B. L. HANCOCK.

CONVEYING BELT.

APPLICATION FILED OCT. 28, 1907.

907,790.

Patented Dec. 29, 1908.

FIG. 2.

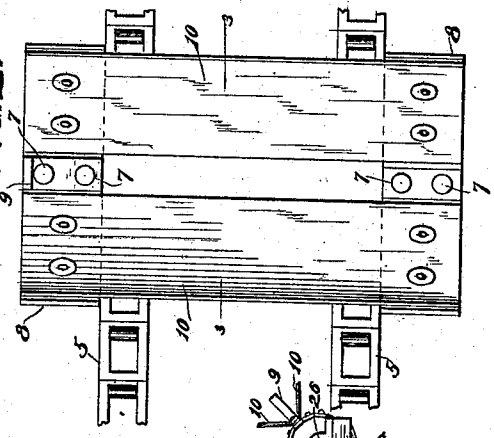


FIG. 1.

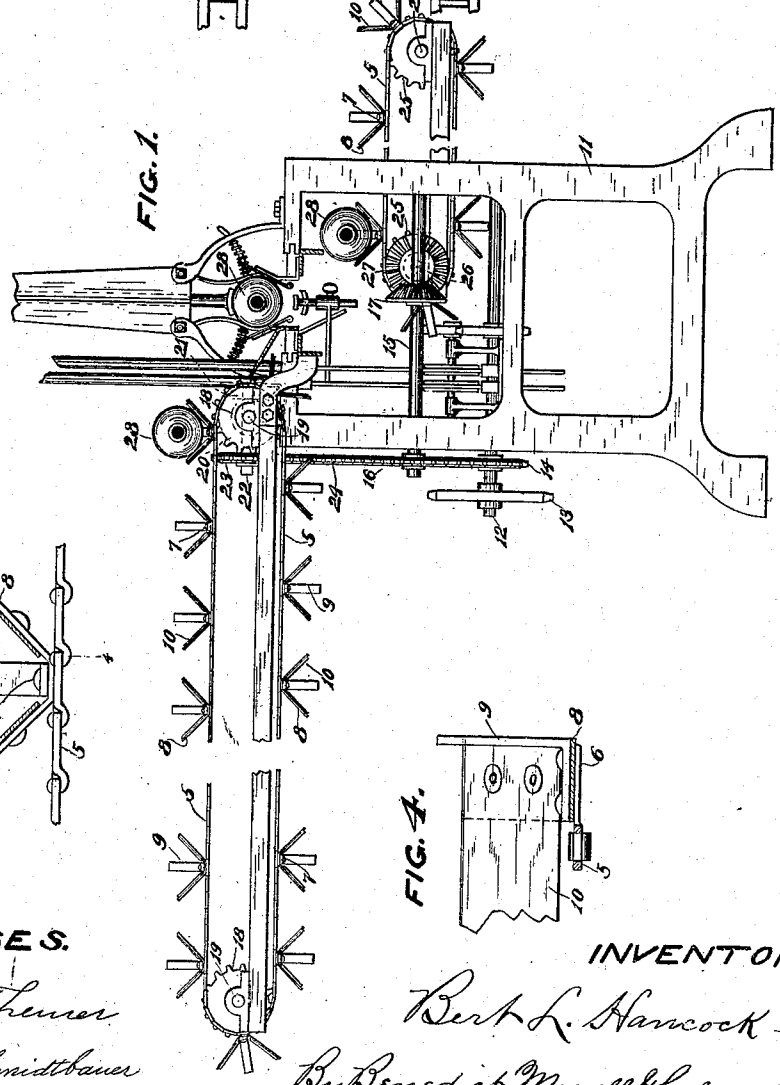


FIG. 3.

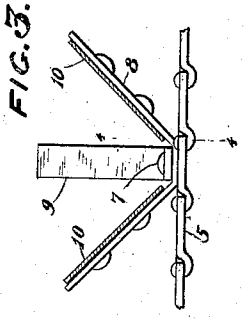


FIG. 4.

WITNESSES.

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CONVEYING-BELT.

No. 907,790. Specification of Letters Patent. Patented Dec. 29, 1908.

Application filed October 28, 1907. Serial No. 399,518.

To all whom it may concern:

Be it known that I, BERT L. HANCOCK, residing in Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Conveying-Belts, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention has relation to improvements in conveying belts.

The primary object of the invention is to provide an improved form of conveyer well adapted for securely holding the articles being conveyed, the device being simple in construction, and especially well adapted for conveying bottles to and from a bottle labeling machine.

The invention consists of the devices and parts, or the equivalents thereof, as hereinafter more fully set forth.

In the drawing, Figure 1 is a rear end view of a bottle labeling machine showing two of my improved conveyer belts applied thereto, one of said belts being utilized for feeding the bottles to be labeled to the labeling machine, and the other being employed for conveying the labeled bottles from the machine, both of said belts being shown as broken away; Fig. 2 is a plan view of a fragment of the belt on an enlarged scale; Fig. 3 is a cross section on the line 3—3 of Fig. 2; and, Fig. 4 is a section on the line 4—4 of Fig. 3, looking toward the left.

Each belt shown in the drawing is similarly constructed, and hence a description of one will suffice for the other, the same reference numerals being applied to corresponding parts of each.

The belt consists of the two sprocket chains 5, 5, preferably composed of a series of rectangular loops, as usually employed in sprocket chains, said loops being pivoted together. From a number of the loops of each chain composing a belt project arms 6, and to each of these arms is secured, by means of rivets 7, a V-shaped bracket 8. All of the V-shaped brackets along one of the chains are also preferably equipped each with a finger 9 projecting upwardly between the arms of the bracket and from the angle thereof and at the outer edge of said angle. The fingers may be secured in any desirable manner, but I prefer to provide an inward extension from the lower ends thereof extending inwardly along flattened portions at the angles of the brackets, with the rivets 7 passing therethrough and thereby uniting each angular extension to one of the brackets and to the arm 6 beneath the bracket. The fingers referred to act as stops against which the bottoms of the bottles are placed, the neck or mouth ends of the bottles resting in the V-shaped brackets which are not equipped with the upwardly extending fingers and which are arranged along the opposite chain.

The belt as thus far described is well adapted for conveying the devices to be carried, yet I prefer to connect the arms of the opposite V-shaped brackets by means of strips 10, secured by any desirable means, as by rivets, and preferably composed of some yielding material, such as rubber or a thin strip of metal covered with felt. By providing these connecting members not only are the articles being conveyed, particularly bottles, supported throughout their lengths, but when rubber or other soft material is employed breakage of the bottles or other articles is avoided, and also the noise which necessarily results from the rapid placing of the bottles onto the conveyer.

As stated, I have shown the conveyers in connection with a bottle labeling machine, one being employed to feed the bottles to the machine, and the other for conveying the bottles from the machine, after the labeling operation. I will in the present application only make such general reference to this bottle labeling machine as will be necessary for understanding the application of my invention thereto, inasmuch as the construction of said bottle labeling machine will be made the subject matter of a separate application for patent by me.

Journaled in suitable bearings in the frame 11 of the bottle labeling machine is a shaft 12 which may be rotated in any desirable manner. In the drawing, I show a sprocket wheel 13 on the end of this shaft adapted to take therearound a sprocket chain (not shown) leading from a sprocket wheel (not shown) mounted on another one of the rotatable shafts of the bottle labeling mechanism. Shaft 12 has also mounted thereon a smaller sprocket wheel 14. Above shaft 12 is a shaft 15 having on one end thereof a sprocket wheel 16, and between its ends a beveled pinion 17. Sprocket wheel 16 is so located on its shaft as to be directly above sprocket wheel 14.

The two chains 5, 5 of the conveyer which feeds the bottles to the machine, and which is shown on the left of Fig. 1, pass around sprocket wheels 18, there being two of said wheels for each chain of the conveyer. These sprocket wheels are mounted on shafts 19, and shaft 19 of the inner sprocket wheel has mounted thereon a beveled pinion 20 which meshes with another beveled pinion 21 on a short shaft 22 disposed at right angles to said shaft 19. On one extremity of shaft 22 is a sprocket wheel 23, around which a sprocket chain 24 passes, said chain also engaging the teeth of the sprocket wheels 16, and hence adapted to impart rotation to shaft 15. Sprocket chain 24 finally passes around the sprocket wheel 14 on shaft 12. It will be seen that when rotation is imparted to shaft 12, rotation is also, through the described connections, imparted to the inner shaft 19 of the feeding conveyer, and hence said conveyer thereby caused to be actuated.

The two chains 5 of the conveyer for conveying the bottles from the machine, and which is shown on the right of Fig. 1 also extend around sprocket wheels 25, there being two of said sprocket wheels for each chain. These sprocket wheels are mounted on shafts 26, 26, and the inner of these shafts has mounted thereon a beveled gear 27 which meshes with the beveled pinion 17 of shaft 15. This conveyer belt, therefore, when rotation is imparted to shaft 15, is actuated by the intermeshing of the gears 17 and 27.

In the use of my invention for conveying bottles to and from a bottle labeling machine, the mechanism for moving the conveyers is first set in operation. The bottles, indicated in the drawing by the numeral 28, are now placed by hand on the bottle feeding conveyer, with the bottoms of the bottles against the stop fingers 9, and the mouth ends of the bottles resting in the V-shaped brackets of the opposite chain of this conveyer. One of the bottles is shown as having about completed its inward travel on the conveyer, and in position to discharge from the conveyer. This discharge occurs when the V-shaped brackets containing the bottle pass around the inner sprocket wheels of the conveyer. The bottle when discharged is guided to and temporarily retained by suitable mechanism in the machine, which it is not necessary herein to specifically describe. In the drawing, one of the bottles is shown as so held and retained. While held, the labels are applied and attached to the bottle, and after this operation the bottle is released and falls between two of the opposite V-shaped brackets of the discharging conveyer, occupying a position thereon corresponding to its position on the feeding conveyer. The bottle is now carried along the discharging conveyer, from which it can be removed by hand.

While as heretofore stated my invention is particularly adapted as a conveyer for bottle labeling machines, yet I do not wish to be understood as limiting myself to this particular application of the invention, inasmuch as it may be used to good advantage as a conveyer for articles other than bottles.

What I claim as my invention is:

1. The combination of shafts, wheels mounted on said shafts, means for rotating one of the shafts, and a conveyer in the form of an endless belt passing around the wheels, said belt provided at opposite edges with oppositely located V-shaped brackets, the opposite ends of the article to be conveyed being adapted to be placed between the upwardly extending arms of said V-shaped brackets.

2. The combination of shafts, wheels mounted on said shafts, means for rotating one of the shafts, and a conveyer comprising two endless belts passing around the wheels, said belts provided at their respective outer edges with oppositely located brackets, each bracket consisting of upwardly extending arms, the opposite ends of the article to be conveyed being adapted to be placed between said arms.

3. The combination of shafts, wheels mounted on said shafts, means for rotating one of the shafts, and a conveyer in the form of an endless belt passing around the wheels, said belt provided at opposite edges with oppositely located brackets, each bracket consisting of upwardly extending arms, and the brackets along one of the edges of the belt being provided each with an upwardly extending stop finger located between the arms of the bracket.

4. The combination of shafts, wheels mounted on said shafts, means for rotating one of the shafts, a conveyer in the form of an endless belt passing around the wheels, said belt provided at opposite edges with outwardly extending arms, and oppositely disposed brackets secured to the arms, each bracket consisting of upwardly extending arms, the opposite ends of the article to be conveyed being adapted to be placed between said upwardly extending arms.

5. The combination of shafts, wheels mounted on said shafts, means for rotating one of the shafts, a conveyer in the form of an endless belt passing around the wheels, said belt provided at opposite edges with outwardly extending arms, oppositely disposed brackets secured to the arms, each bracket consisting of upwardly extending arms, a stop finger extending upwardly between the arms of the brackets arranged along one edge of the belt, each finger at its lower end provided with a right angular extension, and rivets passing through said right angular extensions, through the brackets and through the outwardly extending arms of the belt.

6. The combination of shafts, sprocket wheels mounted on said shafts, means for rotating one of the shafts, a conveyer in the form of two endless sprocket chains passing around the sprocket wheels, certain of the opposite links of each chain provided with outwardly extending arms, and oppositely disposed brackets secured to said arms, each bracket consisting of upwardly extending arms, the opposite ends of the article to be conveyed being adapted to be placed between said upwardly extending arms.

7. The combination of shafts, wheels mounted on said shafts, means for rotating one of the shafts, a conveyer in the form of two endless belts passing around the wheels, brackets secured to each of said belts and located opposite to each other, each bracket consisting of upwardly extending arms, and strips connecting the respective arms of opposite brackets.

8. The combination of shafts, wheels mounted on said shafts, means for rotating one of the shafts, a conveyer in the form of two endless belts passing around the wheels, brackets secured to each of said belts and located opposite to each other, each bracket consisting of upwardly extending arms, and flexible strips connecting the respective arms of opposite brackets.

9. The combination of shafts, wheels mounted on said shafts, means for rotating one of the shafts, a conveyer in the form of an endless belt passing around the wheels, said belt provided at opposite edges with oppositely located brackets, each bracket consisting of upwardly extending arms, stop fingers projecting upwardly from the brackets.

In testimony whereof, I affix my signature, in presence of two witnesses.

BERT L. HANCOCK.

Witnesses:

A. L. MORSELL,

ANNA F. SCHMIDTBAUER.