July 15, 1952 H. A. BLOCK 2,603,360

CONVEYER TYPE DISPLAY RACK

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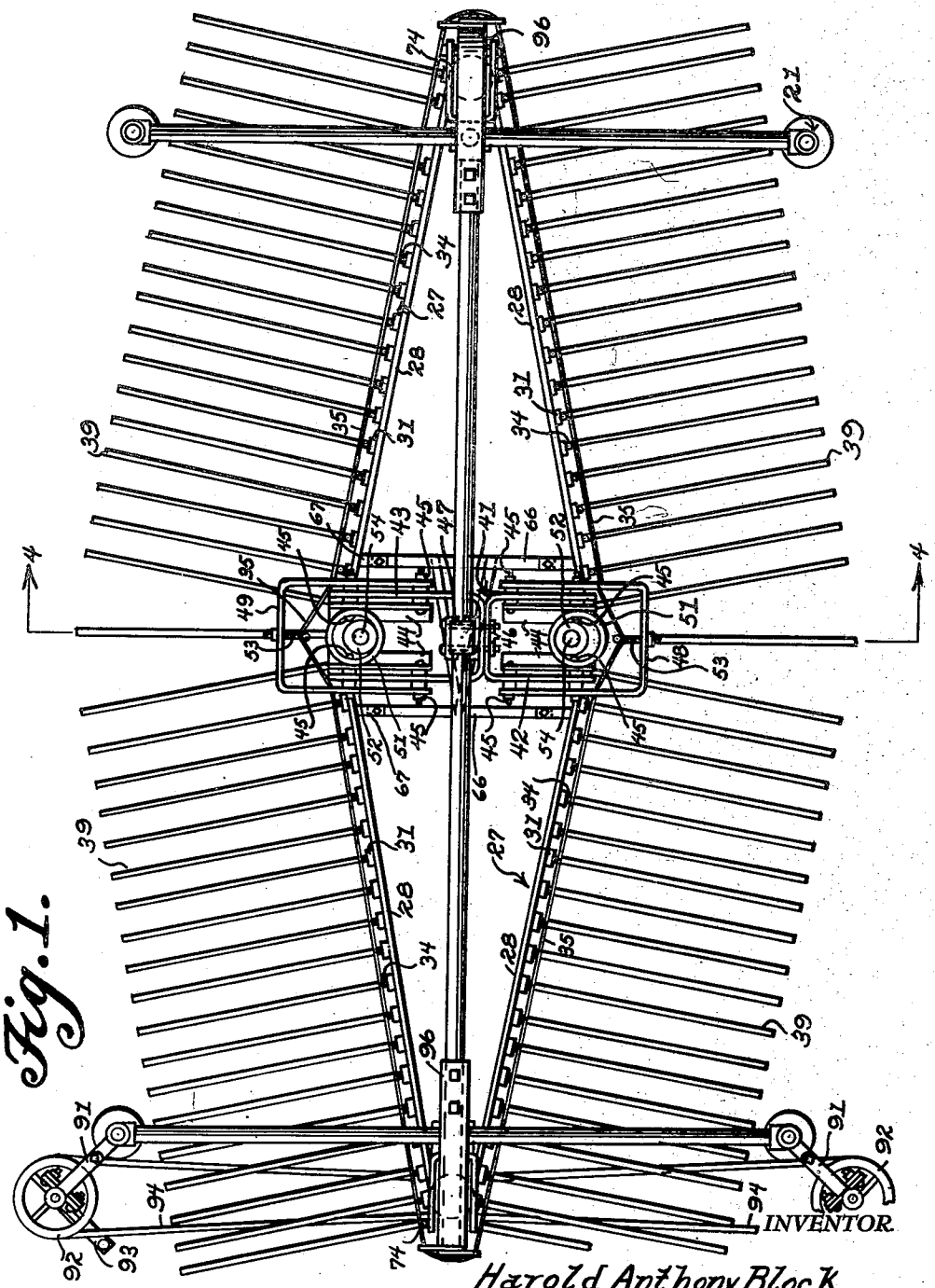


Fig. 1.

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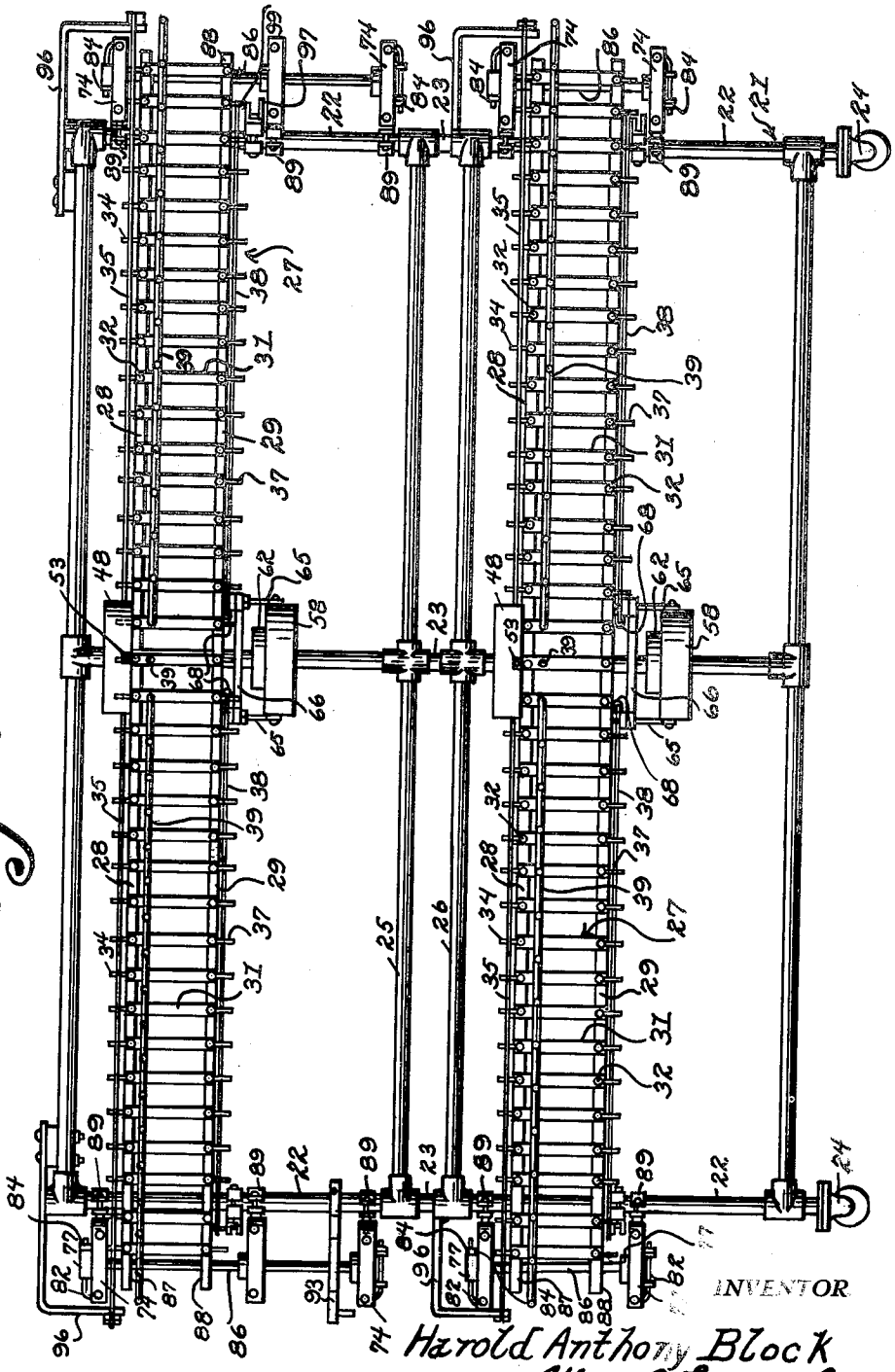


Fig. 2.

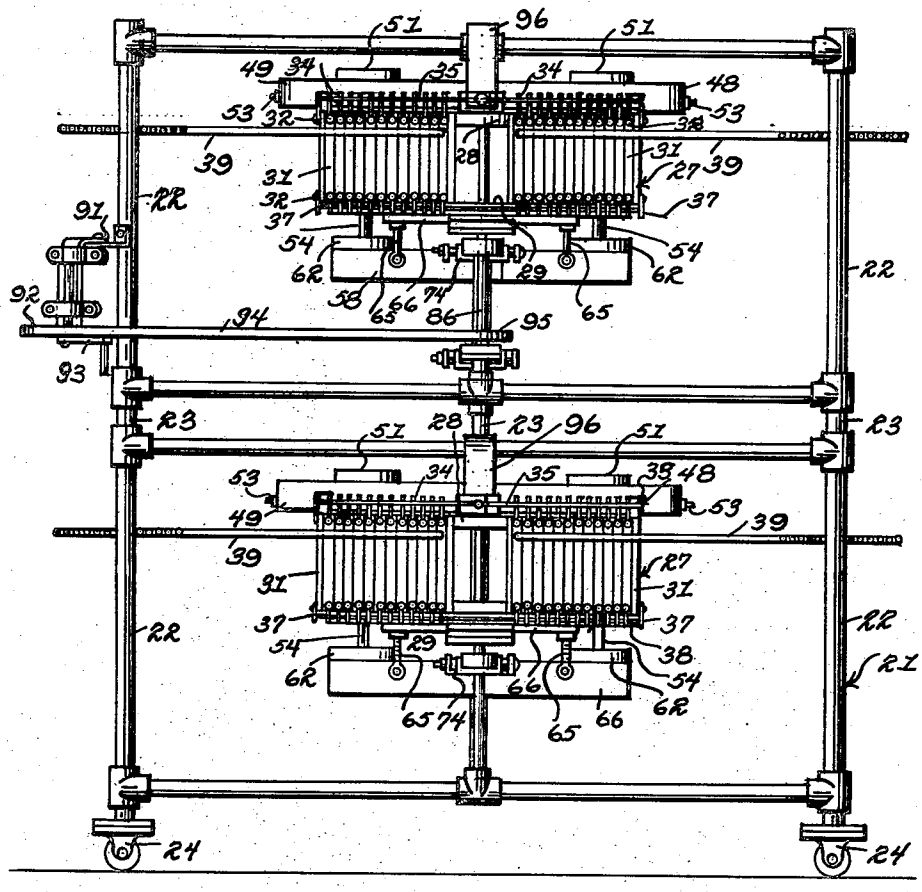
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Fig. 3.



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Fig. 4.

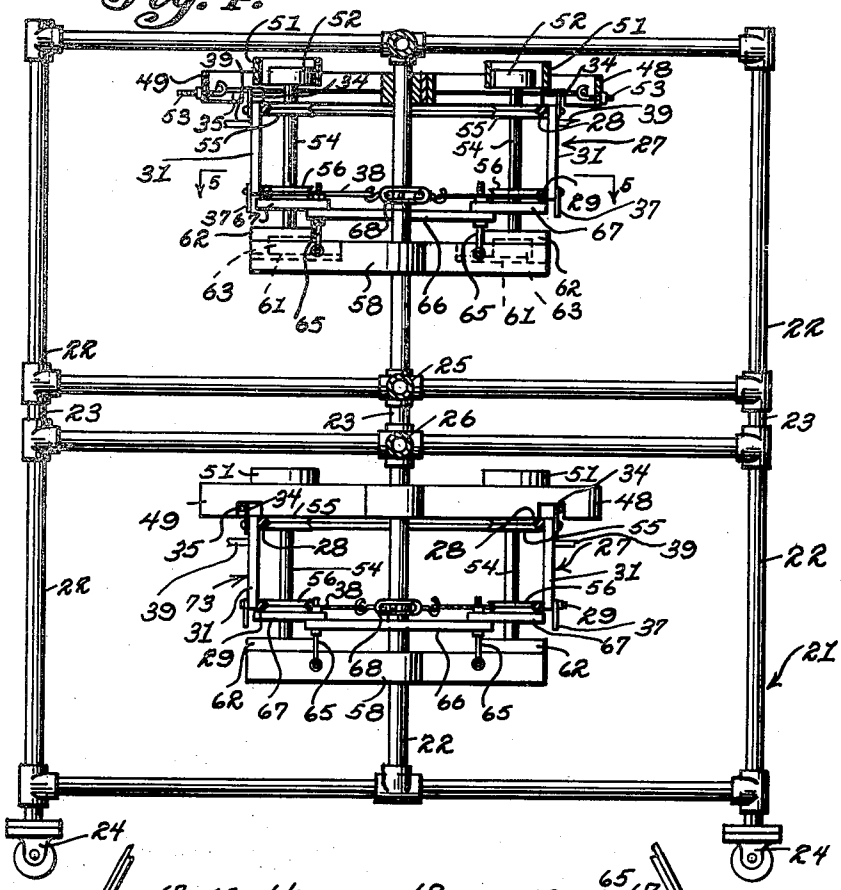
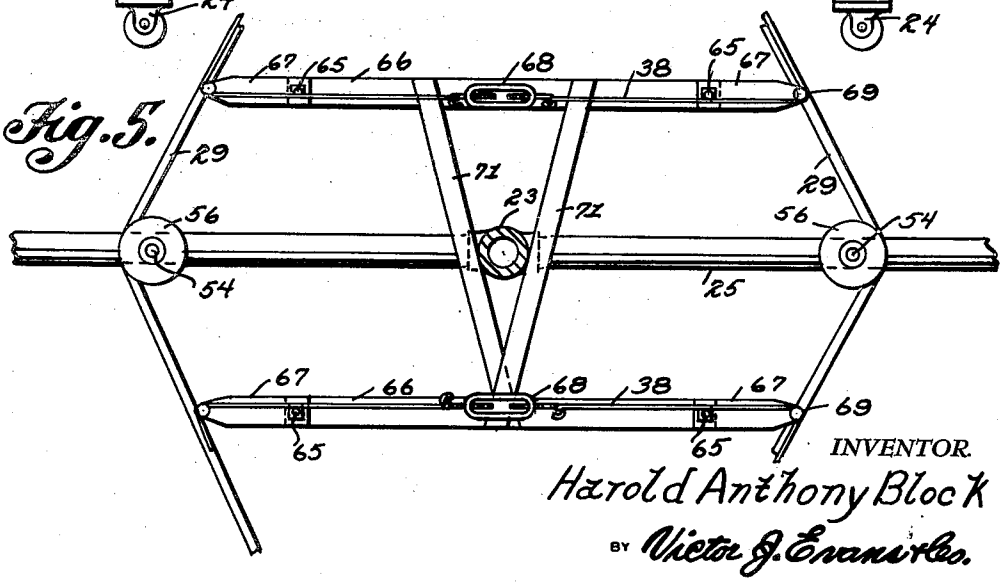


Fig. 5.



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Fig. 9.

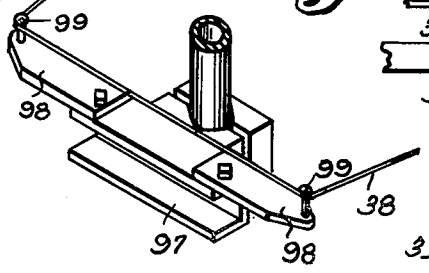


Fig. 10.

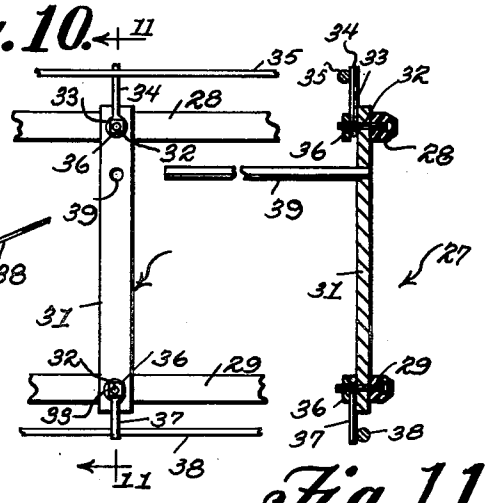


Fig. 6.

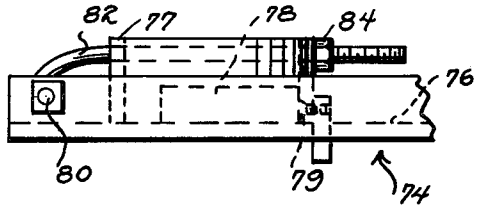


Fig. 11.

Fig. 8.

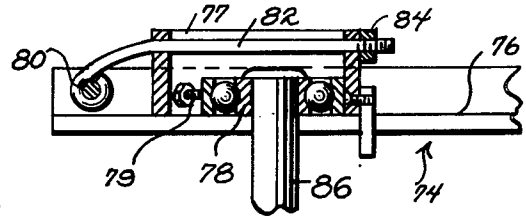
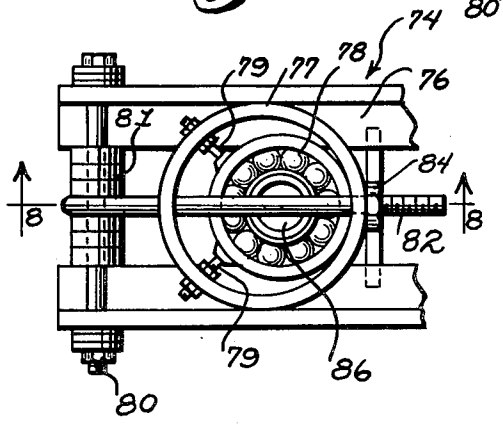


Fig. 7.



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2,603,360

UNITED STATES PATENT OFFICE

2,603,360

CONVEYER TYPE DISPLAY RACK

Harold Anthony Block, Manistee, Mich.

Application October 14, 1947, Serial No. 779,782

2 Claims. (Cl. 211—122)

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This invention relates to a display rack of the conveyor type.

It is an object of the present invention to provide a display rack adapted to convey articles of merchandise such as wall paper samples toward the ends of the rack where they will be automatically turned to display their opposite sides as they pass about the end to be returned along the opposite side of the rack and wherein there is adequate means for confining the conveyor belt to a straight path without folds while being extended along the sides of the rack, and wherein an adjustment can be effected at the sides of the conveyor belt as well as at the ends to tighten or spread the conveyor.

Other objects of the present invention are to provide a display rack of the conveyor type adapted to handle large articles which is of simple construction, easy to operate, easy to adjust and efficient in operation.

For a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which:

Fig. 1 is a top plan view of the display rack embodying the features of the present invention,

Fig. 2 is a side elevational view of the display rack,

Fig. 3 is an end elevational view of the display rack,

Fig. 4 is a transverse sectional view taken on line 4—4 of Fig. 1,

Fig. 5 is a transverse sectional view taken on line 5—5 of Fig. 4,

Fig. 6 is a fragmentary side elevational view of one of the bearing units or the vertically-extending drive and idler shafts,

Fig. 7 is a top plan view of the adjustable bearing arrangement shown in Fig. 6,

Fig. 8 is a longitudinal cross-sectional view looking through the bearing unit shown in Fig. 6 and on line 8—8 of Fig. 7,

Fig. 9 is a perspective view of one of the brackets serving to support one of the guide wires,

Fig. 10 is an enlarged fragmentary side elevational view of the conveyor and the guide wires,

Fig. 11 is a cross-sectional view, in elevation, taken on line 11—11 of Fig. 10.

Referring now to the figures, 21 represents a pipe supporting frame formed of pipe pieces and couplings and extending vertically upwardly for sufficient height to support long articles and having end pieces 22 and intermediate supporting pipes 23 at the center of the frame. To the bottom of the frame and at each corner thereof

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are caster supporting wheels 24. Through the frame at an intermediate elevation are horizontally extending pipes 25 and 26.

Within the frame there is mounted a conveyor 27 comprising upper and lower continuous belts 28 and 29 which are connected to opposite ends of vertically-extending wooden strips 31, Figs. 10 and 11. The continuous belt 28 is connected to the upper ends of strip 31 by a bolt 32 and this same bolt extends through an eye member 33 having a shank 34 for engagement with an upper guide wire 35. A nut 36 is secured to the bolt 32. To the lower end of the wooden strip 31 continuous belt 29 is connected in a similar manner and an eye 37 is connected thereto for engagement with a lower guide wire 38. These guide wires serve to retain the conveyor strips 31 in an upright manner throughout their travel about the rack. Extending outwardly from each one of the wooden strips 31 is a rod or arm 39 over which merchandise can be extended. Such merchandise may be in the nature of wall paper designs or textile goods.

To the center of the rack there is extended laterally therefrom and from the opposite sides of a center post a bracket 41 formed of U-shaped members 42 and 43. These U-shaped members respectively support tracks 44 of angle section and are secured to the brackets by bolts 45. The bracket 41 is secured to the central pipe 23 by fastening bolts 46 and clamp plates 47, and extending outwardly from the bracket members 42 and 43 are U-shaped bracket extensions 48 and 49. On each set of tracks 44 there is mounted a ring 51 adapted to contain a ball bearing unit 52 which may be held in place within the ring by the heads of the bolts 45, Fig. 1. Adjustable screws 53 are connected respectively to each of the bracket extensions 48 and 49 for adjusting outwardly and guiding upper guide wire 35. In the upper end of the ball bearing unit 52 there is journalled a vertically-extending idler shaft 54 having an upper pulley 55 thereon for receiving V-belt 28 and a lower pulley 56 thereon for receiving lower V-belt 29.

At a lower elevation beneath the conveyor 27 are brackets 58 having similar construction to brackets 41 and having tracks 61, Fig. 7, on which is supported a bottom ring 62 having a ball bearing unit 63 therein. Extending upwardly from bracket 58 are vertical supporting screws 65 adapted to support and carry transverse members 66 having extensions 67 thereon. The bottom guide wires 38 are divided and the ends of the respective wires have a turn buckle 68 for

tightening the same about projections 69 on the extensions 67. The transverse members are braced longitudinally by diagonal braces 71. Accordingly the conveyor 27 will be retained outwardly and spread apart at the center of the frame.

As viewed in Fig. 4 a similar construction having a lower conveyor can be had. This construction is indicated generally at 73 in Fig. 4.

At each end of the frame there is connected a plurality of U-shaped brackets 74. These brackets have tracks 76 on which there is rested a large ring 77 having a ball bearing unit 78 therein. Clamping screws 79 extend between the ring 77 and the unit 78 to releasably retain the ball bearing unit within the ring. At the end of the bracket is a shaft 80 on which is hinged between spacer elements 81, a rod 82 which extends through the ring 77 whereby to provide for means for taking up the slack in the conveyor by the adjustment of a nut 84 on the rod 82. As the nut 84 is tightened the ring will be adjusted outwardly. Between the ball bearing units there extends a shaft 86 having upper and lower pulleys 87 and 88 thereon for receiving the continuous belts 28 and 29. Attaching clamps 89 fix the brackets 74 to an end pipe. At one side of the frame there is mounted a bracket 91 having a pulley 92 adapted to be operated by a hand crank 93. The pulley 92 is connected by a belt 94 to a pulley 95 on the shaft 86. As the crank 93 is turned the shaft 86 is turned and the conveyor 27 will be moved to present different articles of merchandise at the end of the frame.

The upper guide wire 35 extends about a downwardly bent member 96 at the end of the frame. Each of the lower guide wires 38 is supported about a bracket construction 97 shown in Fig. 9. This bracket construction has extensions 98 with pins 99 thereon adapted to be surrounded by the wire 38.

The opposite end of the frame has a similar arrangement and the arrangements for the lower conveyor of the frame are similar. While the description has been carried on with reference to the top conveyor construction it shall be understood that the bottom conveyor construction is almost identical and is similarly constructed and arranged upon the pipe frame.

While various changes may be made in the detail construction it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

I claim:

1. A display rack comprising a supporting frame formed of interconnected frame pieces extending vertically and horizontally and including vertical end and intermediate pieces, a conveyor mounted on said supporting frame and comprising vertically spaced continuous belts and spaced vertical interconnecting pieces between and connected to the belts and having supporting members thereon, pulley devices mounted at the opposite ends of the supporting frame for supporting the belts, means mounted on the frame for operating one of said pulley devices to operate the conveyor, a spread idler pulley device mounted on the intermediate pieces of the frame for maintaining the conveyor spread apart at the center of the frame, L-shaped members connected to and supported by the opposite ends of the frame with the vertical portions thereof positioned outwardly of the plane of the vertical end pieces, first bracket devices supported by the vertical end pieces, second bracket devices supported by the intermediate pieces, upper guide means connected to the lower end of the vertical portions of the L-shaped members, and to the spread idler pulley device, lower guide means connected to the first and second bracket devices and upper and lower extensions on said vertical interconnecting pieces engaging said guide means with the upper extensions inwardly of the upper guide means and the lower extensions outwardly of the lower guide means.

2. A display rack as in claim 1 wherein a U-shaped bracket extension is mounted on each of said second bracket devices and extends outwardly thereof in opposed relation to each other and an adjusting screw connected to each of said bracket extensions and having an inner hooked end which is adapted to engage said upper guide means for outwardly adjusting said upper guide means.

HAROLD ANTHONY BLOCK.

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