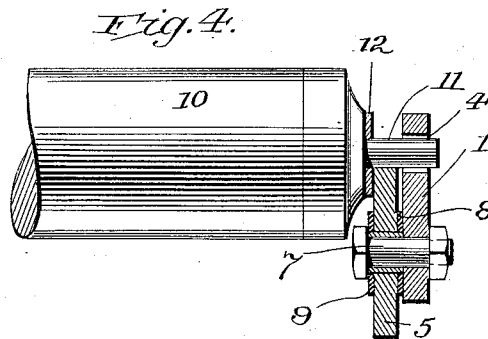
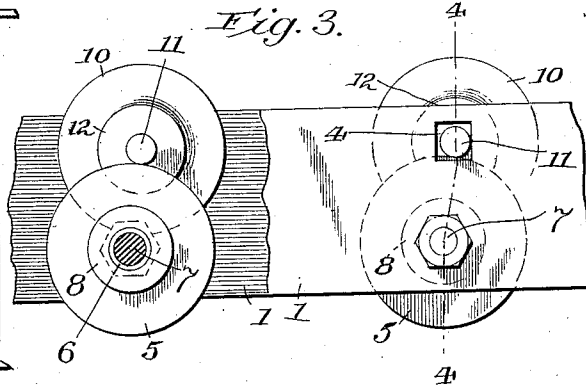
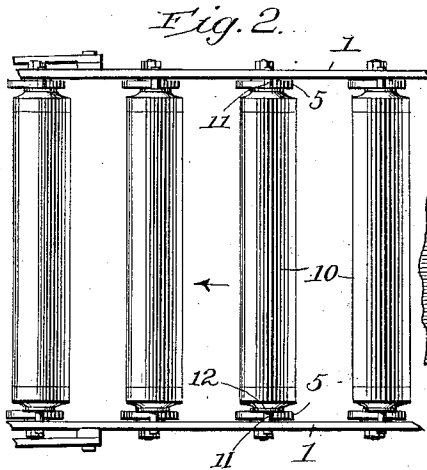
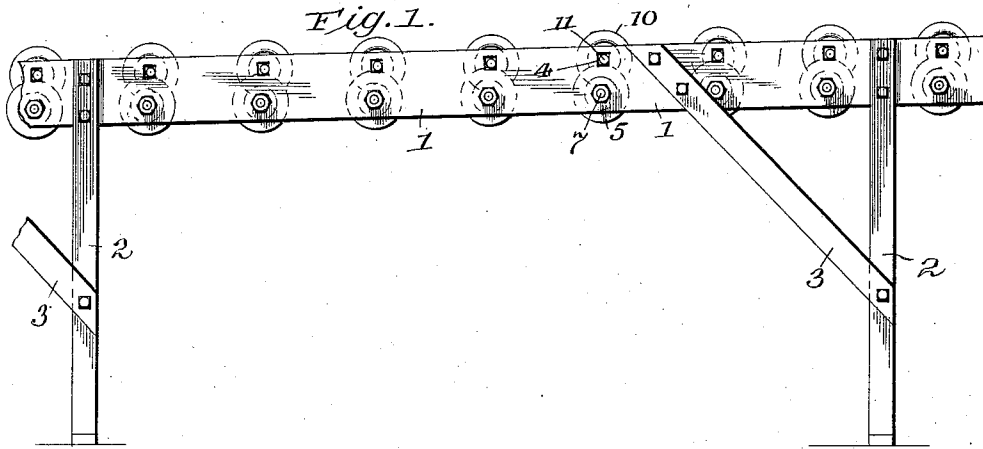


O. EICK.
 ROLLER CONVEYER.
 APPLICATION FILED JUNE 5, 1911.

1,019,030.

Patented Mar. 5, 1912.



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ROLLER CONVEYER.

1,019,030.

Specification of Letters Patent.

Patented Mar. 5, 1912.

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To all whom it may concern:

Be it known that I, OTTO EICK, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Roller Conveyers, of which the following is a specification.

My present invention pertains to an improved roller-conveyer, the object and advantages of which will be hereinafter set forth, reference being had to the annexed drawings, wherein:

Figure 1 is a side elevation of a section of a conveyer embodying my apparatus; Fig. 2 a top plan view of the same; Fig. 3 a sectional elevation, on a somewhat enlarged scale, of a portion of the conveyer; and Fig. 4 a vertical sectional view, on the line 4—4 of Fig. 3.

The main object of the present invention is to produce a conveyer in which the rollers will run with the least possible friction, and to so mount the rollers that they will, under the action of the load or article being transferred, be automatically shifted to bring them to such position that they will run under the conditions just specified.

Referring to the drawings, 1, 1 denote the supporting rails or bars, mounted and maintained in an inclined position by legs or standards 2 and suitable braces 3. Said rails may, however, be sustained in position in any other desired manner and the inclination thereof will, of course, be varied according to the requirements in each case.

Each rail or bar is provided with a series of openings 4, below each of which openings there is mounted a relatively large wheel or roller 5. Said roller will preferably be carried by a sleeve 6, sustained by a bolt or stub-axle 7, secured in the rail or bar 1. Washers 8 and 9 will preferably be placed upon each side of the roller to reduce friction, though it will be understood that any other form of mounting for the roller or wheel may be employed.

The load-sustaining and forwarding rolls are alike in form and comprise a cylindrical body portion 10 and stub-axles or gudgeons 11, said axles bearing upon the wheels 5 and extending into and preferably through the openings 4. A washer 12 will preferably be mounted upon each of the stub-axles to properly position the roll with reference to the sustaining wheels 5. The openings 4,

see Fig. 3, are so arranged with reference to the wheel-sustaining axles 7, that each axle 11 (when the roll 10 is at rest) occupies a position at the rear or right-hand side of the adjacent opening 4, or in other words the center line of the roll and of the wheel are out of alinement, as is clearly indicated by the dotted line 4—4. Owing to this arrangement, the stub-axles 11 stand or lie to the rear sides of the highest point on the peripheries of the respective or oppositely-disposed pair of sustaining wheels 5 and said stub-axles, when the roll is idle, rest against the rear wall of the respective openings into which they pass. Said openings will, of course, be made sufficiently large to permit the axles to move freely therein.

In operation when a load is placed upon the inclined conveyer, the rolls 10 as the load passes over the same will rotate in a forward direction, and as a consequence the axles 11 will tend to roll up on the wheels 5 and out of contact with the rear wall of the openings 4. At the same time, the wheels 5 will rotate in an opposite direction and act to carry the roll rearwardly, but so long as the load is sustained by the roll and is passing forwardly thereover the axles or stub-axles will be kept out of contact with the walls of the openings and the roll will be sustained upon a rolling bearing, thus doing away with a great amount of friction through the employment of a relatively simple apparatus.

It is conceivable that when the load being transferred is first placed or pushed upon the rolls they may be thrown forward to such an extent that the axles thereof will be thrown into contact with the forward or down side of the openings 4, but if so, such contact will be only momentary, as the rotation of the wheels 5 will carry the roll rearwardly out of contact therewith.

As will be readily appreciated, the openings 4 might take the form of notches in the upper edge of the rail, and the term "opening" as used in the claims is to be given an interpretation which will include such construction. So, too, the conveyer need not necessarily be straight. It may be curved as desired by giving the side bars or rails the required radius, the rolls at the outer or larger curve being spread, or the inner ends brought closer together, or both, according to the conditions under which the apparatus is to be used.

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Having thus described my invention, what I claim is:

5 1. A roll conveyer, comprising a pair of rails, each having a plurality of openings formed therein; a wheel sustained by a rail adjacent to each of said openings; and a plurality of load conveying rolls, the axles of each roll finding their bearings on a pair of oppositely-disposed wheels, the axles extending into openings located above the wheels and normally resting upon the wheels to the rear of the highest point in the peripheries of said wheels.

10 2. A roll conveyer, comprising a pair of rails each having a plurality of openings formed therein; a wheel sustained by a rail adjacent to each of said openings, the periphery of each wheel extending upwardly past the bottom of its companion opening and the highest point on the periphery of the wheel lying adjacent to the forward portion of the opening; and a plurality of conveying rolls, each having stub-axles, said axles extending into oppositely-disposed openings and resting upon the wheels.

15 3. In a conveyer, the combination of suitable sustaining rails; a wheel carried by each rail adjacent to an opening formed therein; and a conveyer roll sustained by said wheels, the center line of said roll standing in rear of the center line of the

wheels, and the axles of the roll extending freely into the openings in the rails.

4. In a conveyer, the combination of suitable sustaining rails; a wheel carried by each rail; a conveyer roll adapted to be supported by said wheels; and means for holding said roll upon said wheels to one side of the center line of the wheels, while the roll is idle, and permitting it to move upwardly upon the peripheries of said wheels when rotating under load.

5. In a conveyer, the combination of suitable sustaining rails; a wheel carried by each of said rails; a conveyer roll provided with reduced ends or stub-axles adapted to bear upon the wheels, the center line of said axles being to the rear of the center line of the wheels; and means for normally sustaining the parts in such position while the roll is at rest, but permitting the axles to move upwardly upon the wheels and out of contact with said means when the roll is rotated in a forward direction.

In testimony whereof I have signed my name to his specification in the presence of two subscribing witnesses.

OTTO EICK.

Witnesses:

J. A. VALENTIN SCHMIDT,
OTTO GAFFRON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."