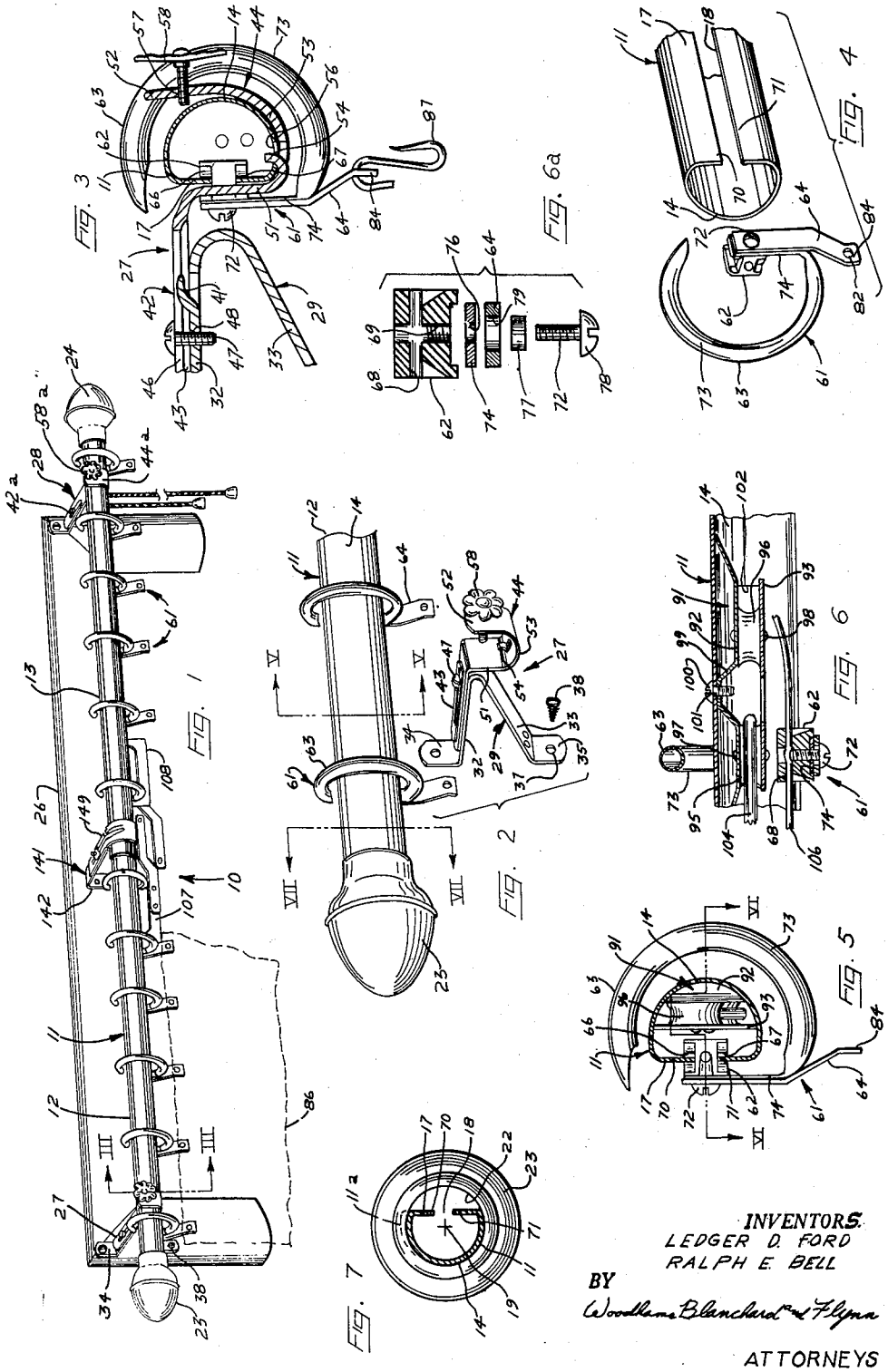
Jan. 28, 1964 L. D. FORD ETAL 3,119,442

DRAPERY TRAVERSE SYSTEM

Filed Aug. 30, 1960 2 Sheets-Sheet 1



INVENTORS
LEDGER D. FORD
RALPH E. BELL
BY
Woodham, Blanchard and Flynn
ATTORNEYS

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DRAPERY TRAVERSE SYSTEM

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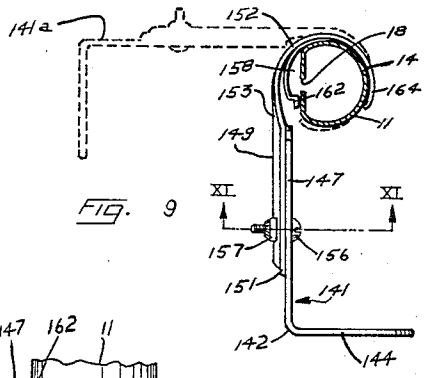


FIG. 9

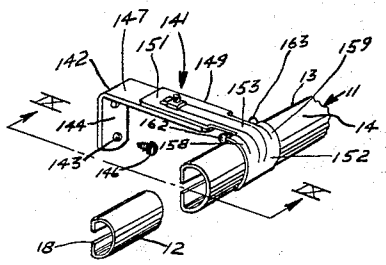


FIG. 8

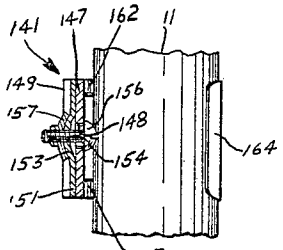


FIG. 11

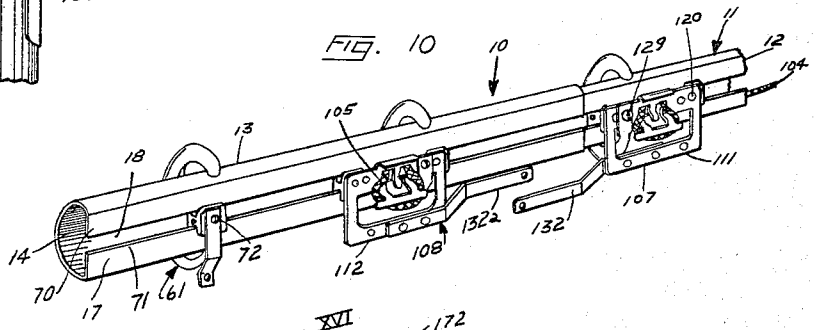


FIG. 10

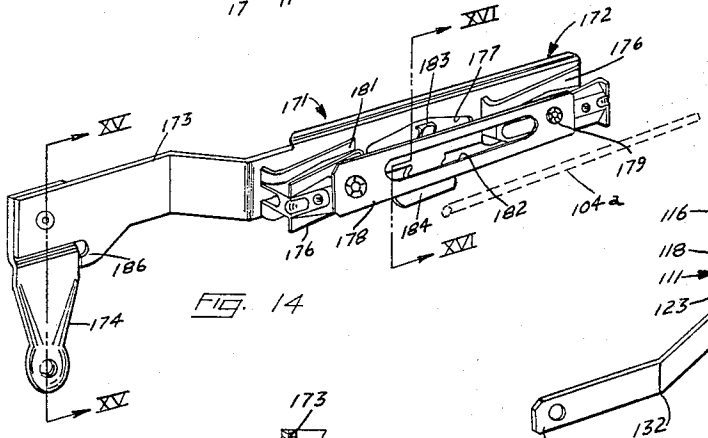


FIG. 14

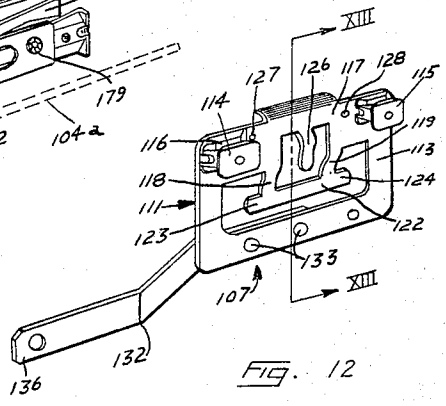


FIG. 12

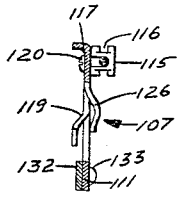


FIG. 13

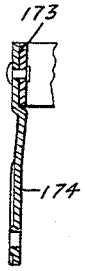


FIG. 15

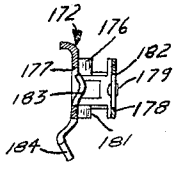


FIG. 16

INVENTORS.
LEDGER D. FORD
RALPH E. BELL

BY

Woodham Blanchard & Flynn

ATTORNEYS

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3,119,442

DRAPERY TRAVERSE SYSTEM

Ledger D. Ford, Sturgis, and Ralph E. Bell, Sherman Township, St. Joseph County, Mich., assignors to Kirsch Company, Sturgis, Mich., a corporation of Michigan

Filed Aug. 30, 1960, Ser. No. 52,891
13 Claims. (Cl. 160—345)

This invention relates in general to a structure for supporting and traversing flexible, closure panels and, more particularly, to a type thereof including an elongated hollow member for supporting a plurality of sliders so that they can be quickly and easily removed from or mounted upon the elongated member in accordance with the needs and the characteristics of the panels being suspended therefrom.

Designers of structures for supporting and traversing panels, such as drapes, have made many attempts to improve upon both the appearance and the ease of operation of the traversing structures without increasing the cost of fabrication and, wherever possible, by reducing such cost. One of the problems which has been encountered in these efforts concerns the ease with which the individual sliders can be removed from or mounted upon the traverse rod. In existing structures, it is difficult at best to remove or add sliders, primarily because the pulleys used to support the traversing cable obstruct one or both ends of the traverse rod. In some instances, outlet openings having special gate constructions are provided in the traverse rod through which the sliders can be removed or mounted between the ends thereof. However, such gate structure involves additional expense which is is desirable to avoid if possible.

In an effort to improve upon the appearance of existing traverse rod constructions, many attempts have been made to provide a rod construction which simulates the decorative appearance of the old-fashioned ring pole, but which incorporates the modern traversing mechanism for moving the ring supported drapes. These attempts have encountered numerous problems including the bulkiness and complex construction of the structures, the additional weight and the cost limitations. In particular, it has been common practice to suspend the drapes from the rings which are moved along the traverse rod by cables. The rings may be mounted upon sliders or may be directly supported upon the traverse rod. In either case, since support brackets are usually required between the ends of the traverse rods, such brackets interfere with the freedom of movement of the rings along the traverse rod. Therefore, such rings cannot be used under many circumstances.

Accordingly, a primary object of this invention has been the provision of a structure for supporting and traversing flexible panels, such as drapes, wherein the drapes are suspended from an elongated traverse rod by means of a plurality of sliders which can be removed from either or both ends thereof without interference from the pulleys supporting the traversing cables.

A further object of this invention has been the provision of a traverse structure, as aforesaid, in which the traverse rod has a partially cylindrical surface which gives to the traverse rod the apparance of an old-fashioned ring pole.

A further object of this invention has been the provision of a traverse structure, as aforesaid, including decorative members of relatively light construction, which may if desired simulate rings, and are supported upon the sliders so that they extend around and are spaced from the traverse rod, and including drape supporting hangers which are supported upon the sliders so that the decorative members support only their own weight, but wherein the decorative members will not be restricted in their

movement by a bracket which holds the traverse rod at a point intermediate its ends.

A further object of this invention has been the provision of a traverse structure, as aforesaide, wherein the traverse rod supports a load suspended laterally, or radially, from the center thereof and is in turn itself supported by brackets having structure cooperating with said rod for positively preventing rotational movement of the rod with respect to the bracket.

Other objects and purposes of the invention will become apparent to persons familiar with this type of equipment upon reading the following descriptive material and examining the accompanying drawings, in which:

FIGURE 1 is a perspective, elevational view of traverse structure embodying the invention.

FIGURE 2 is an enlarged, exploded fragment of the leftward end of said traverse structure as appearing in FIGURE 1.

FIGURE 3 is a sectional view substantially as taken along the line III—III in FIGURE 1.

FIGURE 4 is an enlarged, exploded fragment of the rightward end of the traverse rod and a slider therefore, as view from the rear side thereof.

FIGURE 5 is a sectional view substantially as taken along the line V—V in FIGURE 2.

FIGURE 6 is a sectional view taken along the line VI—VI in FIGURE 5 and rotated 90 degrees counterclockwise.

FIGURE 6*a* is an enlarged, exploded view of the slide member appearing in FIGURE 6.

FIGURE 7 is a sectional view taken along the line VII—VII in FIGURE 2.

FIGURE 8 is an enlarged, exploded fragment of FIGURE 1 illustrating in intermediate support bracket.

FIGURE 9 is a sectional view taken along the line IX—IX in FIGURE 8 with parts thereof in different operating positions.

FIGURE 10 is a rear, perspective view of a fragment of FIGURE 1 near the center thereof.

FIGURE 11 is a sectional view taken along the line XI—XI in FIGURE 9.

FIGURE 12 is an enlarged perspective view of one of the master sliders appearing in FIGURE 10.

FIGURE 13 is a sectional view taken along the line XIII—XIII in FIGURE 12.

FIGURE 14 is a rear perspective view of an alternate master slider.

FIGURE 15 is a sectional view taken along the line XV—XV of FIGURE 14.

FIGURE 16 is a sectional view taken along the line XVI—XVI in FIGURE 14.

For convenience in description, the terms "upper," "lower," and words of similar import will have reference to the traverse structure of the invention and parts thereof in their normal position of operation and as appearing in FIGURE 1. The terms "inner," "outer" and derivatives thereof will have reference to the geometric center of said traverse structure and parts associated therewith. The terms "left," "right" and derivatives thereof will have reference to the corresponding ends of the traverse structure as appearing in FIGURE 1. The terms "front," "rear" and similar words will have reference to the sides of the structure which are away from and next to, respectively, the wall or other supporting surface upon which the traverse structure is mounted.

General Description

The objects and purposes of the invention, including those set forth above, have been met by providing a structure including an elongated, hollow rod member supported by a pair of brackets which may be mounted upon

a wall or the like. The rod member has a lengthwise slot extending the full length of one side thereof in which a plurality of sliders are disposed for movement lengthwise of said member, said sliders being substantially spaced from the other side of said member. A hanger element and a decorative element are mounted upon each slider and movable therewith lengthwise of the rod member, which has a pair of caps on the opposite ends thereof. The rod member is constructed so that it has the appearance of an old-fashioned ring pole upon which a plurality of rings are supported in a substantially conventional manner. One or more flexible panels, such as drapes, may be removably supported by the hanger elements for movement therewith. A cord or cable, which extends through the rod member, is connected to at least one of the sliders for effecting said movement of said sliders lengthwise of the rod member.

Detailed Construction

The traverse structure **10** (FIGURE 1), which discloses a preferred embodiment of the invention, is comprised of an elongated, tube-like member **11**, herein referred to as the traverse rod. In this particular embodiment, the traverse rod **11** is comprised of a pair of telescoping hollow, elongated elements **12** and **13** of circular or polygonal cross-section, but which are here shown as of circular cross-section and may be referred to hereinafter as "tube members." Said tube members are preferably substantially identical except that one such member is slightly larger than the other in cross-sectional dimension to provide for the telescoping connection therebetween. By this means, the length of the traverse rod **11** can be adjusted. However, it will be recognized that the rod **11** may be a single member which is cut-to-measure for the particular installation so that no lengthwise adjustment thereof is necessary.

The traverse rod **11**, hence each tube element **12** and **13** thereof, is preferably fabricated from thin sheet material, such as sheet metal, which is shaped to provide a partially cylindrical wall **14** on the front side thereof. In this particular embodiment, the curvature of the wall **14** is slightly greater than hemicylindrical for reasons appearing hereinafter. A substantially flat wall **17** is provided on the rear side of the rod **11** and integral with said front wall **14**. The flat wall **17** has a slot **18** extending the full length thereof, preferably midway between the lengthwise edges thereof. The partially cylindrical wall **14** preferably curves through an arc in excess of 180 degrees, as shown in FIGURES 3 and 7, so that the center of curvature **19** of said partially cylindrical wall **14** is spaced a substantial distance from the flat wall **17**.

The traverse rod **11**, in its unstressed condition, which is indicated in broken lines at **11***a* in FIGURE 7, is slightly larger in diameter than the inside diameter of the mouth **22** of the end cap **23**, which is identical with the end cap **24** at the opposite end of the traverse rod. The ends of the traverse rod **11** must be radially compressed for reception into the end caps **23** and **24** whereby accidental separation of the end caps from the traverse rod is prevented.

The traverse rod **11** (FIGURE 1) may be mounted upon an upright surface, such as the window casing **26**, by a pair of end brackets **27** and **28** which are preferably, but not necessarily, substantially identical. The end bracket **27** (FIGURES 1 and 2) is comprised of a V-shaped mounting member **29** having an upper leg **32**, which is preferably substantially horizontal, and a downwardly sloping lower leg **33**. The legs **32** and **33** have integral flanges **34** and **35** preferably lying in a plane substantially perpendicular to the upper leg **32** and having openings **37** through which screws **38** may be received for securing the mounting member **29** to the casing **26**. An upwardly and frontwardly extending finger **41** (FIGURE 3) is struck from, and is integral with, the upper leg **32** near the front end thereof.

The end bracket **27** (FIGURES 2 and 3) also includes a holding member **42** comprising a flat, elongated adjustment portion **43**, slidably supported upon the upper leg **32** of the mounting member **29**, and an integral, U-shaped portion **44**, which opens upwardly at the front end thereof. The adjustment portion **43** has an elongated, lengthwise slot **46** (FIGURE 3) into which the finger **41** slidably extends. A screw **47** slidably extends through the slot **46** and is threadedly received into an appropriate opening **48** in the upper leg **32**, rearwardly of the finger **41**. Thus, the finger **41** and screw **47** cooperate to maintain lengthwise alignment of the element **43** with the upper leg **32**, and the screw **47** locks them in the desired position with respect to each other.

The U-shaped portion **44** (FIGURE 3) has a rear leg **51**, a front leg **52** and web **53** connecting the lower ends of said legs. The web **53** and leg **51** are preferably curved into each other so that they conform to the shape of the partially cylindrical front wall **14** of the rod **11**. The web **53** has an integral, upwardly extending stop **54** which is near to the rear leg **51** and approximately midway between the edges of the web **53**. The stop **54** is receivable through a cooperating opening **56** in the lower side of the rod **11** near the flat wall **17**, when said flat wall is snugly against and substantially parallel with the rear leg **51**.

The front leg **52** (FIGURE 3) has a threaded opening **57** near its upper end through which a thumb screw **58** is threadedly received for engaging the upper portion of the partially cylindrical wall **14** and thereby holding said traverse rod **11** within the U-shaped portion **44**. Thus, the thumb screw **58** holds the traverse rod **11** within the U-shaped portion **44** of the end bracket **27**, and the stop **54** and the flat wall **17** combine to prevent relative rotation between said traverse rod **11** and the end bracket **27**.

The end bracket **28** (FIGURE 1) may be substantially identical to the end bracket **27**. Accordingly, the detailed description set forth above with respect to the end bracket **27** also applies in substance to the structure of the end bracket **28**.

A plurality of slide members **61** (FIGURE 1) are mounted upon the traverse rod **11** for movement lengthwise thereof. Each slide member **61** (FIGURES 4, 5 and 6) is comprised of a slider **62** having an arcuate, decorative element **63** and a hanger element **64**, both supported upon the rear side thereof. The slider **62** (FIGURE 5) has upper and lower grooves **66** and **67**. It may in some cases also have a central passageway **68** (FIGURE 6*a*) extending therethrough and substantially parallel with, and midway between, said grooves **66** and **67**. Each slider also has a transverse opening **69** into which a hanger screw **72** is threadedly received. The grooves **66** and **67** embrace and are guided by the edges **70** and **71**, which define the slot **18** in the flat wall **17** of the traverse rod **11**, for guiding the lengthwise movement of the slider **62** along said traverse rod **11**.

Each arcuate element **63**, which is in the illustrated embodiment fabricated from light weight tubular material of circular cross section, has a curved portion **73** which preferably extends through an arc in excess of 180 degrees. Each element **63** has a flat, straight and integral stem **74**, which extends from one end of the curved portion **73** toward, but is spaced from the other end of the curved portion **73**. The stem **74** is preferably in a chordal position with respect to the curved portion **73**. The stem **74** has an opening **76** near its upper end through which the screw **72** is received. The stem **74** is clamped snugly against the rear side of the slider **62** by rigid washer **77** encircling the screw **72** adjacent the head **78** thereof. The washer **77** is of less outside diameter than the screw head **78**. Accordingly, when the arcuate element **63** is secured to the slider **62** by the screw **72** and the slider is mounted

upon the rod **11**, the arcuate element **63** surrounds said slider **62** and the center of curvature of the curved portion **73** is preferably substantially coincident with the center of curvature **19** of the partially cylindrical wall **14** on the traverse rod **11**.

The hanger element **64** (FIGURE 5) may take several forms, but is here an elongated, flat bar having an opening **79** (FIGURE 6*a*) through its upper end and an opening **82** (FIGURE 4) through its lower end portion **84**, which is offset. The hanger bar **64** is rotatably supported upon the washer **77**, which is disposed within the opening **79** between the stem **74** and the screw head **78**. The lower end portion **84** of the hanger bar **64** is offset toward the arcuate element **63** so that it is located beneath the central portion of the slider **62**. A panel, such as the drape indicated in broken lines at **86** in FIGURE 1, may be suspended in a substantially conventional manner from and upon the lower ends of the hangers **64** by means including a hook **87** (FIGURE 3).

A pulley assembly **91**, such as that shown in FIGURES 5 and 6, is disposed within each end of the traverse rod **11** so that it is spaced from the flat wall **17** thereof. The pulley assembly **91** includes a pair of spaced, substantially parallel plates **92** and **93** which are elongated lengthwise of the partially cylindrical wall **14**, preferably along chordal lines on the front side of the central axis **19**. A pair of pulleys **95** and **96** are rotatably supported upon and between the plates **92** and **93** by any suitable means, such as the rivets **97** and **98**. The front plate **92** has a frontwardly offset portion **99** between the pulleys **95** and **96**, which portion is adjacent the partially cylindrical wall **14**. A screw **100** extends through an opening **101** in the wall **14** and threadedly engages the portion **99** for holding the pulley assembly **91** in a selected position in the traverse rod **11**.

The opposite ends of the front plate **92** are flanged and shaped to snugly embrace the inner surface of the partially cylindrical wall **14**, as shown in FIGURES 5 and 6, in order to enclose the space therebetween and provide additional bracing for the pulley assembly. The rear plate **93** of the pulley assembly **91** is sufficiently spaced from the flat wall **17** to provide adequate clearance for movement of the sliders **62** past the pulley assembly.

An elongated cable opening **102** is provided through the lower side of the partially cylindrical wall **14** (FIGURE 6) directly below the pulleys **95** and **96** for receiving portions of the cable **104** therethrough. In this particular embodiment, and as shown in FIGURE 1, the cable **104** is arranged for operation at the rightward end of the rod. Accordingly, said cable **104** merely encircles the left pulley **95** (FIGURE 6), which is offset downwardly (FIGURE 5) to provide a clearance between the two reaches of the cable **104** where they must extend through the cable opening **102**.

A pair of master slides **107** and **108** (FIGURE 10) are slidably supported upon the traverse rod **11** for movement lengthwise thereof. Said master slides have body members **111** and **112** which are preferably, but not necessarily, substantially identical. The body member **111**, for example, (FIGURES 10 and 12), has an upright, substantially rectangular frame **113** with an upper horizontal frame element **117**. A pair of sliders **114** and **115**, which may be identical with the slider **62**, are secured to the upper frame element **117** near the opposite ends thereof by means of rivets or screws **120**. Said sliders **114** and **115** have grooves **116** which are aligned for reception of the edges **70** and **71** of the flat wall **17** on the rod **11**.

The upper horizontal frame element **117** (FIGURE 12) of the frame **113** has a pair of spaced, integral elements **118** and **119** which extend downwardly and rearwardly from the frame element **117**. A substantially horizontal bar **122** is integral with, and extends substantially beyond, the elements **118** and **119** to provide the end projections **123** and **124**. A finger **126**, which is also integral with the frame element **117**, extends downwardly between the elements **118** and **119** and is spaced therefrom. Said finger **126** is bent frontwardly and then curved downwardly and slightly rearwardly to provide a slight hook for reasons appearing hereinafter.

The upper frame element **117** has a pair of spaced threaded openings **127** and **128** adjacent the sliders **114** and **115**. An arcuate element, such as that shown in **63** in FIGURE 5, may be mounted upon the frame **113** at either end thereof by means of a screw **129** extending through the opening in the stem **74** and threadedly into one of the openings **127** and **128**. In this particular embodiment, the master slide **107** has the arcuate element **63** at its rightward end whereas the master slide **108** (FIGURE 10) has the arcuate element **63** at its leftward end.

The master slide **107** (FIGURES 10 and 12) has an elongated, substantially horizontal hanger bar **132** which is rigidly but removably secured to the lower portion of the frame **113** by means including the rivets or screws **133** so that said bar extends toward the other master slide **108**. Said hanger bar **132** has an outer end portion **136** which is offset frontwardly so that it will not interfere with the corresponding hanger bar **132***a* on the master slide **108**.

The structure of the master slide **108** may be and preferably is the same as the structure of the master slide **107** except for the location of the arcuate element **63** and of the hanger bar **132***a* upon the body member **112**. It follows, therefore, that one master slide can be converted into the other by relocating the arcuate element **63** and hanger bar **132**. Accordingly, the above description of the slider **107** applies in substance to the slider **108** and in referring to parts of the master slide **108**, the numerals applied to their counterparts on the master slide **107** may be used in addition to the suffix "*a*".

FIGURES 8 and 9 disclose a center support bracket **141** which is comprised of an L-shaped mounting member **142** having a pair of openings **143** through the vertical flange **144** thereof into which screws **146** may be received for mounting same upon the window casing **26** (FIGURE 1). The horizontal flange **147** (FIGURE 9) has an elongated slot **148**. The center bracket **141** also includes a gripping member **149** having a substantially flat portion **151** slidably mounted upon the horizontal flange **147** and a downwardly curved outer portion **152** integral therewith. The gripping member **149** is preferably made from a relatively stiff, resiliently flexible material and this stiffness is partially provided by an offset, integral ridge **153** which extends along and between the lengthwise edges of the flat portion **151** and partially around the curved portion **152**. The flat portion **151** has an opening **154** near its inner end which is alignable with the slot **148**. A screw is slidably received through the slot **148** and the opening **154** for threaded engagement with a nut **157**. The corners of the nut **157**, which is square, are bent downwardly to conform slightly to the ridge **153** and thereby oppose relative rotation between the nut **157** and the flat portion **151** when the screw **156** is being tightened.

The curved portion **152** (FIGURE 8) has near its junction with the flat portion **151** a pair of inwardly struck spring elements **158** and **159**, the free ends of which extend toward the flat portion and have radially inwardly extending projections **162** and **163**, respectively. The free, lower end of the curved portion **152** has a radially inwardly bent edge portion **164**. The curved portion **152** is preferably formed so that its inner surface has approximately the same radius of curvature as the outside surface of the partially cylindrical wall **14** on the traverse rod **11**. However, the radius of curvature defined by the spring elements **158** and **159**, in combination with the lower part of the curved portion **152** from which they extend, is substantially less than the radius of curvature of the partially cylindrical wall **14**. Thus, when the

center bracket **141** is in its position of FIGURE 8, or its broken line position **141***a* of FIGURE 9, with respect to a traverse rod **11**, said traverse rod is tightly gripped within the curved portion **152** by said spring **158** and **159**, the projections **162** and **163** being adjacent the upper edge of the flat wall **17** and the inwardly extending edge **164** being adjacent the lower edge of the flat wall **17**.

Operation

The assembly of the traverse structure **10** will be apparent from the above description of its construction. Generally speaking, the operation of the traverse structure **10** for the usual purpose of moving a pair of flexible panels, such as drapes, toward and away from each other for the purpose of covering or uncovering a window, such as that defined by the window casing **26**, may be substantially conventional. That is, with the traverse structure **10** assembled as appearing in FIGURE 1, appropriate movement of the cable **104** will result in movement of the slider members **61** and master sliders **107** and **108** lengthwise of the traverse rod **11** in the customary manner. However, the function of certain features of the structure will now be discussed in further detail.

With the end brackets **27** and **28** mounted upon a surface, such as the window casing **26** (FIGURE 1), the traverse rod **11** can be mounted upon the two end brackets merely by loosening their respective thumb screws **58** and **58***a* so that said traverse rod can be dropped into the U-shaped portions **44** and **44***a* of the holding members **42** and **42***a*. As shown in FIGURE 3, the flat wall **17** of the traverse rod **11** is snugly disposed adjacent to and parallel with the rear leg **51** of the U-shaped portion **44** and the stop **54** extends upwardly through the opening **56** in the traverse rod **11**, whereby relative rotation between traverse rod and the U-shaped portion is positively prevented. The thumb screws **58** and **58***a* are then tightened so that they engage the upper portion of the partially cylindrical wall **14**, as shown in FIGURE 3, with respect to the thumb screw **58** thereby preventing accidental dislodgement of the traverse rod **11** from the end brackets **27** and **28**. If it is desirable to remove either or both ends of the traverse rod **11** from the end brackets **27** and **28**, such can be easily accomplished by loosening the appropriate thumb screw and raising the traverse rod out of its particular U-shaped portion.

The need for removing the traverse rod from the end bracket may occur, for example, when it becomes desirable to increase or decrease the number of slide members **61** disposed upon the traverse rod between the two end brackets. Such addition or removal of slide members also necessitates the removal of one or both of the end caps **23** and **24**, which removal is accomplished merely by sliding them off of the respective ends of the traverse rod **11**. The construction and location of the pulley assemblies **91** (FIGURES 5 and 6) at both ends of the traverse rod **11** is such that the slide members **61** can slide past the pulley assemblies without interference therefrom or therewith.

As shown in FIGURE 9, the center bracket **141** is engaged with the traverse rod **11** by sliding the curved portion **152** of the gripping member **149** downwardly over the traverse rod when the bracket is in its solid line position of FIGURE 9. The bracket is then rotated in a clockwise direction around the traverse rod **11** until it reaches its broken line position **141***a*, at which time, the projections **162** and **163** engage the upper edge of the flat wall **17**, and the traverse rod is snugly gripped within the curved portion **152** including the spring elements **158** and **159** thereof. Thereafter, the mounting member **142** is secured to a supporting surface, such as a wall.

As shown in FIGURE 10, portions of the cable **104**, intermediate the ends thereof, are releasably connected to the master slides **107** and **108** for the purpose of effecting their movement in response to movement of said cable around the pulley assemblies **91**. Referring specifically to the master slide **107** a portion **105** of the cable **104** is drawn through the slot **18** in the traverse rod **11** and thence through the opening in the body member **111**, which opening is defined by the frame element **117**, the downwardly extending elements **118** and **119** and the cross bar **122**. This portion **105** of the cable is then looped around the outside of the elements **118** and **119** where it engages the projections **123** and **124** of the bar **122** when tension is placed upon the cable **104**. The resultant bending and turning of the cable **104** provides a reliable engagement between the cable and the master slide **107**, which opposes relative movement therebetween.

As often happens, the initial location of the master slide **107** along the cable **104** may not be satisfactory to effect the desired movement of the master slide in response to the movement of the cable **104**. This is corrected by slipping the loop **105** of the cable **104** off the elements **118** and **119** and then sliding the master slide **107** along the cable **104** until it is in the proper position with respect to the cable **104**. Thereafter, the portion **105** of the cable **104** is again looped around the elements **118** and **119** to effect the desired gripping therebetween. While the cable **104** is disconnected from the elements **118** and **119**, the finger **126**, which extends across the slot **118**, prevents the portion **105** from slipping back into the traverse rod **11** where it is difficult to reach and fish out, particularly without moving the master slide from its proper location. As shown in FIGURE 13, the inward projection of the finger **128** facilitates the movement of the cable **104** past such finger during the adjustment of the cable.

Modifications

A modified master slide **171** (FIGURES 14, 15 and 16) is comprised of an elongated relatively flat body member **172** having an offset extension **173** supporting a hanger bar **174** at its outer end. A pair of spaced sliders **176** are mounted upon the body member **172** which has an opening **177** therethrough between said sliders. A brace bar **178**, which is substantially parallel with the adjacent portion of the body member **172**, extends between, and is secured to, the sliders **176** by means of rivets **179** which rivets also secure the sliders **176** to the body member **172**. The brace bar has an elongated opening **182** through which a portion of a traverse cord **104***a* can slidably extend when it is drawn through the opening **177** in the body member **172**.

The sliders **176** have grooves **181** (FIGURE 14) in their upper and lower surfaces which serve the same function as the grooves **116** in the sliders **114** and **115** (FIGURE 12). However, the grooves **181** in the sliders **176** are slightly diagonal of the lengthwise extent of the sliders and their normal direction of movement. This arrangement permits the snug reception of the lengthwise edge portions **70** and **71** of the flat wall **17**, for example, into the grooves **181** with a minimum amount of bearing surface, hence friction, between these parts as the sliders move along the traverse rod. Moreover, this arrangement of the grooves **181** also minimizes the chance of binding between the rod and sliders due to irregularities in the edge portions of the traverse rod.

The body member **172** (FIGURE 16) has an integral finger **183** which extends upwardly into the opening **177** and around which the cable **104***a* (FIGURE 14) can pass. Said body member **172** also has a downwardly extending T-shaped element **184** around which said cable, which extends through the opening **177**, can be looped in a manner similar to that discussed above with respect to the master slide **107** for the purpose of preventing relative movement between the cable and the master slide **171**. The finger **183** serves the same purpose as the finger **126** (FIGURE 11), which is for the purpose of preventing the looped portion of the cable from sliding back through the openings in the body member **172** and brace bar **178** where it is difficult to reach.

The offset extension **173** (FIGURE 14) has an integral

downwardly extending projection **186** which is spaced from the end of the extension and which is engageable by the hanger bar **174** when said hanger bar is in the substantially vertical position. Said hanger bar **174** is pivotally mounted upon the offset extension **173** so that it can swing away from the projection **186** but cannot swing beyond a substantially vertical, downwardly extending position against the projection **186**. The hanger bar **174** is offset slightly just below the offset extension **173** to facilitate the engagement of the hanger bar with the projection **186**. Conversely, however, the projection may be offset sidewardly of the extension **173** if it becomes desirable to use a flat, undistorted hanger bar. If desired, the cable **104** may be omitted and the movement of the sliders, hence the drapes, along the traverse rod **11** may be effected by a "hand traverse," utilizing, if desired, a baton or lead cord (not shown), which is secured to and depends from the master slide in a well-known manner or such movement can be effected by manually grasping the leading or adjacent edges of the drapes and pulling them lengthwise of the drape rod.

Further, if desired for either the hand traverse condition or where cable **104** is used, each slide member **61** (FIGURE 6) may be secured to, and at spaced intervals along, a connecting cable **106** which extends through the opening **68** in each one of the sliders **62** and is tightly held therein by its respective screw **72**. Normally, however, the upper edge of the drape is sufficiently sturdy that the cable **106** and parts associated therewith, will be omitted.

Where it is desirable to use end caps **23** and **24** having circular mouths, into which the ends of the rod **11** are inserted, it is advantageous to provide a partially cylindrical front wall **14** which exceeds a hemicylinder. Thus, the wall **14** is snugly embraced by the mouths of the caps and the caps are thereby held firmly upon the rod. However, if the end caps are appropriately re-designed, the same firm fit can be achieved upon rods having a front wall which is slightly less than a semicylinder. In fact, the front wall may be comprised of one or more elongated, flat surfaces providing only that it is adequately spaced, as by top and bottom walls, from the flat wall **17** to permit free movement of the sliders past the roller assemblies disposed within the rod.

Although particular preferred embodiments of the invention have been disclosed above for illustrative purposes, it will be understood that variations or modifications of such disclosures, which lie within the scope of the appended claims, are fully contemplated.

What is claimed is:

1. In a structure for supporting a pair of drapes for simultaneous, horizontal movement toward and away from each other, the combination comprising: an elongated tube member having a uniform cross section including a substantially partially cylindrical wall on one lengthwise side thereof defining a major segment of a circle and a substantially flat wall on the opposite side thereof, said flat wall having a lengthwise slot therein midway between the edges thereof, said slot extending from one end of said tube member to the other end thereof; roller means mounted within said tube member near the opposite ends thereof and spaced from the flat wall; a pair of spaced wall brackets, each bracket having an upwardly opening, U-shaped, outer section through which said tube member extends, said outer section partially surrounding and engaging said tube member and holding same in a selected attitude; means defining an opening in said partially cylindrical wall and a stop element projecting upwardly from said U-shaped section and received into said opening for opposing relative rotation between said tube member and said bracket; screw means mounted upon said U-shaped section for engagement with said partially cylindrical wall, whereby said tube member is firmly held within said U-shaped section; a plurality of sliders mounted upon said tube member within said slot for movement lengthwise thereof; hanger means attached to said sliders; and cable means extending around said roller means and connected to said sliders for effecting said movement thereof.

2. The structure of claim 1 including an arcuate element rigidly secured to each of said sliders and extending around the partially cylindrical wall, said arcuate element being substantially concentric with and radially spaced from said partially cylindrical wall; and wherein said hanger means includes an elongated bar having an opening through one end thereof and screw means extending through said opening and threadedly received into said slider for pivotally supporting said bar and rigidly securing said arcuate element to said slider.

3. The structure of claim 1 including a pair of cap members mountable upon the opposite ends of said elongated tube member, each cap member having at one end a circular opening of slightly less diameter than the diameter of said partially cylindrical wall, whereby the end of said tube member is radially compressed when received into said cap member to prevent accidental disengagement thereof.

4. The structure of claim 1 including a pair of master slides, each master slide comprising a pair of sliders mounted within said slot and a pair of substantially parallel plates secured to and extending between said sliders on opposite sides thereof, one of said plates having an extension projecting beyond the end of the adjacent slider, said extension having a downwardly projecting abutment; and a hanger element pivotally secured to said extension and extending downwardly therefrom, said hanger element being offset adjacent said extension for engagement with said abutment.

5. The structure of claim 1 including a master slide having a plate member and a pair of spaced sliders secured to said plate member near the upper edge thereof, said master slide having a first finger extending sidewardly and downwardly from said plate near the upper edge thereof between said sliders and a pair of fingers extending downwardly and away from the opposite side of said plate, said pair of fingers extending below said first finger; and a cross bar connected to and extending beyond said pair of fingers.

6. The structure of claim 1 including an intermediate bracket with an arcuate end portion having an inside radius approximately equal to the radius of the partially cylindrical wall, said arcuate end portion having a pair of integral, resiliently flexible and arcuate fingers on opposite sides thereof, each finger having a radius smaller than the radius of said partially cylindrical wall and said fingers having radially inwardly extending projections on the free ends thereof engageable with one of said edges on the flat wall when said arcuate end portion is snugly embracing and extending around said partially cylindrical wall.

7. A structure for supporting and traversing a flexible panel, comprising:

an elongated tube member including a vertically disposed, flat wall on one side thereof and a partially cylindrical wall on the other side thereof extending between the lengthwise edges of said flat wall, said flat wall having a lengthwise slot extending between and through the respective ends thereof;

support means for said tube member including end brackets and an intermediate bracket, said intermediate bracket including a support arm and arcuate gripping means extending over the upper edge of said tube member and around and gripping said partially cylindrical wall thereof;

roller means disposed within said tube member near to the opposite ends thereof and spaced from said flat wall thereof and mounted on the cylindrical wall thereof substantially opposite said slot, the rotational axis of said roller means extending transverse to said flat wall of said tube member, said roller means and the flat wall of said tube member defining an unobstructed space between said roller means and said slot;

a plurality of sliders supported upon said tube mem-

ber within said slot for movement lengthwise thereof, said sliders being movable through said space past said roller means without interfering therewith, certain of said sliders each including an arcuate element extending from adjacent the lower edge of said flat wall beneath said tubular member thence curving upwardly around said partially cylindrical wall, said arcuate element having its free end adjacent the upper edge of said flat wall and said arcuate element being spaced from said partially cylindrical wall sufficiently to clear same and to clear also said arcuate gripping means so that said arcuate elements are free to move past said intermediate bracket;

hanger means mounted upon said sliders and extending downwardly therefrom;

and cable means extending through said tube member and around said roller means, said cable means being connected to selected sliders for effecting movement of said sliders lengthwise of said tube member.

8. The structure of claim 7 including a master slide comprising:

a substantially vertically disposed plate member and a pair of spaced slide elements secured to said plate near the upper edge thereof, said plate having an opening adjacent its upper edge and between said slide elements, a substantially vertically extending finger extending across said opening, a substantially horizontally extending bar located below said finger and having end projections extending in opposite directions away from said finger;

and means extending from the central portion of said bar and securing same to said plate member.

9. In a structure for supporting a pair of drapes for simultaneous, horizontal movement toward and away from each other, the combination comprising:

an elongated tube structure having a uniform cross section including a substantially partially cylindrical wall on one lengthwise side thereof defining a major segment of a circle and a substantially flat wall on the opposite side thereof;

a pair of spaced wall brackets located close to the respective ends of said tube structure, each bracket having an upwardly opening, U-shaped outer section through which said tube structure extends, said outer section partially surrounding and engaging said tube structure and holding same in a selected attitude;

means defining a pair of openings in said tube structure close to the respective ends thereof;

a stop on each bracket projecting into the associated opening in said tube structure for opposing relative rotation between said tube structure and said bracket;

screw means mounted upon said U-shaped outer section for engagement with said partially cylindrical wall, whereby said tube structure is firmly held within said U-shaped outer section;

a plurality of sliders mounted upon said tube structure within said slot for movement lengthwise thereof;

hanger means attached to said sliders;

and means for effecting movement of said sliders along said slot.

10. A structure for supporting and traversing a flexible panel, comprising:

an elongated tube member including a vertically disposed flat wall on one side thereof and a partially cylindrical wall on the other side thereof extending between the lengthwise edges of said flat wall, said flat wall having a lengthwise slot extending between and through the respective ends of said tube member;

roller means disposed within said tube member near to the opposite ends thereof and spaced from said flat wall thereof, said roller means being mounted on said other side of said tube member adjacent the cylindrical wall thereof, the rotational axis of said roller means extending substantially perpendicular to said flat wall of said tube member, said roller means and the flat wall of said tube member defining an unobstructed space therebetween past said roller means and along said slot;

support means for said tube member including a plurality of support brackets, at least one of said brackets having a support arm and arcuate gripping means extending over the upper edge of said tube member and around and gripping said partially cylindrical wall thereof between said roller means;

a plurality of sliders supported upon said tube member within said slot for movement lengthwise thereof, said sliders being movable past said one bracket and through said space past said roller means without interfering therewith, certain of said sliders including an arcuate element extending from adjacent the lower edge of said flat wall under said tube member and thence curving upwardly around said partially cylindrical wall, said arcuate element having its free end adjacent the upper edge of said flat wall and said arcuate element being spaced from said partially cylindrical wall sufficiently to clear same and to clear also said arcuate gripping means;

hanger means mounted upon said sliders and extending downwardly therefrom;

and cable means extending through said tube member and around said roller means, said cable means being connected to selected sliders for effecting movement of said sliders lengthwise of said tube member.

11. A structure for supporting a drape panel for substantially horizontal movement, comprising:

an elongated tube member having a partially cylindrical wall on one lengthwise side thereof and a flat wall on the opposite side thereof,

said flat wall having a lengthwise slot therein spaced from the lengthwise edges thereof;

a pair of spaced brackets, each bracket having a U-shaped portion engaging said tube member near to, but spaced from, the end of said tube member and positioning same in a selected attitude with said flat wall thereof extending vertically;

means including a pair of inward projections on said U-shaped portion engageable with the wall of the tube member for holding same within, and against rotation with respect to, said U-shaped portion;

roller means supported upon said tube member near one end thereof and spaced from said flat wall for rotation around an axis substantially perpendicular to said flat wall;

a plurality of sliders supported upon said tube member within said slot for movement lengthwise thereof, each slider being movable past said roller means without interfering therewith;

an arcuate element secured to each slider and extending downwardly therefrom, under said tube member and upwardly around and over said partially cylindrical wall;

a hanger element independent of said arcuate element and means pivotally securing same upon each slider, said hanger element extending downwardly from said slider and below said arcuate element;

a master slide mounted upon said tube member and extending into said slot for movement lengthwise thereof; and

an elongated flexible element extending through said tube member and around said roller means for engagement with said master slide, whereby said sliders can be moved along said tube member.

12. In a traverse assembly mountable by brackets upon a wall structure for supporting a flexible panel for traversing movement in a substantially horizontal direction, the combination comprising:

an elongated tube member of substantially uniform

cross section throughout its length, said tube member having a substantially vertically disposed, flat wall on one side thereof, the top, bottom and other side of said wall member being defined by a portion of a cylinder in excess of a hemicylinder, said flat wall having a lengthwise slot therein between the lengthwise edges thereof, said slot extending through and between the opposite ends of said tube member;

roller means mounted within said tube member near the opposite ends thereof for rotation around axes substantially perpendicular to said flat wall, said roller means being spaced from said flat wall;

a pair of end members removably supported upon the ends of said tube member for blocking the opposite ends of said slot;

a plurality of sliders mounted upon said tube member within said slot for movement lengthwise thereof and past said roller means without interference from said roller means;

an arcuate element defining a major segment of a circle and having a minimum diameter larger than the maximum diameter of said hemicylinder, said arcuate element extending substantially concentrically around and along the peripheral extent of said hemicylinder and having an arcuate cross section with the convex surface thereof facing radially outwardly;

a substantially flat connector bar rigidly secured to the lower end of said arcuate element and extending upwardly toward the upper end of said arcuate element, the upper end of said connector bar being rigidly secured to said slider;

a hanger bar attached to each of said sliders; and

cable means extending around said roller means and connected to said sliders for effecting said movement thereof.

13. In a traverse assembly mountable by brackets upon a wall structure for supporting a flexible panel for traversing movement in a substantially horizontal direction, the combination comprising:

an elongated tube member of substantially uniform cross section throughout its length, said tube member having a substantially vertically disposed, flat wall on one side thereof, the top, bottom and other side of said wall member being defined by a portion of a cylinder in excess of a hemicylinder, said flat wall having a lengthwise slot therein between the lengthwise edges thereof, said slot extending through and between the opposite ends of said tube member;

roller means mounted within said tube member near the opposite ends thereof for rotation around axes substantially perpendicular to said flat wall;

a pair of end members removably supported upon the ends of said tube member for blocking the opposite ends of said slot;

a plurality of sliders mounted upon said tube member within said slot for movement lengthwise thereof and past said roller means;

an arcuate element defining a major segment of a circle and having a minimum diameter larger than the maximum diameter of said hemicylinder, said arcuate element extending substantially concentrically around and along the peripheral extent of said hemicylinder and having an arcuate cross section with the convex surface thereof facing radially outwardly;

a substantially flat connector bar rigidly secured to the lower end of said arcuate element and extending upwardly toward the upper end of said arcuate element, the upper end of said connector bar being secured to said slider;

a hanger bar attached to each of said sliders; and cable means extending around said roller means and connected to said sliders for effecting said movement thereof.

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