

Dec. 27, 1966

H. S. ROSENBAUM

3,293,685

DRAPERY CARRIER

Filed Nov. 17, 1964

3 Sheets-Sheet 1

FIG. 1.

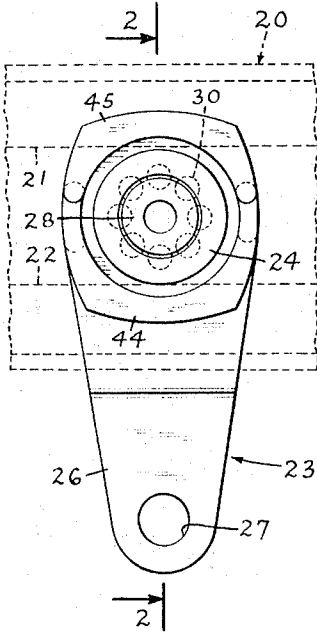


FIG. 2.

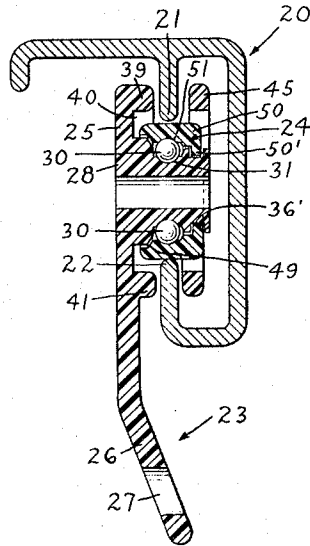


FIG. 3.

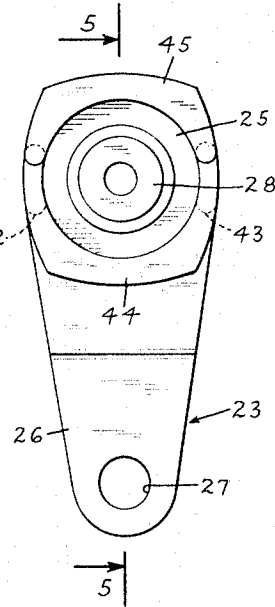


FIG. 4.

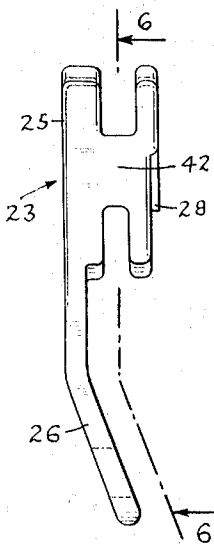


FIG. 5.

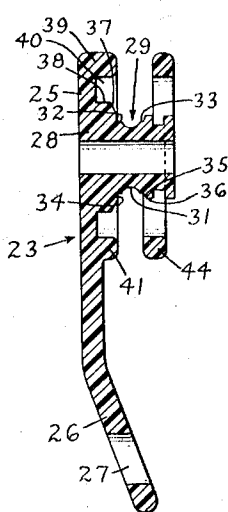


FIG. 6.

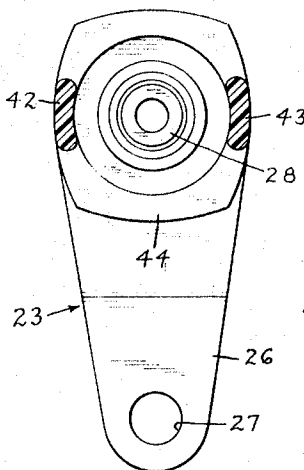
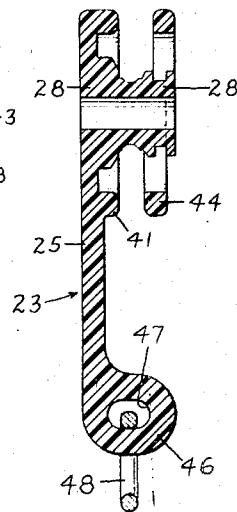


FIG. 7.



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FIG.8.

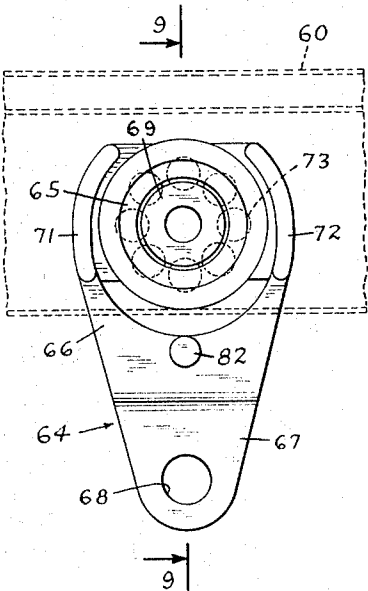


FIG.9.

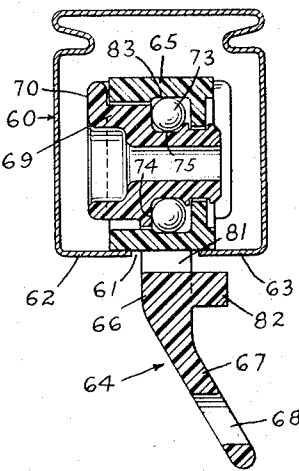


FIG.10.

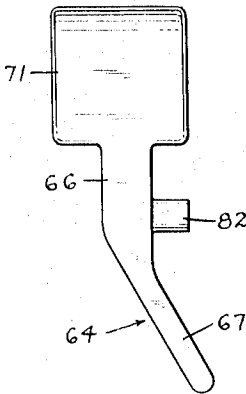


FIG.11.

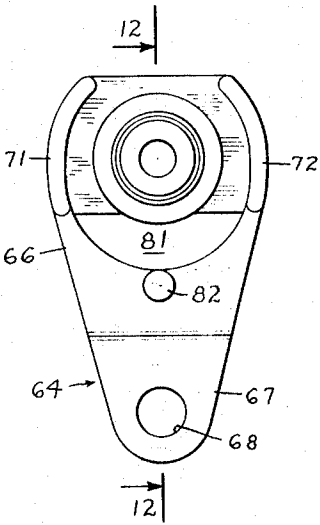
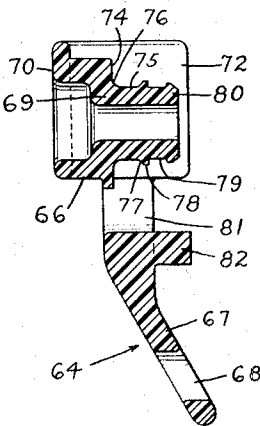


FIG.12.



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FIG.13.

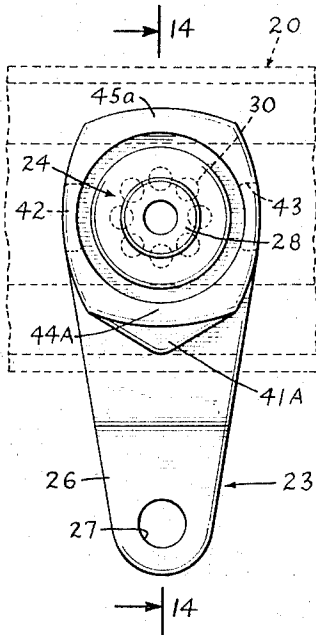


FIG.14.

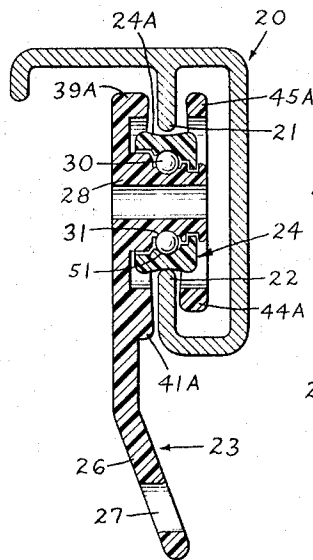


FIG.15.

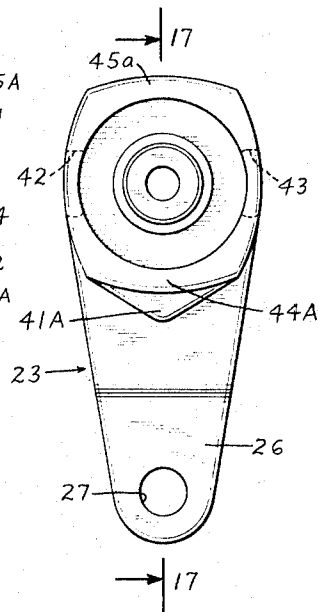


FIG.16. FIG.17.

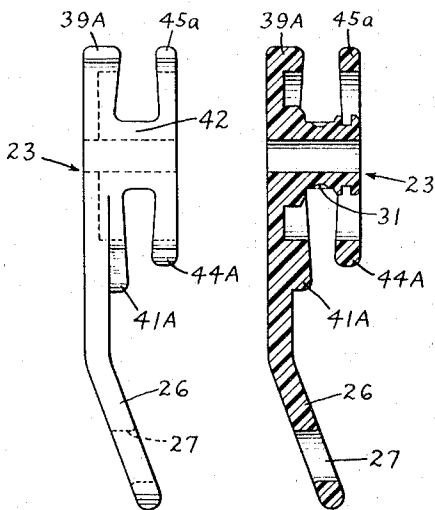


FIG.18.

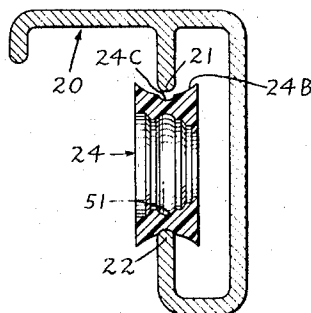
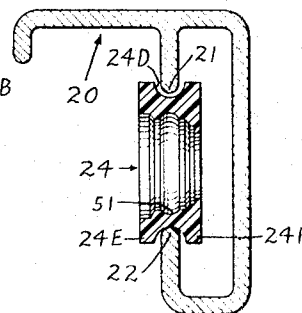


FIG.19.



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DRAPERY CARRIER

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13 Claims. (Cl. 16—37.6)

The present invention relates to drapery hardware and more particularly to carriers for movably supporting drapes and the like from traverse rods.

The principal object of the invention has been the provision of a novel and improved carrier for use with traverse rods. More particularly, it has been the principal object of the invention to provide a novel and improved carrier for supporting drapes and which affords the freedom required to carry the drapes with a minimum amount of restriction.

Another object of the invention has been the provision of a novel and improved ball bearing carrier which can be used to advantage with a number of different rod constructions, e.g., telescopic rods, cut-to-measure extruded aluminum rods and cut-to-measure roll formed steel rods.

A further object of the invention has been the provision of such a carrier which will maintain rolling contact with the rod track in service and hence avoid the formation of flat spots which are likely to result from sliding contact with the track.

Still another object of the invention has been the provision of such a rod which will resist twisting motion but which nevertheless can assume various angular positions required during traversing of the drapery.

Another object of the invention has been the provision of such a carrier which will not restrict free movement of the drapery and which will permit proper fold formation in the drapery.

Still another object of the invention has been the provision of such a carrier which will not fall into or become jammed in the rod track opening during shipment or handling.

Other and further objects, features and advantages of the invention will appear more fully from the following description of the invention taken in connection with the appended drawings, in which:

FIG. 1 is a front elevational view of one form of carrier embodying the invention;

FIG. 2 is a cross-sectional view taken along the line 2—2 of FIG. 1;

FIG. 3 is a front elevational view of the outer race and hanger element of FIG. 1;

FIG. 4 is a side elevational view of the element of FIG. 3;

FIG. 5 is a cross-sectional view taken along the line 5—5 of FIG. 3;

FIG. 6 is a cross-sectional view taken along the line 6—6 of FIG. 4;

FIG. 7 is a cross-sectional view similar to FIG. 5 of a slightly modified construction;

FIG. 8 is a front elevational view of another form of carrier embodying the invention;

FIG. 9 is a cross-sectional view taken along the line 9—9 of FIG. 8;

FIG. 10 is a side elevational view of the outer race and hanger element of FIG. 8;

FIG. 11 is a front elevational view of the element of FIG. 10;

FIG. 12 is a cross-sectional view taken along the line 12—12 of FIG. 11;

FIG. 13 is a front elevational view similar to FIG. 1 showing a modified form of carrier embodying the invention;

FIG. 14 is a cross-sectional view taken along the line 14—14 of FIG. 13;

FIG. 15 is a front elevational view of the outer race and hanger of FIG. 13;

FIG. 16 is a side elevational view of the element of FIG. 15;

FIG. 17 is a cross-sectional view taken along the line 17—17 of FIG. 15;

FIG. 18 is a cross-sectional view illustrating a modified form of outer race element for use in the carrier of the invention; and

FIG. 19 is a cross-sectional view illustrating a further modified form of outer race element for use in the carrier of the invention.

Referring now to the drawings, and more particularly to FIGS. 1—6, there is shown a carrier embodying the invention and especially adapted for use with traverse rods having an opening lying in a vertical plane and defined at the top and bottom by axially extending, spaced parallel superposed track elements. A typical rod of this type is shown in cross-section at 20 in FIG. 2 and in dotted lines in FIG. 1. Rods of this type are made in a variety of shapes and may be wall mounted or ceiling mounted. The rod 20 has an upper track element 21 and a lower track element 22 which define an opening to accommodate drapery carriers and master slides.

The carrier comprises an inner race and hanger element 23 and an outer race element 24. The element 23, as is best shown in FIGS. 3—5, comprises a rear body portion 25 from which depends a forwardly inclined hanger leg 26 having an opening 27 to accommodate drapery pins. An annular hub 28 projects forwardly from body portion 25 and is provided with an annular recess 29 forming a raceway to accommodate bearing balls 30. The opening 27 is located vertically below the center line of the bearing balls 30. The bottom 31 of recess 29 is rounded along a radius substantially equal to the ball radius. The rounded bottom 31 extends between horizontal shoulders 32 and 33 which meet a vertical wall 34 and an inclined wall 35, respectively. The inclined wall 35 terminates in a horizontal annular surface 36 forming the hub forward nose. The vertical wall 34 meets an inclined wall 37 which terminates at a rear horizontal annular surface 38.

An arcuate flange 39 projects forwardly from the upper periphery of body portion 25, the flange 39 being spaced from the hub 28 to afford a recess 40. A similar flange 41 projects forwardly from body portion 25 beneath hub 28.

A pair of narrow ribs 42 and 43 project forwardly from body portion 25 in alignment with the center of hub 28 and at opposite sides of hub 28. The ribs 42 and 43 are spaced radially outwardly of the periphery of hub 28 and support a circular ring 44. The upper portion of ring 44 projects forwardly of the main portion of ring 44 to provide a lip 45. Flanges 39 and 41 extend around the upper and lower peripheries, respectively, of body portion 25 and merge into ribs 42 and 43, as best shown in FIG. 6.

The inner race element 23 shown in FIG. 7 differs from that previously described only in the shape of the hanger leg which is a vertical extension of body portion 25 except for a forwardly projecting bottom 46 having a hole 47 in which is inserted a ring 48 to which a drapery pin may be attached. The hole 47 is located directly below the center line of the bearing balls.

The outer race element 24 is an annular cylinder adapted to be mounted over hub 28, as shown in FIG. 2. A notch 49 at one side of race element 24 corresponds in shape to surfaces 37 and 38, while the other side of race element 24 is an inwardly extending annular flange 50.

The forward end of flange 50 is formed as a radially inwardly extending annular tongue 50' which is accommodated in an annular slot 36' in surface 36 of the inner race element 23. The tongue 50' and slot 36' serve to hold the race elements assembled, as shown in FIG. 2. The inner surface of race element 24 has a slight semi-circular recess or dish 51 which accommodates balls 30.

The internal diameter of outer race 24 is slightly greater than the external diameter of hub 28 at all points so that outer race 24 can rotate freely about hub 28. The race 24 is snapped on over the balls and with tongue 50' entering slot 36' for assembly of the race elements. For this purpose, the outer race 24 should be made of a suitable plastic or other resilient material, e.g., nylon. The inner race element 23 is preferably made of the same material.

In operation, the carrier is supported in the rod by rolling contact of outer race element 24 and lower track 22. It will be appreciated that there will be little frictional force between race element 24 and track 22, so that any substantial restraint to the free rolling of outer race element 24 on balls 30 will likely cause the race element to slide along track 22 rather than roll along the track. Such sliding action is undesirable since it will tend to wear a flat spot on the outer surface of race element 22, which will make the traversing action more difficult and noisier and will further tend to worsen the flat spot by making sliding action more likely.

To insure rolling rather than sliding of outer race element 24 on track 22, the spacing between flange 41 and the adjacent side of track 22 and the spacing between the lower portion of ring 44 and the adjacent side of track 22 are both made quite small. The actual spacings provided will, of course, depend on many factors and will vary with different rod and carrier sizes and constructions. However, a typical value for each would be 0.015" for a total of 0.030". These small spacings between the sides of the carrier and the sides of the lower track 22 will prevent any substantial twisting of the carrier despite forces acting thereon tending to cause twisting. Such forces are likely to occur during opening or closing of drapes, whether this be effected by pulling on the drapes or by use of a cord acting on a master slide. By twisting of the carrier is meant a horizontal arcuate motion tending to shift the axis of rotation of outer race 24 away from the 90° relationship to track 22 shown in FIG. 2.

Proper drapery supporting action, especially as to folds in the draperies which form when the draperies are opened, requires substantial freedom of the carrier to be displaced angularly relative to the track 22. Angular displacement in this sense refers to a forward or rearward rocking of the hanger leg 26 and corresponding motion of the body portion 25. This angular motion occurs as pivoting about the line of contact of race 24 and track 22, and does not require any twisting of the carrier. Thus, for this angular displacement the plane of the carrier body portion remains parallel to the axis of track 22 and the angle between the axis of rotation of race 24 and track 22 remains substantially 90°. To permit the desired angular displacement of the carrier, the spacing between flange 39 and track 21 and between upper ring portion 45 and track 21 is made substantially greater than the corresponding spacing between flange 41 and track 22 and between the lower portion of ring 44 and track 22. As shown in FIG. 2, this increased or greater spacing may be largely or entirely accommodated between ring portion 45 and track 22 to permit substantial forward displacement of leg 26 but little rearward displacement of that leg.

During shipment and handling of traverse rods it is not uncommon for the rods to be held in various positions in which there is a tendency for the carrier hanger legs to fall into the rod track opening with consequent jamming and difficulty in rod installation. The forwardly

extending arcuate flanges 39 and 41 prevent such action in the construction illustrated in FIG. 2, since these flanges prevent leg 26 from entering the space between tracks 21 and 22 irrespective of the position in which the rod may be held.

Referring now to FIGS. 8-12, there is shown a carrier embodying the invention and especially adapted for use with ceiling mounted traverse rods having a bottom facing opening. A typical rod of this type is shown at 60 in FIG. 9 and in dotted lines in FIG. 8. The bottom of rod 60 has an axially extending elongated slot 61 which divides that surface into spaced horizontal tracks 62 and 63.

The carrier comprises an inner race and hanger element 64 and an outer race element 65. The inner race and hanger element 64 comprises a body portion 66 having a depending and forwardly inclined leg 67. The leg 67 has a hole 68 which accommodates a drapery pin in the usual manner. The upper part of body portion 66 is formed as an annular hub 69 which extends both forwardly and rearwardly of that part of body portion 66 below the hub. At the rear of hub 69 there is a vertical surface 70 from which the hub 69 projects and which serves as a rear wall joining forwardly extending side walls 71 and 72. The walls 71 and 72 are arcuate in shape, as best shown in FIGS. 8 and 11, and serve to prevent jamming together of adjacent carriers during rod shipment and installation. The walls 71 and 72 also serve to limit angular displacement of the carrier.

Hub 69 has a raceway arranged to accommodate ball bearings 73. This raceway is formed by a vertical annular wall 74 which joins a horizontal annular wall 75 along a curve 76 and arcuate annular wall 77 forming the inner surface of a radially extending short annular flange 78. Forwardly of flange 78 are a horizontal annular surface 79 and a radially extending annular flange 80 forming the nose of hub 69.

An arcuate slot 81 is provided in body portion 66 to accommodate outer race member 65, as shown in FIG. 9. Beneath the slot 81 there is provided a forwardly extending circular nose 82 which prevents hanger leg 67 from falling into track slot 61 during shipment or handling.

Inner race 65 is an annular cylinder having a radially inwardly extending flange 82 adjacent one end thereof and a slightly dished annular recess 83. The recess 83 is aligned with the raceway portion of element 65, and the balls 73 contact the recess surface for rotation of outer race 65 about hub 69. The inner diameter of outer race 65 is at all corresponding points slightly greater than the outer diameter of hub 69 to permit free rotation of the outer race on the ball bearings, as in the case of FIG. 2.

The flange 82 is disposed between opposite surfaces of flanges 78 and 80 to retain the inner and outer races assembled. The race element 65 rolls along tracks 62 and 63 and spans the space 61 therebetween. The race elements 64 and 65 are preferably made of plastic, as in the case of FIGS. 1-6. This will facilitate snapping together of the race elements into their assembled relationship shown in FIG. 9.

The spacing between the front and rear surfaces of body portion 66 and tracks 62 and 63, respectively, should be small to prevent substantial twisting of the carrier and consequent sliding rather than rolling of race 65. The action is essentially the same as discussed in connection with FIG. 2. In this regard the frictional force between race 65 and tracks 62 and 63 will be quite small even though there is substantial surface contact. Similarly, the spacing between the front and rear ends of walls 71 and 72 and the adjacent sides of the rod 60 should be sufficiently great as to permit angular displacement of the carrier while maintaining the carrier in axial alignment with the track opening. The spacing should not be sufficiently great as to permit excessive angular displacement of the carriers.

The modified carrier construction illustrated in FIGS. 13-17 is similar to that of FIGS. 1-6 and like reference characters denote like elements. One of the principal differences is that the outer surface of the outer race element 24 has an arcuate or concave configuration in cross-section, as shown at 24A in FIG. 14. The arcuate surface 24A riding on track 22 affords greater stability and centering action than the essentially plain cylindrical surface of FIG. 2.

The outer surface of outer race element 24 in FIG. 18 has an even more pronounced concave configuration, as shown at 24B. The surface 24B has a semicircular annular slot 24C which accommodates closely the edge of track 22. The slot 24C closely confines lower track 22. The outer surface of outer race element 24 in FIG. 19 has a central deep concave annular slot 24D which rides on rail 22. The slot 24D is bounded by annular flanges 24E and 24F. The outer races of FIGS. 18 and 19 may be used in place of the outer races shown in FIGS. 2 and 14.

In the FIG. 2 construction, the spaces bounded by flange 39 and lip 45 and by flange 41 and the lower portion of ring 44 have essentially flat sides. The corresponding spaces of FIG. 14 are bounded by flange 39A and lip 45A and by flange 41A and the lower portion of ring 44A. These spaces of FIG. 14 are wedge-shaped in cross section, affording walls which taper inwardly toward rails 21 and 22, respectively. The tapered wall shapes limit the area of contact with the sides of the rails and thence limit the frictional resistance to movement of the carrier when the carrier is tipped or twisted from the vertical position shown. The lower end of flange 41A is generally triangular in shape, as shown in FIG. 15, which further reduces the possible area of contact with the side wall of rail 22, and hence further reduces possible frictional contact.

The inner and outer race constructions shown in FIGS. 13-17 are preferred over the corresponding constructions of FIGS. 1-6.

The hanger legs from which the draperies are actually suspended may, if desired, be separate pieces removably attached to the main body of the inner race element.

The carrier construction of the invention may with advantage be used for the rod master slides so that the master slides will be supported and moved by a rolling action rather than the usual sliding action.

While the invention has been described in connection with specific embodiments thereof and in specific uses, various modifications thereof will occur to those skilled in the art without departing from the spirit and scope of the invention as set forth in the appended claims.

What is claimed is:

1. A carrier for hollow drapery rods and the like having a pair of elongated parallel track members forming a wall of said rod and being disposed in a common plane and being spaced apart to provide an elongated slot communicating with the interior of said rod, said carrier comprising:

- (a) an annular outer race member having an outer surface and having an inner surface;
- (b) an inner race member having a hub portion disposed substantially within said outer race member, a hanger leg extending downwardly beneath said hub portion and a rear wall integrally joined to said hub portion and said hanger leg, said outer surface of said hub portion and said inner surface of said outer race member having cooperating configurations for retaining said hub portion within said outer race member and defining a raceway;
- (c) a plurality of bearing balls in said raceway arranged in contact with said inner surface of said outer race member and said outer surface of said hub portion to support said outer race member for free rotation about said hub portion, said race members being adapted to be disposed partially within

said rod and with said outer surface of said outer race member in alignment with and in rollable contact with at least one of said track members for movably supporting said carrier thereon with said hanger leg extending beneath said rod for attachment thereto of a drapery or the like; and

(d) means substantially to prevent twisting of said carrier thereby to maintain said outer race member substantially in alignment with said one track member, said last mentioned means comprising a flange projection on said inner race member arranged, upon any substantial twisting of said carrier, to contact said wall of said rod at a point spaced from said outer surface of said outer race member.

2. A carrier as set forth in claim 1 in which said means substantially to prevent twisting of said carrier comprises a plurality of flange projections on said inner race member arranged to contact at least said one track member upon any substantial twist of said carrier, said contact being with a surface of said track member not in contact with said outer surface of said outer race member.

3. A carrier as set forth in claim 2 comprising means to permit limited rocking of said carrier in a plane transverse to the axis of said rod to accommodate limited transverse motion of a drapery or the like suspended from said hanger leg.

4. A carrier for hollow drapery rods and the like having a pair of elongated parallel track members forming a wall of said rod and being disposed in a common plane and being spaced apart to provide an elongated slot communicating with the interior of said rod, said carrier comprising:

- (a) an annular outer race member having an outer surface and having an inner surface;
- (b) an inner race member having a hub portion disposed substantially within said outer race member, a hanger leg extending downwardly beneath said hub portion and a rear wall integrally joined to said hub portion and said hanger leg, said outer surface of said hub portion and said inner surface of said outer race member having cooperating configurations for retaining said sub portion within said outer race member and defining a raceway;
- (c) a plurality of bearing balls in said raceway arranged in contact with said inner surface of said outer race member and said outer surface of said hub portion to support said outer race member for free rotation about said hub portion, said race members being adapted to be disposed partially within said rod and with said outer surface of said outer race member in alignment with and in rollable contact with at least one of said track members for movably supporting said carrier thereon with said hanger leg extending beneath said rod for attachment thereto of a drapery or the like;
- (d) means substantially to prevent twisting of said carrier thereby to maintain said inner race member substantially in alignment with said one track member, said last-mentioned means comprising a plurality of flange projections on said inner race member arranged to contact at least said one track member upon any substantial twisting of said carrier, contact between said flange projections and said track member occurring at a substantial spacing from the path of contact of said outer surface of said outer race member and said track member;

(e) means to permit limited rocking of said carrier in a plane transverse to the axis of said rod to accommodate limited transverse motion of a drapery or the like suspended from said hanger leg, said last-mentioned means comprising a configuration on said inner race member arranged to contact a wall of said rod when said hanger leg is rocked to a pre-

selected angular position relative to the axis of said rod; and

- (f) means on said inner race member to prevent said hanger leg from falling into the interior of said rod irrespective of the position of said rod.

5 5. A carrier for hollow drapery rods and the like having a pair of elongated track members forming a wall of said rod and being disposed substantially in a vertical plane and being spaced apart to provide an elongated substantially vertical slot communicating with the interior of said rod, said carrier comprising:

- (a) an annular outer race member having an outer surface rotatably supported on the upper edge of the lower one of said track members, said outer race member having an inner surface;

- (b) a unitary inner race member having a body portion, a hub projecting forwardly of said body portion and having an outer surface and being disposed substantially within said outer race member, a first flange projecting forwardly of said body member above said hub and having a forward face located adjacent the outer surface of the upper one of said track members, a second flange projecting forwardly of said body member beneath said hub and having a forward face located adjacent the outer surface of said lower track element, means projecting forwardly of said body portion and extending through said slot, a spacing element integral with and supported by said last-mentioned means and having a lower portion with a face located in alignment with but spaced from the inner surface of said lower track member and an upper portion with a face aligned with but spaced from the inner surface of said upper track member, and a hanger leg projecting downwardly from said body portion and beneath said rod for supporting a drapery panel or the like, said outer surface of said hub and said inner surface of said outer race member having cooperating configurations for retaining said hub within said outer race member and defining a raceway; and

- (c) a plurality of bearing balls in said raceway arranged in contact with said inner surface of said outer race member and said outer surface of said hub to support said outer race member for free rotation about said hub, the combined spacings between said face of said second flange and said lower track and between said face of said lower portion of said spacing element and said lower track being selected substantially to prevent twisting of said carrier and to maintain said outer race element in alignment with said lower track.

6. A carrier as set forth in claim 5 in which said outer surface of said outer race member is substantially cylindrical in shape.

7. A carrier as set forth in claim 5 in which said outer surface of said outer race member is concave in cross section.

8. A carrier as set forth in claim 7 in which said outer surface of said outer race member has an annular slot adapted to receive and confine closely said lower track member.

9. A carrier for hollow drapery rods and the like having a pair of elongated track members forming a wall of said rod and being disposed substantially in a vertical plane and being spaced apart to provide an elongated substantially vertical slot communicating with the interior of said rod, said carrier comprising:

- (a) an annular outer race member having an outer surface rotatably supported on the upper edge of the lower one of said track members, said outer race member having an inner surface;

- (b) a unitary inner race member having a body portion, a hub projecting forwardly of said body portion and having an outer surface and being disposed substantially within said outer race member, a first

arcuate flange projecting forwardly of said body member above said hub and having a vertically inclined forward face located adjacent the outer surface of the upper one of said track members, a second flange projecting forwardly of said body member beneath said hub and having a vertically inclined forward face located adjacent the outer surface of said lower track element, a pair of ribs projecting forwardly of said body portion on opposite sides of said hub and extending through said slot, a ring element integral with and supported by said rib members and having a lower portion with a vertically inclined face located in alignment with but spaced from the inner surface of said lower track member and an upper portion with a vertically inclined face aligned with but substantially spaced from the inner surface of said upper track member, and a hanger leg projecting downwardly from said body portion and beneath said rod for supporting a drapery panel or the like, said outer surface of said hub and said inner surface of said outer race member having cooperating configurations for retaining said hub within said outer race member and defining a raceway; and

- (c) a plurality of bearing balls in said raceway arranged in contact with said inner surface of said outer race member and said outer surface of said hub to support said outer race member for free rotation about said hub, the combined spacings between said face of said second flange and said lower track and between said face of said lower portion of said ring element and said lower track being small thereby substantially to prevent twisting of said carrier and to maintain said outer race element in alignment with said lower track.

10. A carrier as set forth in claim 9 in which said hanger leg has a drapery pin receiving opening in vertical alignment with the center lines of said bearing balls.

11. A carrier for hollow drapery rods and the like having a pair of elongated track members forming a wall of said rod and being disposed substantially in a vertical plane and being spaced apart to provide an elongated, substantially vertical slot communicating with the interior of said rod, said carrier comprising:

- (a) an annular outer race member having an outer surface rotatably supported on the upper edge of the lower one of said track members, said outer race member having an inner surface;

- (b) a unitary inner race member having a body portion, a hub projecting forwardly of said body portion and having an outer surface and being disposed substantially within said outer race member, a first flange projecting forwardly of said body member above said hub and having a forward face located adjacent the outer surface of the upper one of said track members, a second flange projecting forwardly of said body member beneath said hub and having a forward face located adjacent the outer surface of said lower track element, a pair of ribs projecting forwardly of said body portion on opposite sides of said hub and extending through said slot, a ring element integral with and supported by said rib members and having a lower portion with a face located adjacent the inner surface of said lower track member and an upper portion with a face aligned with but substantially spaced from the inner surface of said upper track member, and a hanger leg projecting downwardly from said body portion and beneath said rod for supporting a drapery panel or the like, said outer surface of said hub and said inner surface of said outer race member having cooperating configurations for retaining said hub within said outer race member and defining a raceway; and

(c) a plurality of bearing balls in said raceway arranged in contact with said inner surface of said outer race member and said outer surface of said hub to support said outer race member for free rotation about said hub, the combined spacings between said face of said second flange and said lower track and between said face of said lower portion of said ring element and said lower track being small thereby substantially to prevent twisting of said carrier and to maintain said outer race element in alignment with said lower track, the combined spacings between said face of said first flange and said upper track and between said face of said upper portion of said ring element and said upper track being substantially greater than said first mentioned combined spacings to permit limited rocking of said carrier in a plane transverse to the axis of said rod.

12. A carrier as set forth in claim 11 in which said faces are all inclined with respect to the vertical to limit substantially the possible area of contact thereof with said respective tracks.

13. A carrier as set forth in claim 11 in which said flanges extend around the upper and lower peripheries of said body member from one of said ribs to the other to afford a configuration preventing said hanger leg from falling into said slot irrespective of the position of said rod.

References Cited by the Examiner

UNITED STATES PATENTS

1,571,334 2/1926 Howard ----- 16-98

EDWARD C. ALLEN, *Primary Examiner*.

J. H. MCGLYNN, *Assistant Examiner*.