Jan. 6, 1942. S. OLSON 2,268,895

CONVEYER SWITCH

Filed June 29, 1939

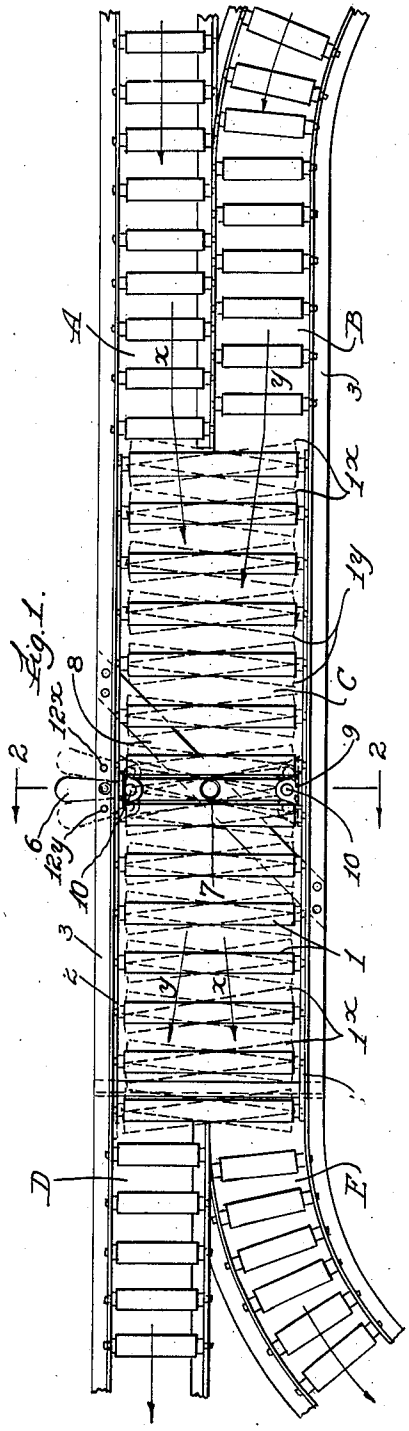


Fig. 1.

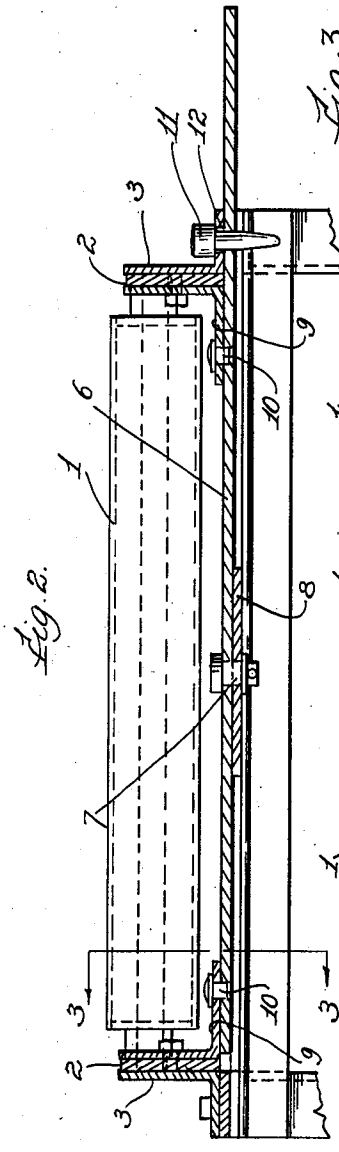


Fig. 2.

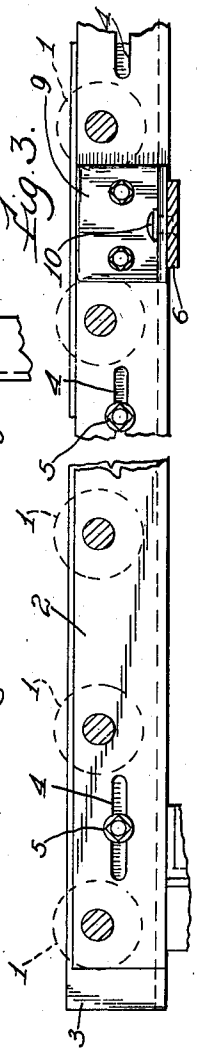


Fig. 3.

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Patented Jan. 6, 1942 2,268,895

UNITED STATES PATENT OFFICE

2,268,895

CONVEYER SWITCH

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Application June 29, 1939, Serial No. 281,917

3 Claims. (Cl. 193—36)

This invention relates to a roller conveyer system, and its object is to provide a relatively simple means for effecting the control and transfer of loads which are delivered from a common point to a plurality of branch lines of the system. The invention consists of certain features and elements of construction in combination, as herein shown and described and as indicated by the claims.

In the drawing:

Fig. 1 is a plan view showing a transfer or switching section of a conveyer system with the terminal portions of a plurality of feeding conveyers and a plurality of receiving conveyers associated therewith.

Fig. 2 is a detail section on an enlarged scale, taken as indicated at line 2—2 on Fig. 1.

Fig. 3 is a detail section taken as indicated at line 3—3 on Fig. 2.

For illustrating this invention, Fig. 1 shows a portion of a roller conveyer system including a feeding conveyer A and a second feeding conveyer B which converge toward and longitudinally adjoin a wider switching or transfer section C in abutting relation. At the opposite end of the wide switching section a receiving or delivery conveyer D and a diverging receiving or delivery conveyer E are disposed in longitudinally adjoining relation. It may be understood that the invention is not limited to situations in which there are only two feeding conveyers or only two receiving conveyers, but that a plurality of such conveyers may be led to a common transfer point in laterally adjacent relation to each other and thus arranged to cooperate with the wide section. The rolls of the feeding and delivery sections, and also the rolls of the transfer section C may be power-driven, or they may merely turn freely on their bearings if gravity or momentum is relied upon for propelling the loads, and for the sake of clearness and simplicity the drawing shows the rollers merely journaled in suitable bearings and without power driving connections.

In the switching or transfer section C the ends of the rolls 1 are carried in side plates 2, 2 which are mounted upon fixed angle rails 3, 3 forming a part of the framework of the structure. Normally, the rolls 1 are disposed with their axes at right angles to the parallel side plates 2, 2 but these plates are formed with longitudinal slots 4 which engage the pins or bolts 5 by which the plates are carried on the side rails 3, 3 and thus permit limited longitudinal adjustment of the side plates thereon. If only one of the side plates is slidably adjusted, or if both plates are simultaneously adjusted in opposite directions, the result is to shift all the rolls 1 simultaneously out of their normal prependicular relation to the side plates and swing them into angular positions parallel to each other, which will tend to cause loads moving over the section C to travel somewhat obliquely thereon. Thus, if the rolls are left in their normal relation at right angles to the side plates 2, 2 as shown in full lines in Fig. 1, a load from the feeding conveyer A will continue to travel in the same direction, straight across the rolls of section C and will be delivered to the receiving conveyer D at the opposite end of the transfer section; or loads delivered from the conveyer B will travel straight across the transfer section to the receiving conveyer E. But if the rolls 1 be angularly adjusted to the positions indicated in dotted lines at 1^x in Fig. 1, the loads coming from conveyer A will be deflected and delivered to the receiving conveyer E as indicated by the arrows x. And if the rolls 1 are angularly adjusted in the opposite direction, as indicated at 1^y, in Fig. 1, the loads coming from conveyer B will be deflected from a straight course, and will travel obliquely across the section C for delivery onto the conveyer D as indicated by the arrows y.

As a convenient means for adjusting the rolls 1 of the transfer section C the drawing shows a lever 6 pivoted at 7 to a diagonally extending cross-bar 8 of the frame structure. The pivot 7 is located midway between the side rails 2, 2 and the lever is attached to these rails by means of angle clips 9 and pivot bolts 10 so that any swinging movement of the lever is communicated directly to the rails for shifting them simultaneously in the opposite directions to the extent permitted by their slots 4. For holding the lever 6 and the rolls 1 at adjusted position the drawing shows a locking pin 11 extending removably through a hole in the lever and into a central hole 12 in an adjacent fixed member of the frame. Holes 12^x and 12^y are provided to receive the pin when the lever is shifted to one side or the other of its middle position for adjusting the rolls 1 to their angular position indicated at 1^x and 1^y, respectively.

Thus, by the very simple expedient of adjusting the rolls 1 to different positions, the course of travel of loads arriving from the runways A and B may be controlled so that any one of these loads may be delivered either to the conveyer D or to the conveyer E as desired. It may be understood that the runway structures may include the usual lateral guard rails, not shown, but that in most instances the travel of loads will be controlled

with sufficient accuracy so that such guard rails need not be relied upon except as a precaution against accident.

While there is shown and described herein certain specific structure embodying the invention, it will be manifest to those skilled in the art that various modifications and re-arrangements of the parts may be made without departing from the spirit and scope of the invention, and that the same is not limited to the particular form herein shown and described, except in so far as indicated by the appended claims.

I claim:

1. In a roller conveyer, a pair of narrow sections terminating side by side, a wider switching section, one end of which is at least as wide as the combined widths of the narrow sections and permanently adjoins them both, said switching section being composed of full length rollers each extending from side to side of the section and mounted for adjustment at various angles to the rollers of said narrow sections, and means for so adjusting said rollers to deliver loads from the switching section to either of the narrow sections selectively.

2. In a roller conveyer, a pair of narrow sections terminating side by side, a switching section, one end of which permanently adjoins both narrow sections, a pair of narrow sections terminating side by side with the other end of the switching section permanently adjoining both of them, said switching section having rollers mounted for adjustment at various angles to the rollers of said narrow sections, and means for adjusting said rollers to transfer loads from either of the narrow sections at one end of the switching section to either of the narrow sections at the opposite end thereof selectively.

3. In a roller conveyer, a plurality of narrow sections terminating side by side, a wider switching section, one end of which is at least as wide as the combined widths of the narrow sections and permanently adjoins them, said switching section being composed of full length rollers each extending from side to side of the section and mounted for adjustment at various angles, said rollers constituting the sole means controlling the direction of travel of loads over the switching section for delivering loads therefrom to a selected one of the narrow sections.

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