Sept. 18, 1945. R. A. PEARSON 2,384,959

CONVEYER

Filed May 5, 1944 2 Sheets-Sheet 1

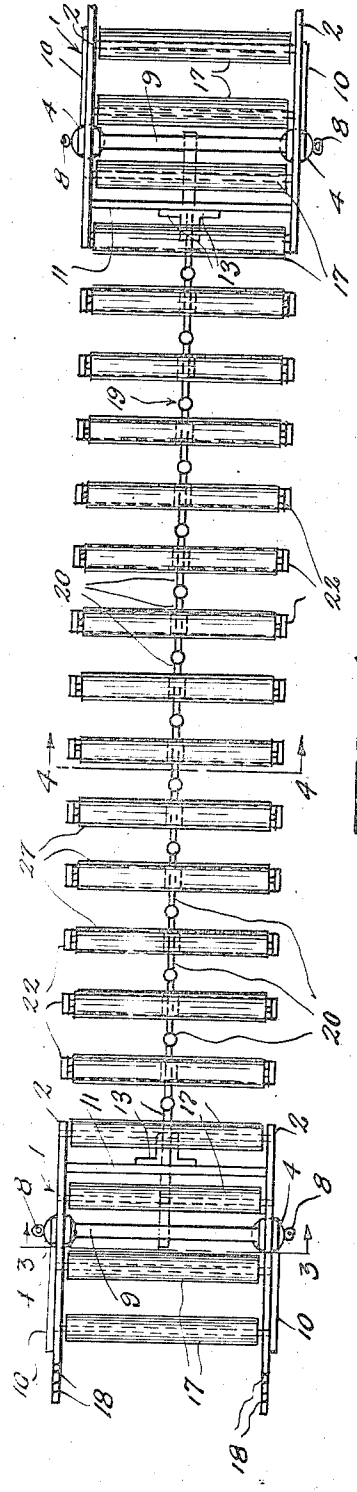


Fig. 1

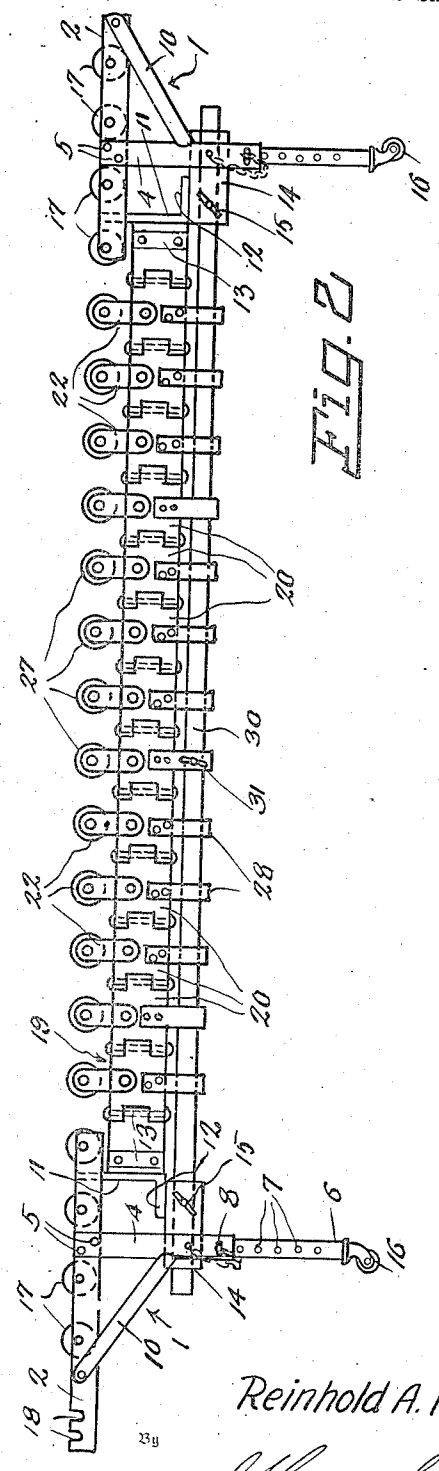


Fig. 2

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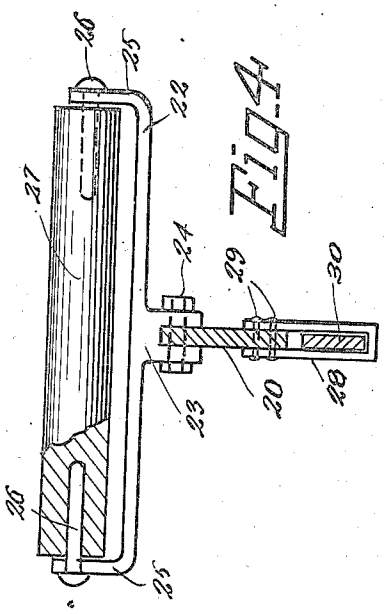


Fig. 4

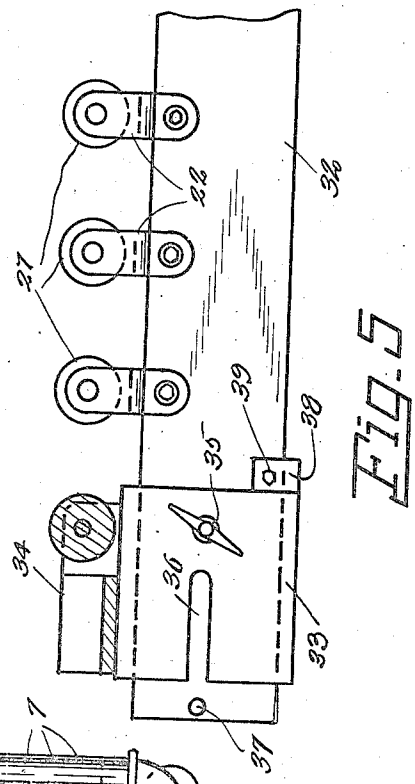


Fig. 5

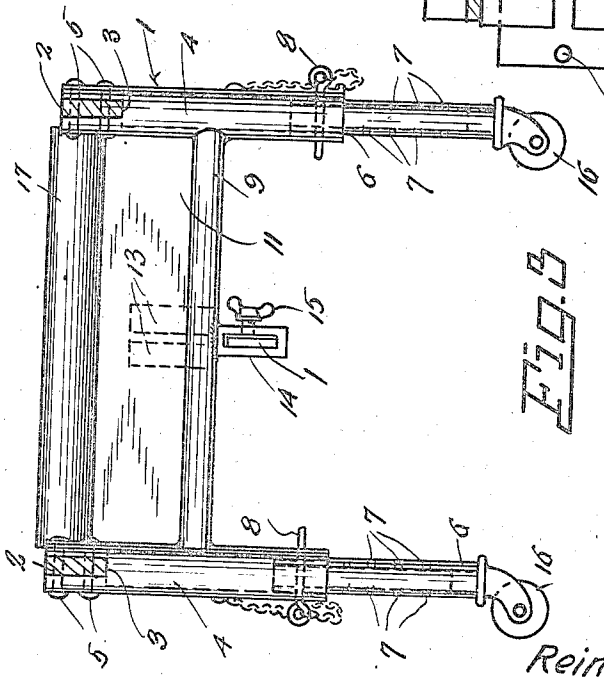


Fig. 6

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2,384,959

CONVEYER

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Application May 5, 1944, Serial No. 534,271

4 Claims. (Cl. 193—35)

This invention relates to a conveyer for use in transporting material from one place to another and it is one object of the invention to provide a conveyer of such construction that it may be angularly adjusted and thus permit a conveyer formed entirely of the improved construction, or with a section of the improved construction, to be directed toward a pile of goods in a warehouse and thus kept in such position that it may be conveniently reached while storing goods in a warehouse or removing goods therefrom.

Another object of the invention is to provide a conveyer consisting of a plurality of sections pivoted to each other for transverse swinging movement and each carrying a transversely disposed roller at its top, the train of pivoted sections being mounted between end sections in the form of stands which rest upon the ground and provide good support for ends of the conveyer.

Another object of the invention is to so form the end sections that stands thereof may be vertically adjusted and thus support the conveyer in such position that articles may be easily placed thereon or removed from the conveyer and also allow the conveyer to be readily incorporated in companion conveyers.

Another object of the invention is to provide a bracing bar which may be applied and serve to hold the sections against transverse movement relative to each other when it is desired to have the conveyer extend in a straight path.

Another object of the invention is to so construct the conveyer that when adjusted to curve laterally toward one side or the other, it may be held in the adjusted position.

In the accompanying drawings:

Fig. 1 is a top plan view of the conveyer.

Fig. 2 is a side view.

Fig. 3 is a sectional view on an enlarged scale, on the line 3—3 of Fig. 1.

Fig. 4 is a sectional view on the line 4—4 of Fig. 1.

Fig. 5 is a fragmentary view showing a modified construction.

This improved conveyer may constitute an entire conveyer or a section adapted to be interposed between other sections so that a curve or transverse deflection may be provided in a conveyer in the length thereof for convenience in placing goods upon the conveyer or removing goods therefrom.

At its ends the improved conveyer is provided with stands or frames, each of which has side bars 2 mounted in slots 3 at upper ends of legs 4, where they are firmly secured by rivets 5. The legs are tubular and open at their lower ends to receive lower leg sections 6 in which vertically spaced openings 7 are formed so that pins 8 may be passed through the legs 4 and selected openings of the lower sections or extensions 6 and thus provide legs of predetermined overall length for forming frames of a desired height. Bracing bars 9 extend horizontally between the legs 4 with their ends welded thereto and, in order to brace the side bars 2, there have been provided diagonally extending side braces 10 and webs 11 which extend between inner end portions of the side bars and are welded thereto. The webs extend downwardly below the side bars and have their lower portions bent to form flanges 12 projecting toward outer ends of the frames or stands. The web of each stand carries brackets 13 located midway the width of the stand and projecting toward the inner end thereof. Against the under face of the flange 12 of each web is mounted a sleeve 14 extending longitudinally of the stand. The sleeve extends for the greater portion of its length from the flange 12 toward the outer end of the stand and under the bracing bar 9, to which it is welded so that it serves as a brace for the web 11 and, near its inner end, the sleeve is formed with a side opening through which is threaded a set screw 15. Casters 16, at lower ends of the legs, permit the stands to be easily shifted from one position to another. The side bars 2 are formed with opposed openings and in these openings are engaged pintles of rollers 17, one of the frames having its side bars formed with recesses 18 in order that the improved conveyer may be connected with another conveyer and serve as an adjustable unit therefor.

Between the frames 1 extends a band 19 formed of a plurality of links or plates 20 having hinge ears through which pass pins 21 so that the plates or links are pivoted to each other for transverse swinging movement. Therefore, the band 19 may extend in a straight line between the end frames, as shown in Fig. 1, or be swung transversely toward one side or the other to dispose an end of the conveyer close to a pile of goods in a warehouse. It will thus be seen that as goods are piled in a warehouse or removed therefrom, the conveyer may be shifted to a position in such relation to the pile that goods may be easily removed from the conveyer and placed upon the pile, or removed from the pile and placed upon the conveyer. Yokes or brackets 22 extend transversely of the band 19 over its links

20 and are formed with depending ears 23 which straddle the links, as shown in Fig. 4, and are secured thereto by bolts 24. These yokes have upstanding ears 25 at their ends through which pass pins 26 constituting pintles for rollers 27 which are spaced from each other the same distance as the rollers 17. By providing the rollers 17 and 27, articles may be easily moved along the conveyer. U-shaped straps or hangers 28 are secured to the plates 20 in depending relation thereto by rivets 29 and through these hangers passes a flexible strip 30 formed of spring steel or other suitable material. End portions of the strip 30 pass through the sleeves and, when the conveyer is shifted transversely, the strip slides through the hangers and the sleeves and is then secured against sliding in an opposite direction by tightening the set screws 15. Since the strip 30 cannot slide through the hangers after the set screws 15 have been tightened, the length of the strip between the hangers will be shorter than the length of the connected plates 20 and the conveyer will be held in an arcuate path. The set screws may be left out of gripping engagement with the strip if desired. One of the hangers carries a set screw 31 for gripping the strip approximately midway its length and normally holding the strip in the position shown in Fig. 2, with its ends projecting a short distance out of the sleeves 14. When so secured, the strip cannot accidentally slip out of the sleeves 14. It should also be noted that when the conveyer is swung transversely to an arcuate path, the pins 8 at the inner side of the conveyer may be removed and the legs at this side of the frames shortened to impart a transverse tilt to the conveyer, the pins being then replaced to retain the legs at their shortened length.

In Fig. 5 there has been illustrated a modified construction wherein a continuous band 32 of spring steel is used in lieu of a band formed of pivoted sections or links. This band carries the brackets 22 in which the rollers 27 are rotatably mounted and ends of the band or strip pass through sleeves 33 of the stands 34. Each sleeve carries a set screw 35 for gripping the strip and holding it against movement through the sleeve after the conveyer has been swung transversely to an adjusted position and in one or both side walls of the sleeve is formed a slot 36 to receive a pin 37 projecting transversely from the strip near its end. This pin admits sliding of the strip through the sleeve in one direction, and a stop 38 secured to the strip in depending relation thereto by a fastener 39, limits sliding of the strip through the sleeve in an opposite direction. When a strip of resilient material is used as a carrier for the brackets 22, a lower strip is not necessary.

Having thus described the invention, what is claimed is:

1. In a conveyer, end frames, a band extending longitudinally between said frames and formed of a plurality of links pivoted to each other for transverse swinging movement to adjusted positions, rollers rotatably mounted over said links and extending transversely thereof, hangers depending from said links, a resilient strip passing through said hangers and supported thereby, sleeves carried by said frames and extending longitudinally thereof with portions of the strip slidably passing through the sleeves, and means carried by said sleeves for engaging the strip and holding same against movement through the sleeves and maintaining the band in transversely adjusted position.

2. In a conveyer, end frames, a band extending longitudinally between said frames and formed of a plurality of links pivoted to each other for transverse swinging movement to adjusted positions, rollers rotatably mounted over said links and extending transversely thereof, U-shaped hangers depending from said links, sleeves carried by said frames and extending longitudinally thereof, a flexible strip extending longitudinally of said band under the same and supported through said hangers with its end portions passing through said sleeves, and set screws carried by said sleeves for gripping engagement with the strip to secure the strip against sliding through the sleeves.

3. In a conveyer, end frames, a band extending longitudinally between said frames and formed of a plurality of links pivoted to each other for transverse swinging movement to adjusted positions, brackets over said links extending transversely thereof and having upstanding bearings at their ends and depending ears midway their ends straddling the links, fasteners passing through the ears and the links, rollers over said brackets rotatably carried by the bearings thereof, a strip extending longitudinally of said band, means carried by said links for slidably supporting said strip, and means carried by said frames for securing the strip against sliding movement and retaining the conveyer in transversely adjusted position.

4. In a conveyer, end frames each having side bars, legs for the frames having upper ends secured to the side bars, a transverse brace for the legs, a web mounted transversely between the side bars and extending downwardly below the side bars, a transverse flange along the lower edge of said web, a sleeve extending longitudinally of each frame and fixed to the transverse brace and the flange of the web, rollers extending transversely of the frames and rotatably carried by the side bars thereof, a band extending longitudinally between said frames and secured to the webs of the frames, rollers over said band extending transversely thereof and spaced from each other longitudinally of the band, the band being flexible whereby the conveyer may be swung transversely to adjusted positions, a flexible strip carried by said band and shiftable longitudinally thereof with its end portions slidably passing through the sleeves, and means carried by the sleeves for gripping the strip and securing the strip against longitudinal movement with the conveyer in transversely adjusted position.

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