Feb. 18, 1936. C. S. JENNINGS 2,031,263

CONVEYER

Filed March 26, 1934 3 Sheets-Sheet 1

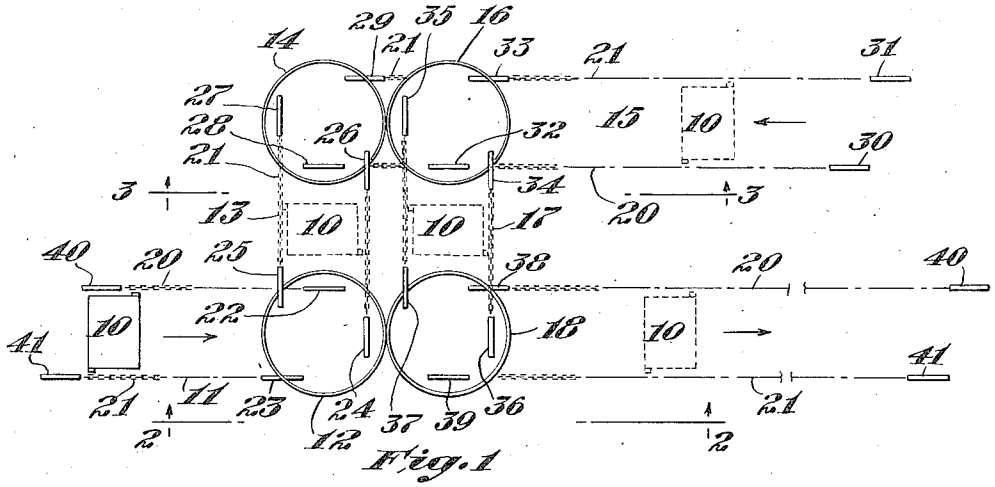

Fig. 1

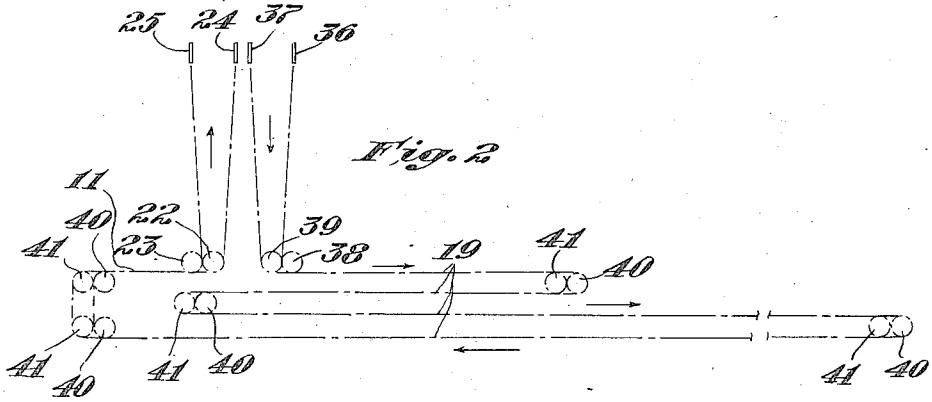

Fig. 2

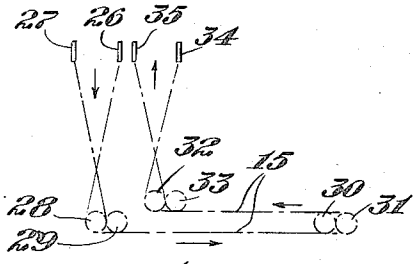

Fig. 3

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CONVEYER

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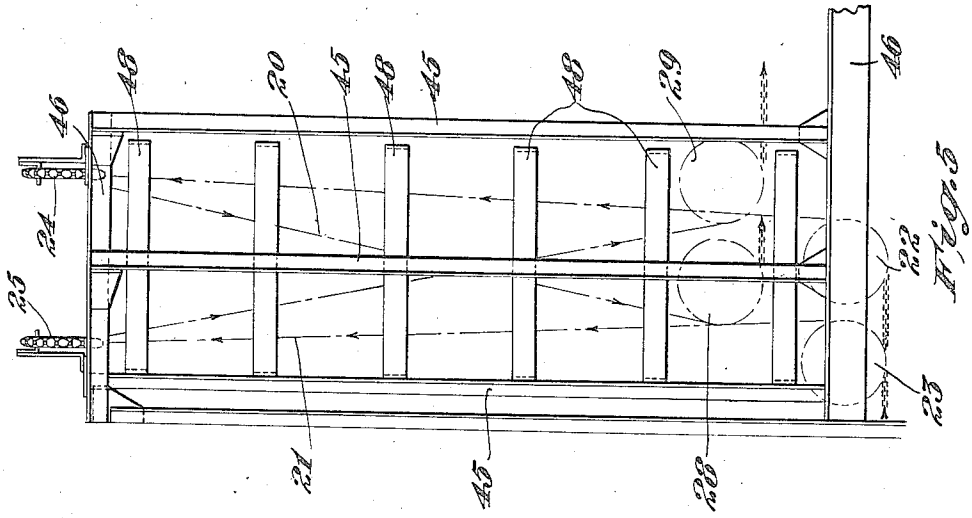

Fig. 3

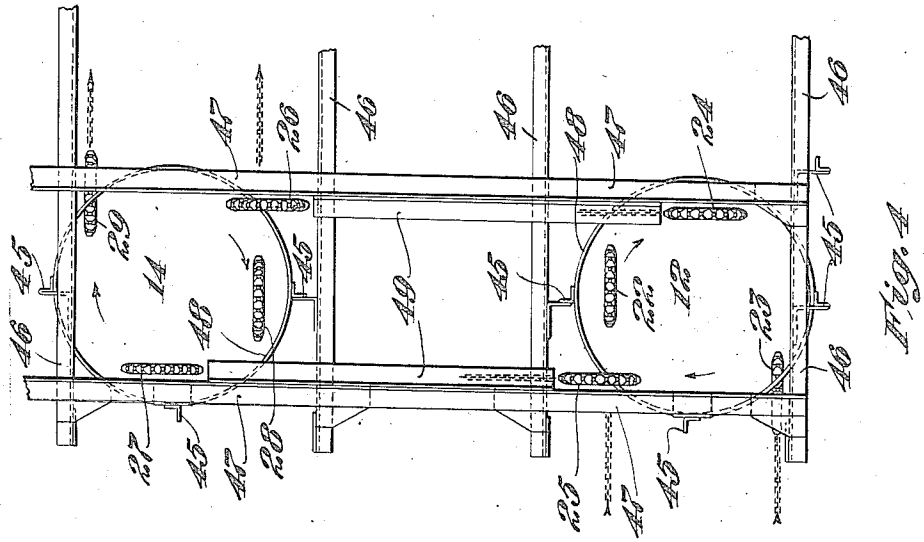

Fig. 4

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CONVEYER

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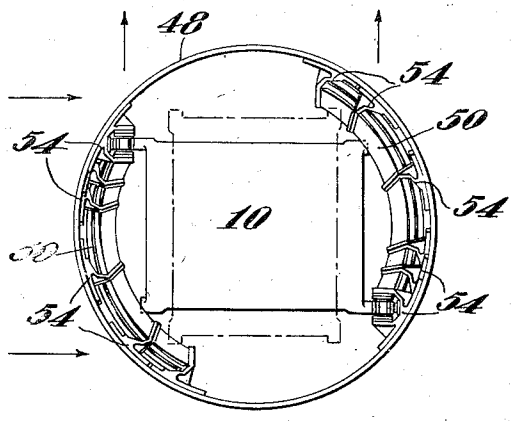

Fig. 7

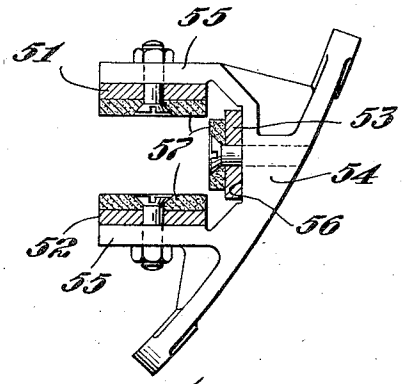

Fig. 8

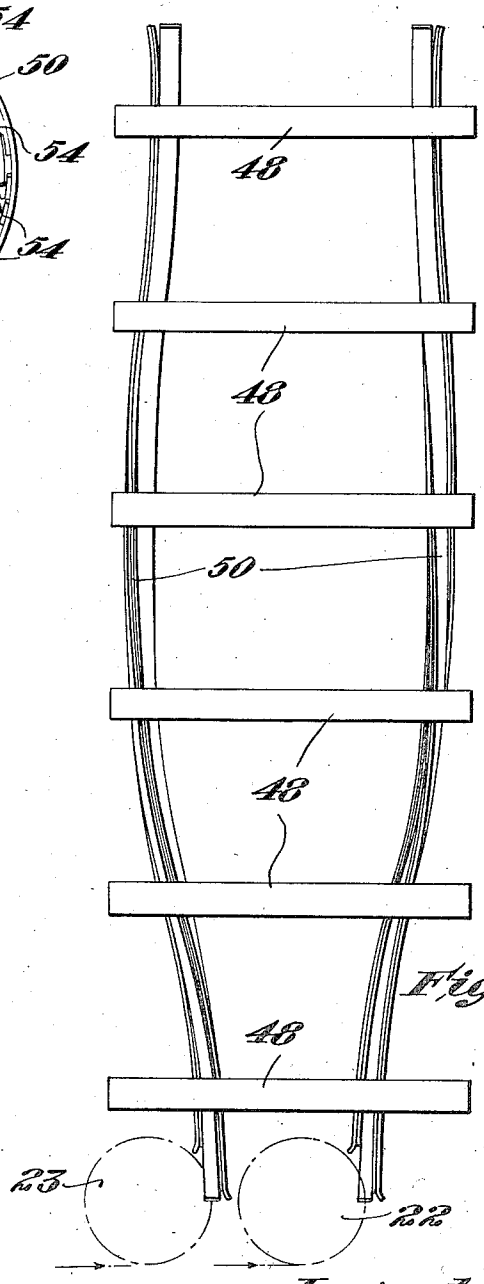

Fig. 6

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Patented Feb. 18, 1936 2,031,263

UNITED STATES PATENT OFFICE

2,031,263

CONVEYER

Chester S. Jennings, Syracuse, N. Y., assignor to The Lamson Company, Syracuse, N. Y., a corporation of Massachusetts

Application March 26, 1934, Serial No. 717,325

5 Claims. (Cl. 198—137)

This invention relates to an improvement in conveyers and more particularly in conveyers comprising a pair of parallel chains between which load carrying cars are supported said cars being connected to one chain at one corner and to the other chain at a diametrically opposite corner.

It has been found extremely difficult in conveyer systems of this type to lead the conveying mechanism around lateral corners due to the connections of the cars to the chains. That difficulty I have, however, now overcome and the primary object of this invention is the provision in the conveyer system of vertical riser units through which the conveyer mechanism travels and by which the cars are turned through an arc so that, after passing through the riser unit, the conveyer mechanism is set to travel along a line at an angle to the line along which it was traveling when it entered the unit.

Other objects will appear from an examination of the following description of one embodiment of the invention wherein the cars are turned through an arc of 90° and of the accompanying drawings which illustrate that embodiment and in which

Fig. 1 is a schematic plan view of a section of a conveyer system including riser units which embody this invention;

Figs. 2 and 3 are line drawings showing side elevations of the riser units and taken along the lines 2—2 and 3—3 on Fig. 1;

Fig. 4 is a plan view of a portion of a riser unit embodying this invention;

Fig. 5 is a side elevation of such portion;

Fig. 6 is an elevation of a pair of guiding tracks for certain of the chains shown in Fig. 5;

Fig. 7 is a plan view of such tracks with a car shown in engagement therewith; and

Fig. 8 is an enlarged plan view of one of the brackets by which the guiding tracks, one shown in section, are supported.

The line of travel of the cars along the conveyer section shown in Figs. 1, 2, and 3 is indicated by the arrows placed thereon. Thus the car 10 starting on the length 11 at the left of Figs. 1 and 2 is elevated and turned by the riser unit 12, passes along the length 13, is lowered and turned by the riser unit 14, passes along the lengths 15 (Fig. 3) is elevated and turned by the riser unit 16, passes along the length 17, is lowered and turned by the riser unit 18 and then passes along the lengths 19 in the directions indicated by the arrows (Fig. 2) to its starting position on the length 11.

The cars 10 are supported and transported by parallel chains 20 and 21 which, as shown particularly in Figs. 2 and 3 pass at the turns about suitable rollers or sprockets. Following the path previously traced the chains 20 and 21 turn about the sprockets 22, 23 and 24, 25, when entering and leaving the riser unit 12, about the sprockets 26, 27 and 28, 29 when entering and leaving the riser unit 14, about the sprockets 30, 31, about the sprockets 32, 33 and 34, 35, when traversing the riser unit 16, about the sprockets 36, 37 and 38, 39 when entering and leaving the riser unit 18 and finally about a plurality of pairs of sprockets 40 and 41 on their return to the starting point.

The construction of the riser units will be described with particular reference to Figs. 4 and 5 which show the units 12 and 14 it being understood that this description also applies to the riser units 16 and 18 which accordingly will not be described in detail. Each unit comprises a frame consisting of uprights 45 joined at top and bottom by cross bars 46 and 47. Supported upon the uprights 45 are a plurality of spaced parallel hoops 48. The cross bars 47 of riser units 12 and 14 may be integral as shown in Fig. 4 and connect the riser units and the cross bars 46 similarly connect the units 12 and 18 and the units 14 and 16. Carried by these cross bars 47 are tracks 49 for the chains 20 and 21 as they travel from the riser unit 12 to the riser unit 14.

The chains 20 and 21 during their travel through the risers are guided by tracks 50 carried by the hoops 48. The tracks 50 comprise upright bars 51, 52, and 53 mounted upon brackets 54 fixed to the inner faces of the hoops 48. Each bracket 54 includes parallel arms 55 which define a U-shaped pocket. The upright bars are secured to the arms 55 and to the base 56 of the pocket as shown in Fig. 8. The inner faces of the upright bars carry lining strips 57 of fibre or similar material. As shown particularly in Figs. 6 and 7 the guiding tracks 50 are gradually twisted while kept at all levels diametrically opposite. The chains and the connections between the chains follow the tracks and thus the cars are similarly turned as they are elevated or lowered in the units. This guidance of the chains insures that the same or the opposite faces of the chains engage the sprockets whereby the cars travel without tilting.

Instead of turning the cars through an arc of 90° the units may be so constructed, as by lengthening or shortening the tracks 50 and shifting the sprockets at the exit end of the unit accordingly, that the conveyer mechanism on leaving

the unit will travel along a line other than at right angles to that along which it traveled to the unit. For instance if the cars were turned through an arc of 180° the conveyer mechanism on leaving the unit would travel along a line above and parallel to that along which it traveled to the unit moving in the opposite direction.

While one embodiment of this invention has been shown and described it will be understood that the invention is not limited thereto since other embodiments can be made without departing from the spirit and scope of this invention as set forth in the following claims.

I claim:

1. In a conveyer system wherein the conveyer mechanism includes a pair of parallel chains and cars supported thereby, said cars being connected at one corner to one chain and at a diametrically opposite corner to the other chain, a riser unit through which the cars are carried by the chains and by which the cars are turned through an arc during their passage through the unit, said unit including sprockets about which the chains turn upon entering the unit, sprockets about which the chains turn upon leaving the unit and tracks guiding the chains from one set of sprockets to the other set of sprockets.

2. In a conveyer system wherein the conveyer mechanism includes a pair of parallel chains and cars supported thereby, said cars being connected at one corner to one chain and at a diametrically opposite corner to the other chain, a riser unit through which the cars are carried by the chains and by which the cars are turned through an arc during their passage through the unit, said unit including sprockets about which the chains turn upon entering the unit, sprockets about which the chains turn upon leaving the unit, said second set of sprockets being in planes at angles to the planes of the first set of sprockets and tracks guiding the chains from one set of sprockets to the other set of sprockets.

3. In a conveyer system wherein the conveyer mechanism includes a pair of parallel chains and cars supported thereby, said cars being connected at one corner to one chain and at a diametrically opposite corner to the other chain, a riser unit through which the cars are carried by the chains and by which the cars are turned through an arc during their passage through the unit, said unit including sprockets about which the chains turn upon entering the unit, sprockets about which the chains turn upon leaving the units, said second set of sprockets being in planes at angles to the planes of the first set of sprockets and twisted tracks guiding the chains from one set of sprockets to the other set of sprockets.

4. In a conveyer system wherein the conveyer mechanism includes a pair of parallel chains and cars supported thereby, said cars being connected at one corner to one chain and at a diametrically opposite corner to the other chain, a riser unit through which the cars are carried by the chains and by which the cars are turned through an arc during their passage through the unit, said unit including two sprockets, about which the chains turn upon entering the unit one chain about one sprocket and the other chain about the other sprocket, two sprockets about which the chains turn upon leaving the unit, one chain about one sprocket and the other chain about the other sprocket, the sprockets of each pair being in parallel vertical planes and the planes of one pair being at an angle to the planes of the other pair and two tracks guiding the chains through the unit between the sprockets about which they turn.

5. In a conveyer system conveyer mechanism including a pair of parallel chains and cars connected thereto, each car and its connections to the chains being in a common plane and being maintained at all times in planes parallel to each other and a vertical riser through which the cars are carried by the chains and by which the cars are turned through an arc during their passage through the unit, said riser including a pair of twisted U-shaped tracks, the openings of which face each other, which receive the chains and the connections to the cars, said cars being rectangular and the connections to the chains being at diametrically opposite corners.

CHESTER S. JENNINGS.