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FEED MECHANISM FOR PACKAGE CONVEYERS

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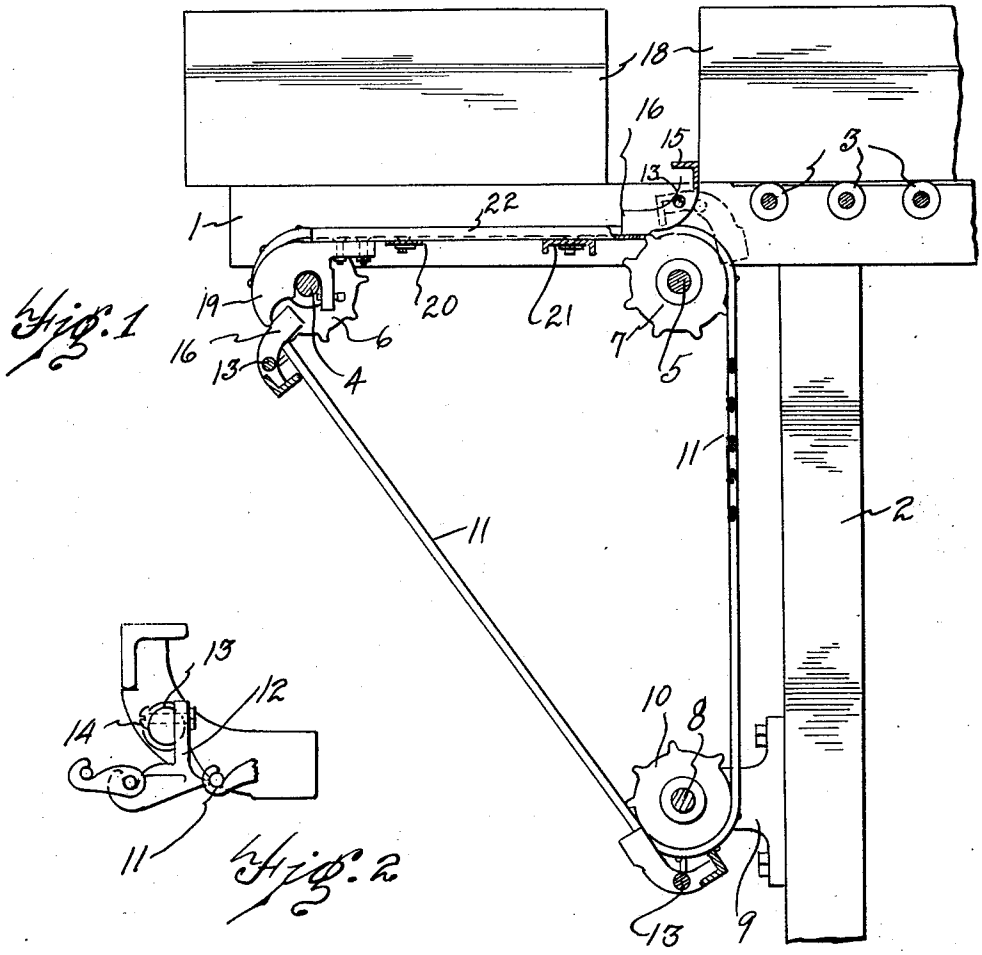

Fig. 1

Fig. 2

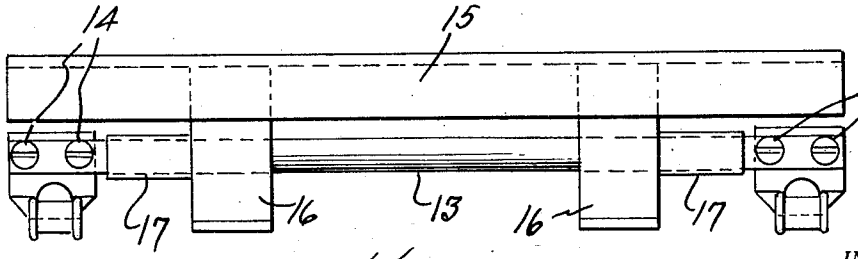

Fig. 3

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FEED MECHANISM FOR PACKAGE CONVEYERS

Application filed July 29, 1926. Serial No. 125,646.

This invention relates to feed mechanisms for package conveyers and the object of the invention is to provide a device for feeding packages or boxes onto a roller conveyer in succession.

Another object of the invention is to provide a feed mechanism which will feed packages or boxes onto a roller conveyer in succession the boxes being moved along the conveyer by the feeding mechanism which moves one box into engagement with the preceeding box on the conveyer so that the movement of the boxes is accomplished by means of the feeding mechanism and not by driving the rollers of the roller conveyer.

A further object of the invention is to provide a feed mechanism of the character described in which the driven members for engaging the packages are disengaged from the packages without possibility of damaging the packages in any manner.

A further object of the invention is to provide a means for holding the packages engaging members in the upright position during their horizontal travel while engaging the packages, the feed mechanism being arranged to cause the package engaging members to automatically disengage from the packages at the end of their horizontal travel.

These objects and the several novel features of the invention are hereinafter more fully described and claimed and the preferred form of construction by which these objects are attained is shown in the accompanying drawings in which—

Fig. 1 is a vertical section through a feed mechanism for package conveyers embodying my invention.

Fig. 2 is an end view of one of the package engaging members.

Fig. 3 is a front elevation of one of the package engaging members.

As shown in Fig. 1 a frame is provided comprising the frame members 1 and 2. The horizontal frame member 1 and a similar member parallel therewith (not here shown) carry a series of rollers 3 of a roller conveyer. Supported from the horizontal frame members are a pair of shafts 4 and 5 and the shaft 4 is provided with a sprocket 6 at each end while the shaft 5 is provided with a sprocket 7 at each end. As shown at the bottom of Fig. 1 a shaft 8 is rotatably supported in the brackets 9 secured to the frame members 2 and a sprocket 10 is secured to each end of the shaft 8. A chain 11 extends over each set of sprockets 6, 7 and 10, and the sprockets 7 are preferably driven sprockets to drive the chains 11. As shown in Fig. 2 a member 12 is provided which is formed to provide a link of the respective chain 11. There are two chains 11 one on each side of the feeding mechanism and six members or special links 12 are provided three being connected into each chain. A shaft 13 is connected to one member 12 by the bolts 14 and extends across to the opposite chain and is connected to the opposite member 12 by similar bolts 14 as shown in Fig. 3. Each pair of members 12 is connected together by a rod or shaft 13 as shown in Fig. 3 so that three rods 13 are provided in the device as shown in Fig. 1. As shown in Fig. 3 an angle iron member 15 is provided having two depending members 16 each provided with a sleeve 17 which is rotatable on the shaft 13. This member 15 is adapted to engage the end of the package 18 and feed it onto the conveyer 3. As the depending members 16 of each member 15 extend between the chains 11 the members 16 and 15 may turn freely on the shaft 13 until the ends of the members 16 rest against the chain 11. Two members 19, as will be understood from Fig. 1, are supported over the shaft 4 and are spaced apart the same distance as the depending members 16 of the member 15. A pair of cross members 20 and 21 extend across between the members 1 and support a grooved way 22 for each member 16. As the chains 11 move upwardly over the sprocket 6 the members 16 are engaged by the members 19 which turns the members 16 on the shaft 13 so that the members 16 ride over the face of the members 19 and into the ways 22, the members 16 being then in the upright position shown in full lines in the upper right hand corner of Fig. 1. As the members 16 ride up over the curved faces of the members 19 the member 15 engages the end of the package 18 and moves it to the

right of Fig. 1 until at the extreme edge the packages are moved onto the roller conveyer. As the members 16 move off from the ends of the ways 22 the members 15 and 16 are turned in a counter clockwise direction to the position shown in dotted lines in Fig. 1 due to the contact of the member 15 with the package. By this arrangement the member 15 is prevented from scraping the lower edge of the package which would be the case if the member 15 were rigidly fixed to the chain in the position shown in full lines in the upper right hand corner of Fig. 1. From this position the members 15 and 16 are carried downwardly with the chain about the sprockets 10 and during movement from the sprocket 10 to the sprocket 6 the member 15 assumes the lowermost position with the members 16 extending upwardly for engagement with the members 19. When the member 15 is disengaged from the package 18 a succeeding member 15 moves into engagement with the succeeding package which moves into engagement with the preceding package and moves it down the conveyer. By this arrangement the packages move down the conveyer in contact and each succeeding package forces the preceding package further along the conveyer.

The mechanism described is capable of transferring packages of various types and characters of construction from a receiving table to a conveyer and is particularly adaptable for use in the transferring of crates for bottles of various types or containers thus adapting the device for use in dairies, or bottling works where bottles or other containers are placed in what is known as a "crate" for handling.

From the foregoing description it becomes evident that the device is very simple and efficient in operation, is composed of few parts and is of low manufacturing cost, will not easily get out of order, will not injure the packages conveyed and provides a device which accomplishes the objects described.

Having thus fully described my invention, its utility and mode of operation, what I claim and desire to secure by Letters Patent of the United States is—

1. In a package feeding mechanism, the combination with horizontal package supporting frames having a receiving portion and a conveyer portion adapted to receive and slidably support the packages, of a pair of endless chains arranged adjacent the frames at the receiving portion each having a horizontal portion beneath that part of the frames on which the package is supported, an angle bar, means attached to the bar for hingedly supporting the same to said chains, a fixed guide comprising a bar positioned beneath each chain and parallel with the said package supporting frames adapted to be engaged by said means with which the angle bar is provided to hold the bar with one face in vertical package engaging position throughout the longitudinal travel of the chains, said fixed guide bars each having a down-turned portion at the forward end and at the opposite end terminating at about the end of the receiving portion whereby the angle bar is turned to package engaging relation prior to traversing the horizontal portion of the guide bars and is released from pressure contact with the package as said package is passed onto the conveyer section allowing it to swing backward at the end of the longitudinal movement free of engagement with the package as it passes onto the conveyer portion.

2. In a bottle crate feed mechanism, the combination with crate guides, of a pair of endless belts arranged adjacent to said guides and extending parallel therewith, a rod secured to said belts and extending therebetween, bracket members hinged on said rod, an angle member secured to said hinged brackets, and a fixed guide bar having a down-turned end adapted to project beneath the swinging angle member and to support the angle member with its upright portion in a vertical position, said guide ending to allow the angle member to swing backwardly and clear the crate before it is caused to tip forwardly by the travel of the endless carrier around the supporting sprockets.

In testimony whereof, I sign this specification.

CARL C. JORDAN.