverting to the tangentially located conveyer 13, this may comprise a frame having a pair of side rails 27 which carry at their ends the bearing brackets 28 and 29 for the rollers 30 and 31 respectively upon which the endless conveyer belt 20 of this conveyer 13 is entrained.

Further in accordance with the present invention, the conveyer 13 has a three-point mounting for the purposes herein disclosed, one of these

points constituting the pivot point 14. The latter desirably embodies vertically telescoping members such as in this instance a cylindrical leg 32 depending centrally from the bracket 23 and telescopically received in a tubular housing 33. A set-screw 34 at the upper end of this housing adapted to frictionally engage the leg 32 may be used to fix the degree of telescoping and thus, at this end, determine the height of the conveyer belt 20 from the floor 35. The housing 33 may have a base plate 36 through which bolts 37 pass to clamp the housing to the floor in a position, as here shown, centrally in front of the wrapping machine 10.

At its opposite end the conveyer 13 desirably has an underslung frame portion 38 upon a horizontal strut 39 of which the motor-reducer 15 may be advantageously carried. A driving chain 40 operatively connected with the motor-reducer and with the roller 31 may furnish the power for driving the belt 20, which chain is entrained with the out-put shaft 15a of the motor-reducer and with a sprocket 31a fixedly related to the roller 31.

At this end of the conveyer 13 also may be located a pair of standards 41 which connect the frame parts 27 and 28 with the casters 16, these casters being arranged with their axles extending in the direction of the side rails 27 so that the casters 16 are adapted to rotate in a plane transverse to the side rails and thus provide for anti-frictionally swinging the conveyer 13 say from the position shown in full lines in Fig. 1 in the direction of the arrow 42, to the position shown in dotted lines in Fig. 1, and vice-versa. It will be understood that this may be done with the set-screw 34 loosened and when the selected positioning of the conveyer 13 is accomplished, and the appropriate height for the single leg 32 of the conveyer determined, the set-screw 34 may then be tightened to fix the adjustment.

So constructed and arranged, the tangentially located conveyer 13 may be adapted to supply the conveyers 11 and 12 alternately and selec-

tively with wrapped loaves from the bread wrapping machine 10, which loaves it will be understood ride readily over the conveyer belt 20 from the discharge end of the wrapping machine and moving in the direction of the arrow 43, onto either the conveyer belt 18 or 19 as desired. Thus a plurality of conveyers may be served by the same wrapping machine with a minimum of adjustment, the conveyers themselves so served accommodating themselves, following the present invention, to being spaced apart on the shipping floor or other loading space as and for a purpose, for example, more particularly pointed out in my co-pending application hereinbefore mentioned.

It is to be understood that the invention is not intended to be limited to details of construction here shown for illustrative purposes. Furthermore, it is not intended that it will be understood that all features of the present disclosure must be used conjointly, since it will be apparent to workers in the art that various combinations or sub-combinations may at times be advantageously employed.

Having described my invention, I claim:

In switching conveyer means, the combination of a pair of curved conveyer frames arranged with one end of each frame adjacent the other and curving therefrom away from each other, each said conveyer frame carrying an endless conveyer belt comprising a series of bars, each bar having an offset end portion sinuously bent and looped about its next adjacent bar, the offset end portions at one end of each bar being longer and thereby offset to a greater extent than the said portions at the other end of the bar whereby to cause the endless conveyer belt to be curved to correspond with the curved frame therefor, and a separate switching conveyer frame located tangentially to each of said curved conveyer frames at their said adjacent ends and adapted to serve both curved conveyers selectively.

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