Sept. 11, 1962 W. B. S. CAMERON 3,052,913

TRAVERSE ROD CARRIERS

Filed May 29, 1959 2 Sheets-Sheet 1

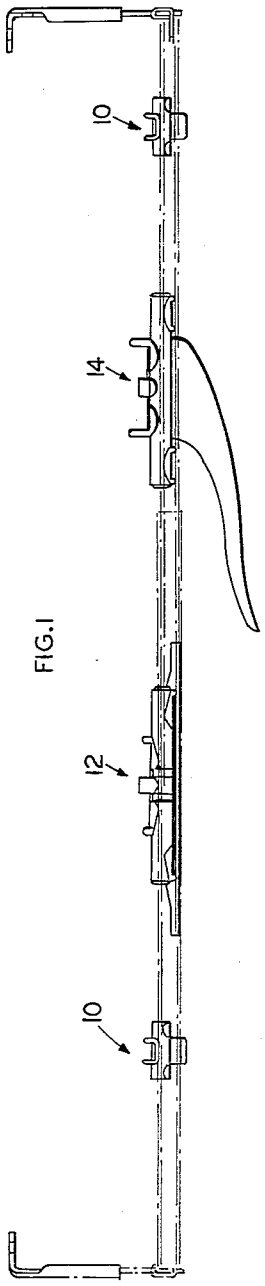


FIG. 1

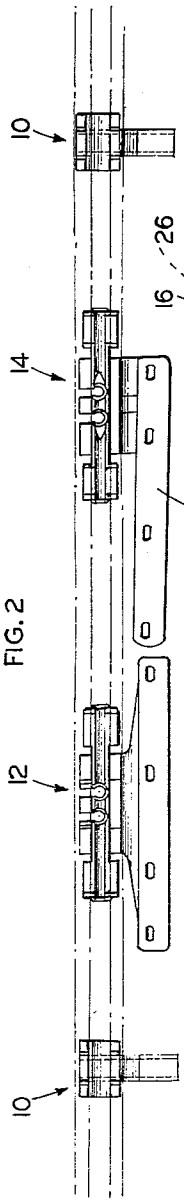


FIG. 2

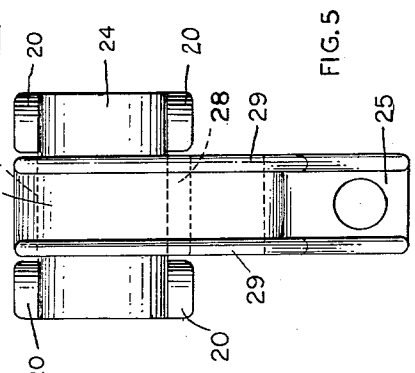


FIG. 5

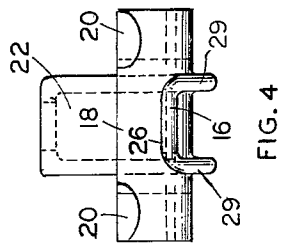


FIG. 4

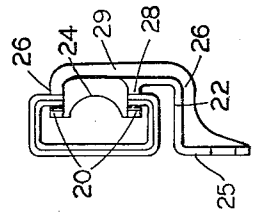


FIG. 3

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FIG. 6

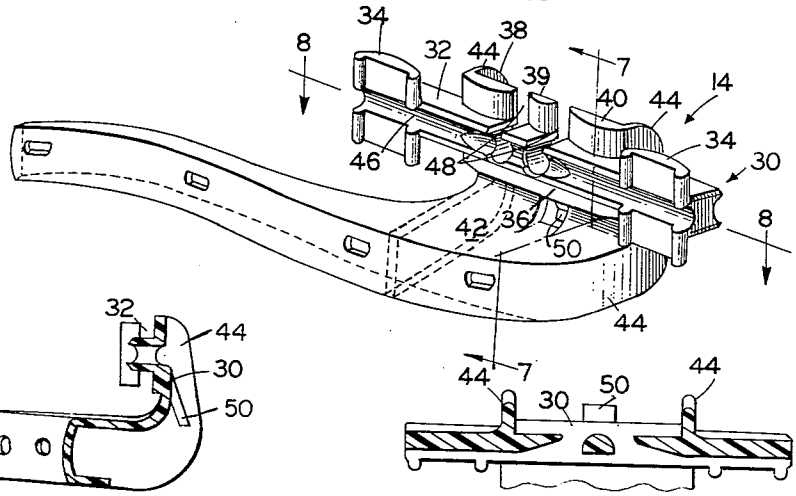


FIG. 7

FIG. 8

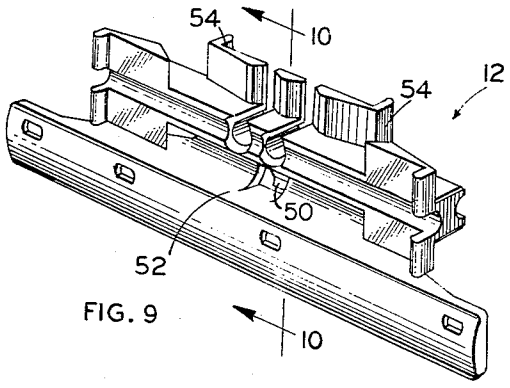


FIG. 9

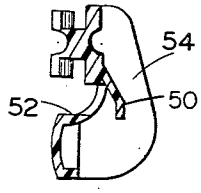


FIG. 10

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TRAVERSE ROD CARRIERS

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Filed May 29, 1959, Ser. No. 816,759
7 Claims. (Cl. 16—93)

This invention relates to traverse rods, and more particularly to curtain carriers employed in conjunction with traverse rods.

In the design and construction of carrier means for C-shaped rods, various problems are presented. It is highly desirable to provide carriers which slip freely and silently along the slot in the rear face of the C-shaped rod. Lightness, strength of construction, economy of materials and labor are also important problems. In general, it is an object of my invention to provide a one-piece molded carrier for C-shaped traverse rods which, at one and the same time, is light, strong, slides freely and smoothly in the rod, and requires no labor costs whatsoever in regard to assembly other than that involved in a single molding operation with a simple split mold.

Further objects and features of my invention will be understood and appreciated from a detailed description of a preferred embodiment thereof, selected for purposes of illustration, and shown in the accompanying drawings, in which:

FIG. 1 is a plan view from above of various carriers included in my invention illustrated in position on a C-shaped traverse rod of the telescoping type shown in dotted lines;

FIG. 2 is a view in front elevation of the carriers illustrated in FIG. 1;

FIG. 3 is a view in end elevation of the idler carrier on the left hand side of FIG. 1;

FIG. 4 is a plan view of the idler carrier shown in FIG. 3;

FIG. 5 is a view in rear elevation on an enlarged scale of the idler carrier shown in FIG. 4;

FIG. 6 is a view in perspective of a master carrier made in accordance with my invention;

FIG. 7 is a view in cross section and side elevation along the lines 7—7 of FIG. 6;

FIG. 8 is a plan view in cross section along the lines 8—8 of FIG. 6;

FIG. 9 is a perspective view of another form of master carrier made in accordance with my invention; and

FIG. 10 is a cross sectional view in side elevation along the lines 10—10 of FIG. 9.

My invention is embodied in the various forms in FIGS. 1 and 2 including an idler carrier indicated at **10**, a plain master carrier indicated at **12**, and an overlapping type master carrier indicated at **14**. I will describe these three forms in the order given.

The idler carrier **10** is shown more in detail in FIGS. 3, 4 and 5. It includes in its general organization an upstanding body portion **16**, a transverse internal slide shoe support arm **18** carrying internal slide shoe supports **20** at each end, and a curtain support arm **22** mounted at the lower extremity of the body portion **16**. The internal slide shoe support arm **18** is dimensioned vertically to fit in smooth sliding relation within the slot of a C-shaped traverse rod as is shown in end view in FIG. 3. On each of the arms **18** extending both above and below the same are internal slide shoes **20** positioned to abut the internal surface of the C-shaped rod above and below the slot thereof. The shoes **20** are provided with rounded surfaces opposed to the said internal surface of the C-shaped rod. In addition, the shoes **20** are positioned on the arm **18** laterally outwardly from the side edges of the body portion **16**. This is necessary for the purpose of

rendering the slide shoes **20** readily moldable by a simple split mold operation, and I have found that even though the slide shoes **20** are not placed in direct opposed relationship opposite to the external slide shoes **26, 28**, the carrier works in an entirely satisfactory manner from an operational point of view.

The internal slide shoe support arm **18** is provided internally with a transversely extending draw-cord groove **24**. When the idler carrier **10** is in position in the C-shaped traverse rod, the groove **24** is adapted to receive a draw-cord and permit the same free passage up and down the rod to the front of the idler carrier **10**.

The body portion **16** is further provided with an upper external slide shoe portion **26** and a lower external slide shoe portion **28**, respectively positioned adjacent to the upper and lower surface of the slot of the C-shaped traverse rod, but spaced therefrom a sufficient distance to permit free sliding along the rod, as well as free transfer from one to another of two rods in telescoping relation. It will be understood furthermore for purposes of simplicity of molding that the external slide shoes **26** and **28** are both located inwardly of the innermost margins of the internal slide shoes **20**.

The curtain support arm is formed integrally with the lower extremity of the body portion **16** comprising an arm portion indicated at **22**, a vertically extending front flange **25**, and a pair of side flanges **29**, each of which extends to the rear and continues upwardly along the side margins of the body portion **16**. The flanges **29**, therefore, form both a buttress for the curtain support arm **22** and a reinforcement for the body portion **16**, as well as supporting the upper external slide shoe portion **26** and the vertically extending front flange **25**.

Turning now to FIG. 6, the overlapping master carrier **14** will now be described. Essentially it includes the same general elements as the idler carrier **10** with certain modifications. Thus it will be seen that the master carrier **14** employs a body portion **30**, an internal slide shoe support arm **32**, internal slide shoes **34** mounted on each outer end of the arm **32**, a lower external slide shoe **36**, upper external slide shoes **38, 39** and **40**, a curtain support arm **42** buttressed and reinforced by flanges **44** which likewise extend upwardly and to the rear to reinforce and buttress the body portion **30**. In addition, the master carrier **14** is provided with a draw-cord groove **46** similar in nature and function as the draw-cord groove of the idler carrier **10**. The principal distinctions between the master carrier **14** and the idler carrier **10** relate to mechanism for securing a draw-cord thereto and to the size and position of the curtain support arm **42**. With the master carrier **14**, the upper external slide shoe is notched in two places at **48** by deep grooves which extend down and communicate with the draw-cord groove **46** in such a way that the draw-cord may be drawn through the notches around to the back of the body portion **30**. With the draw-cord back in this position it may also be looped under a draw-cord securing hook **50** located at the lower rear middle of the carrier **14**. The curtain support arm **42** extends substantially to the front of the carrier and off to the side, in order to provide means for overlapping the edge of the curtain on one side of the window with the edge of the side of the curtain at the other side at the middle of the window. It will be noted with reference in particular to FIG. 2 that the arm **42** tilts upwardly. The angle of this tilt is determined substantially as follows. It will be understood that the internal slide shoe support arm **32** fits somewhat loosely within the slot of the C-shaped traverse rod. Thus when a substantial weight of curtain is placed on the arm **42**, this tends to tilt upwardly to a slight extent. Accordingly, the angle of inclination of the arm **42** from the body portion **30** must

take this amount of tilt into account. In addition, the slope of the angle of arm **42** must also take into account the amount of random deformation which the weight of the curtain will impose on the arm **42** under conditions of use. This amount of deformation depends to some extent on the material employed in molding the master carrier **14**. In the preferred embodiment of my invention, I employ molded Nylon, which I understand is a thermoplastic material generally described as a linear super-polymeric resin derived from a reaction of a linear dicarboxylic acid with a polyamine, and the angle of tilt of the arm **42** shown in FIG. 2 represents the angle I find satisfactory when such material is employed. However, it will be understood that other materials of the polyester acrylic alkyd, epichorohydrine and the like types may be compounded in various forms to render them suitable for use in the molding of the curtain carriers herein described. Naturally the angle of tilt of the arm **42** will be necessarily adjusted to conform to the characteristics of the plastic material employed in molding the carrier.

Another form of master carrier, which I have called a plain carrier is indicated at **12**, and is shown more in detail in FIGS. 9 and 10. This form of carrier is used to support the edge of the curtain which stands behind the overlapping edge of the curtain carried by the master carrier **14**. The elements of the plain master carrier **12** will not be reviewed in detail in this description because they are all substantially the same as those described in connection with the master carrier **14**, except that a different curtain carrying arrangement is provided. In the plain master carrier **12** the curtain is carried by an arm **52** mounted on the lower extremity of the body portion **30**. Further support for the arm **52** is provided by buttressing flanges **54**, which are, to all intents and purposes, identical with the buttressing flanges **44** of the master carrier **14**, except that they do not extend so far around in front but merely contact and support the back side of the arm **52**. In the drawings in FIGS. 9 and 10, I have shown the slide shoes of the master carrier **12** formed with gently sloping, more or less, flat faces, whereas the master carrier **14** employs rounded slide shoes.

While the master carrier and idler carrier herein shown each contain important distinctions one from the other, it will also be seen that the general organizational features thereof apply to all three forms. Thus each form has a body portion, an internal slide shoe support arm dimensioned to fit in sliding relation within the slot of the C-shaped rod, and the position of the internal slide shoe elements is the same. In particular, none of the slide shoes are formed in the carrier in opposed relation to any other slide shoe. This is highly important in my invention in that it avoids the necessity of providing any longitudinally extending grooves of opposed sides for the purpose of receiving the edges of the slot of the C-shaped traverse rod. This arrangement, it is believed, is entirely novel and makes possible for the first time a one-piece molded construction fashioned from a single split mold. Moreover, from a functional point of view, the sequential spacing of the slide shoes of both the master and the idler carriers provides an extremely smooth and noiseless sliding arrangement.

Since numerous minor variations of the preferred embodiment of my invention will now be apparent to those skilled in the art, it is not my intention to confine the invention to the precise form herein shown, but rather to limit it in terms of the appended claims.

Having thus described and disclosed a preferred embodiment of my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. A master carrier for traverse rods comprising a single element of molded tough resilient plastic material, said element having an integral one-piece construction in combination, a body portion, a curtain support arm integrally connected to said body portion at the lower extremity thereof, an internal slide shoe support arm extending longitudinally of said body portion on the forward side thereof and spaced from and above said curtain support, walls in said internal slide shoe support arm forming a draw-cord groove, an internal slide shoe on the forward side of each end of said internal slide shoe support arm in position to contact the internal surface of a C-shaped curtain rod adjacent to the opening thereof, said internal slide shoes extending above and below said internal slide shoe support arm and positioned thereon laterally clear of the side extremities of said body portion, a lower external slide shoe on said body portion below said internal slide shoe support arm in position to abut the outer surface of said C-shaped curtain rod below the opening thereof and between the internal slide shoes, an upper external slide shoe above the level of said internal slide shoe support arm in position to abut the outer surface of said C-shaped curtain rod above the opening thereof and between said internal slide shoes, walls forming a pair of notches in said upper external slide shoe, in said body portion and in said internal slide shoe support arm in the upper surfaces thereof communicating with said draw-cord groove to receive and retain a draw-cord.

2. The master carrier defined in claim 1 further characterized by said thermoplastic material being nylon.

3. The master carrier defined in claim 1 further characterized by a pair of reinforcing ribs on the back side of said body portion, both of said flanges communicating with said curtain support arm, and said curtain support arm being inclined upwardly by an angle substantially equal to the maximum normal angle of longitudinal tilt of said body portion in a C-shaped rod, plus the normal downward deflection of said arm under a normal curtain load.

4. A carrier for C-shaped traverse rods comprising a single element of molded tough resilient plastic material, said element having an integral one-piece construction in combination, a body portion, curtain supporting means integral with the lower extremity thereof, an internal slide shoe support arm extending longitudinally of said body portion on the forward side thereof and disposed horizontally, said internal slide shoe support arm vertically dimensioned to fit in the slot of a C-shaped curtain rod in free sliding relation, walls in said internal slide shoe support arm forming a draw-cord groove dimensioned to receive a draw-cord in said rod, an internal slide shoe on the forward side of each end of said internal slide shoe support arm in position to contact the internal surface of said C-shaped curtain rod adjacent to the slot thereof, said internal slide shoes extending above and below said internal slide shoe support arm and positioned thereon laterally clear of the side extremities of said body portion, a lower external slide shoe on said body portion below said internal slide shoe support arm in position to abut the outer surface of said C-shaped rod below the said slot and between said internal slide shoes, an upper external slide shoe above said internal slide shoe support arm in position to abut the outer surface of said C-shaped rod above the said slot, and a pair of buttressing flanges integral with the side margins of said body portion normal to the plane thereof, extending downwardly therealong and forming an integral part of said curtain supporting means.

5. A curtain carrier for a slotted traverse curtain rod comprising a base vertically dimensioned to fit in free sliding relation in the slot of said curtain rod, at least a first and a second pair of internal slide shoes, each of said first and said pair of second slide shoes consisting of an upper and a lower slide shoe integral with and extending outwardly from the upper and lower surface, respectively, of said base, a pair of external slide shoes consisting of an upper and a lower slide integral with and extending outwardly from the upper and lower surface, respectively, of said base, each one of said internal slide shoes being

adapted to bear in free sliding relation against an inner surface of said slotted rod and each one of said external slide shoes being adapted to bear in free sliding relation against an outer surface of said slotted rod, said pairs of internal and external slide shoes covering separate non-opposing areas of said base.

6. A curtain carrier as in claim 5 having, in addition, a flanged curtain support integrally formed with said base and depending from one side thereof, said one pair of external slide shoes being disposed on said base between the side extremities of said flanged curtain support.

7. A curtain carrier as in claim 6 having, in addition,

the side of said base opposite to said one side thereof grooved to accommodate a draw-cord along the length of said base.

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