

- [54] **DRAPERY SUPPORT**
- [75] **Inventor: George H. Baker, Sr., Dunlap, Ill.**
- [73] **Assignee: Baker Drapery Corporation, Peoria, Ill.**
- [22] **Filed: June 14, 1971**
- [21] **Appl. No.: 152,879**
- [52] **U.S. Cl. 16/87.4 R, 16/93 D, 16/94 D, 160/345**
- [51] **Int. Cl. A47h 5/032, A47h 13/12**
- [58] **Field of Search..... 160/84, 330, 341, 344-348, 160/183, 124-126, 199, 1; 16/87-87.8; 24/208 R, 213 R, 208 A, 216**

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Primary Examiner—Robert R. Mackey
Assistant Examiner—Philip C. Kannan
Attorney, Agent, or Firm—Hofgren, Wegner, Allen, Stellman & McCord

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[57] **ABSTRACT**

A traverse support fixture for draperies or the like which establishes and maintains the drapery folds and by which a drapery can be moved between open and closed positions, without the need for sewn pleats, special hooks or the like. A plurality of drapery folding plates, different numbers of which can be installed, are mounted for movement along a track structure.

12 Claims, 48 Drawing Figures

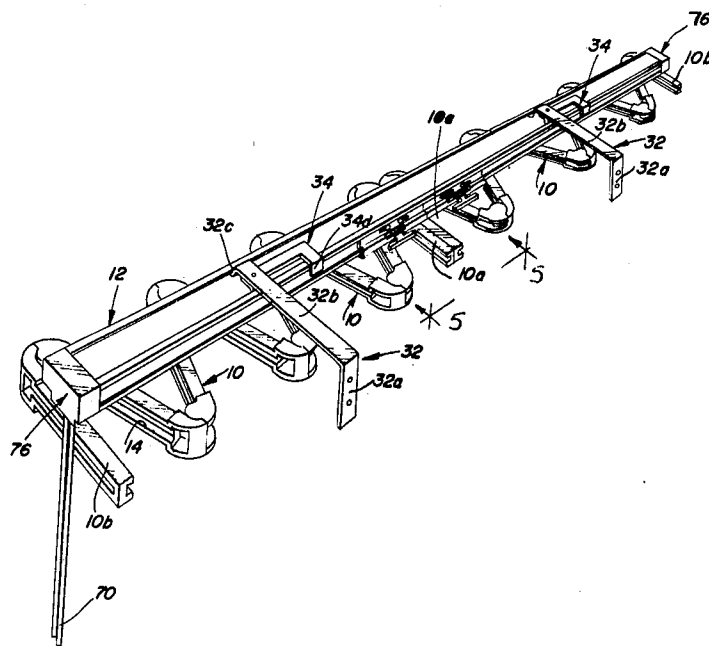


FIG. 3

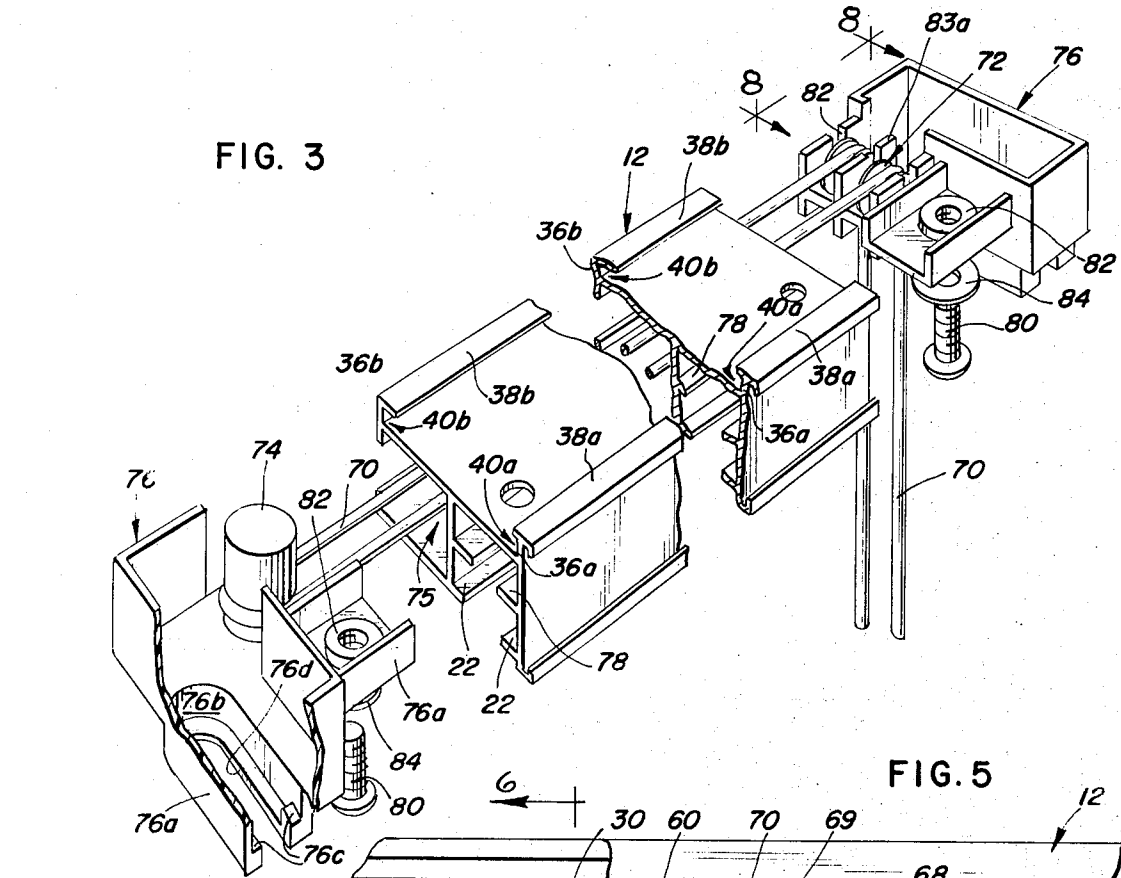


FIG. 5

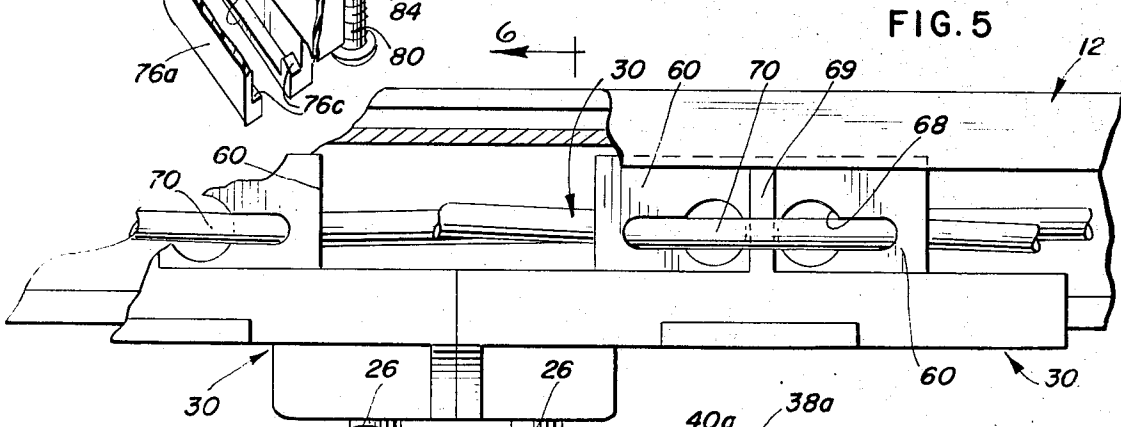


FIG. 6

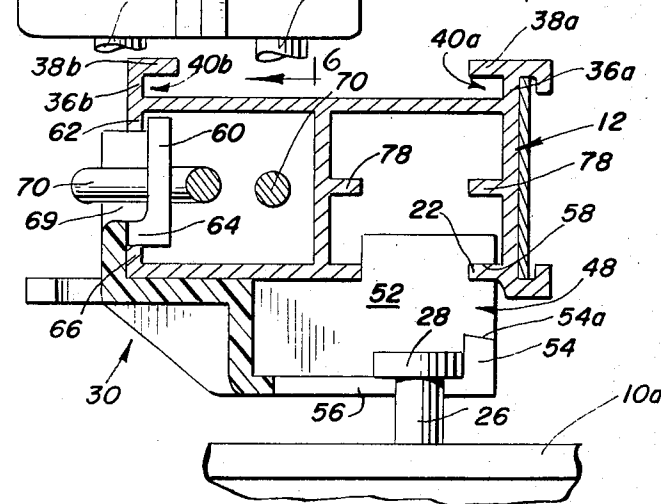


FIG. 7

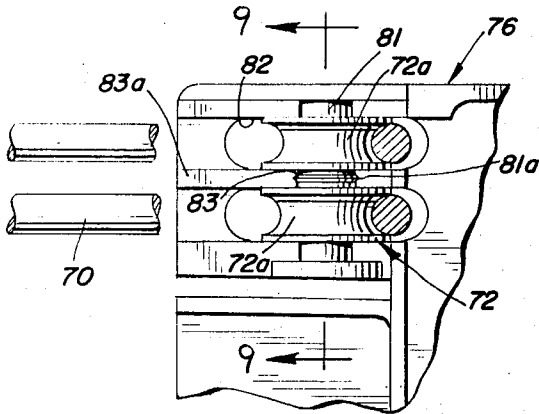


FIG. 8

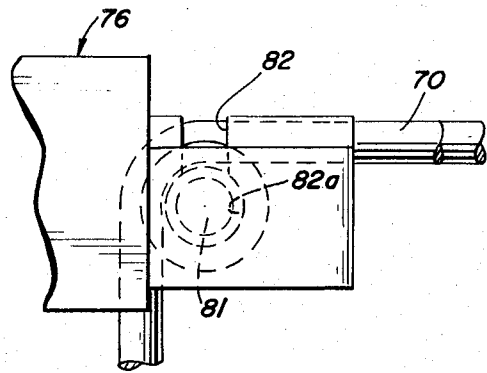


FIG. 9

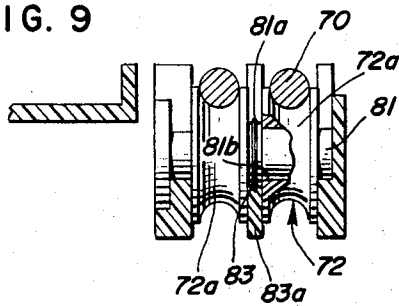


FIG. 11

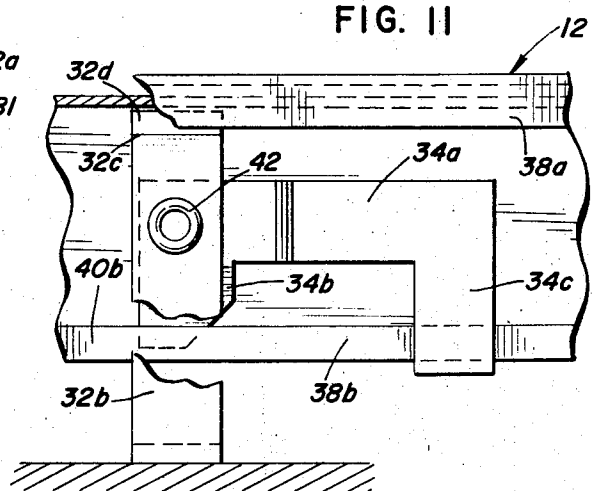


FIG. 10

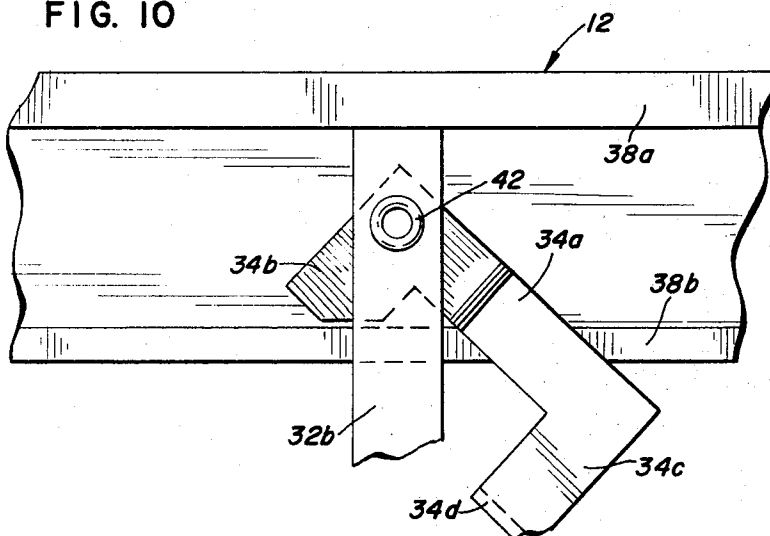


FIG. 12

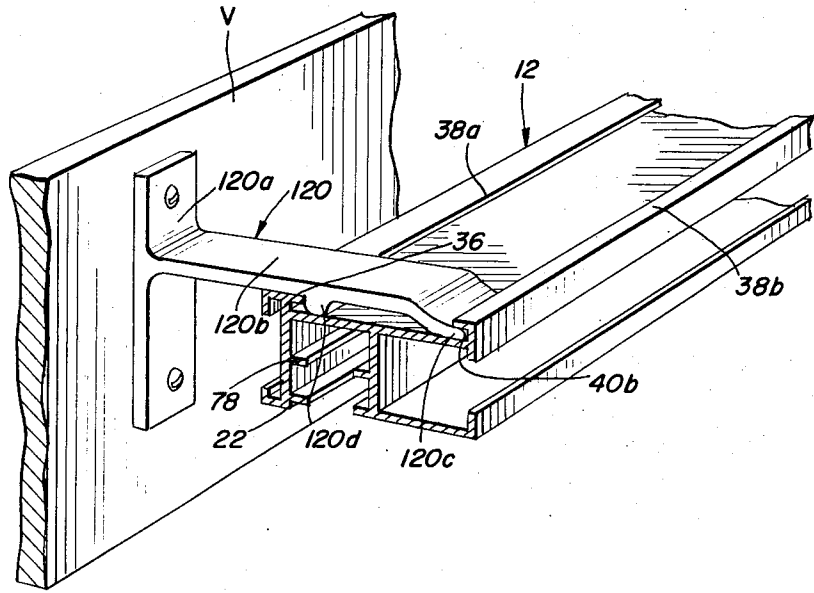


FIG. 13

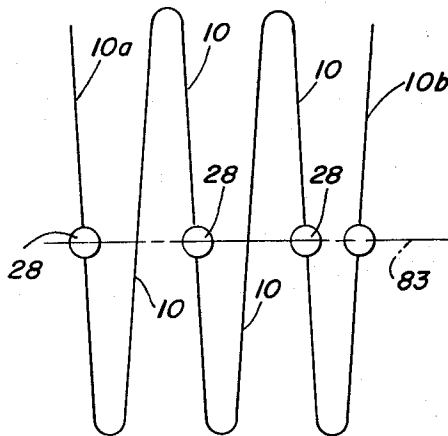


FIG. 14

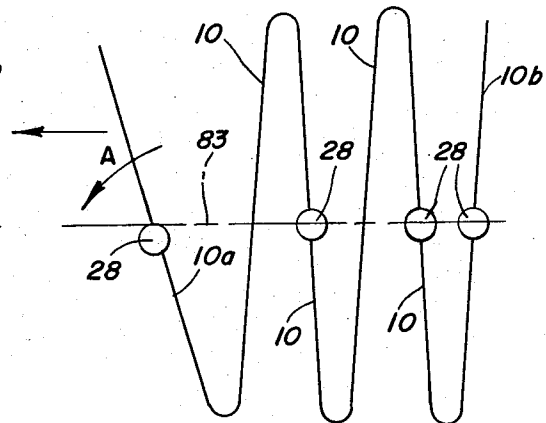


FIG. 15

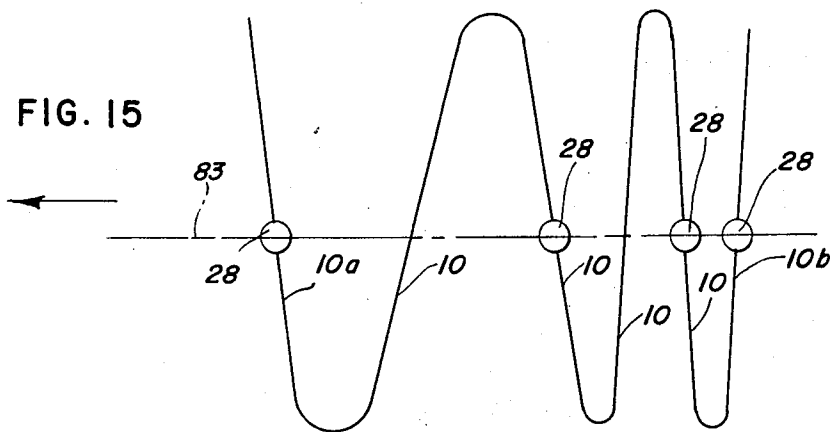


FIG. 16

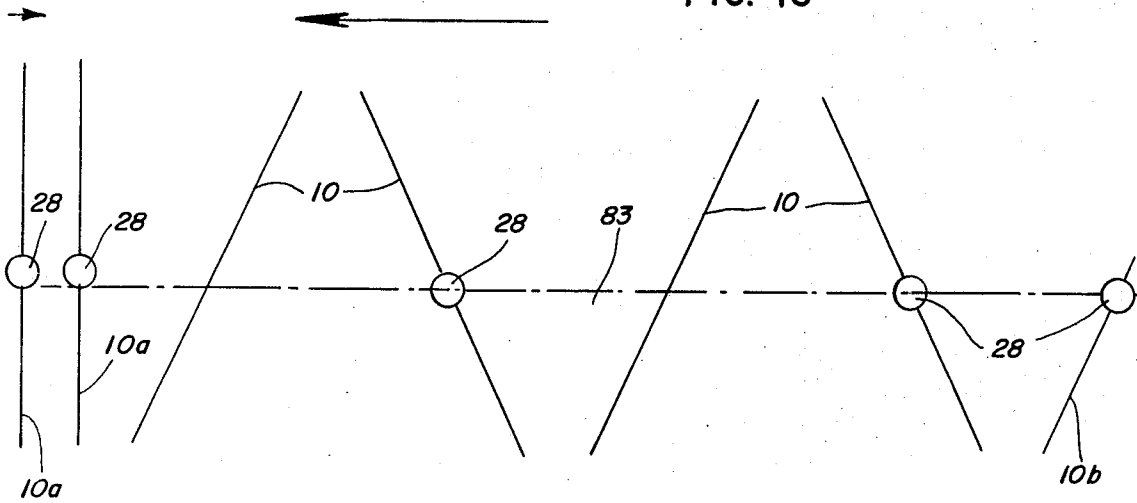


FIG. 17

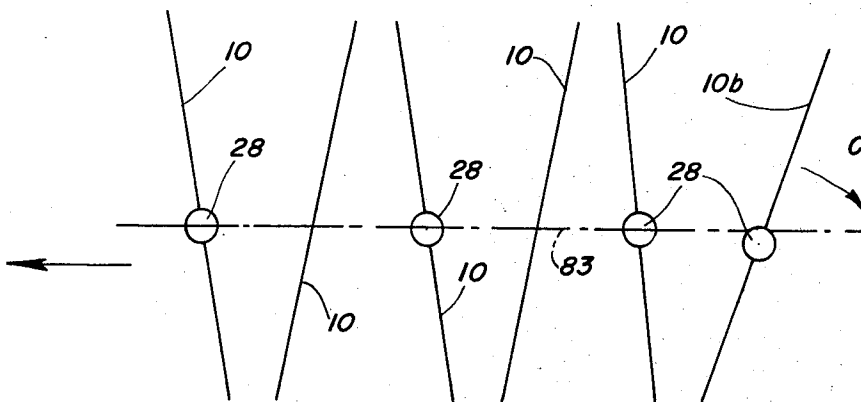
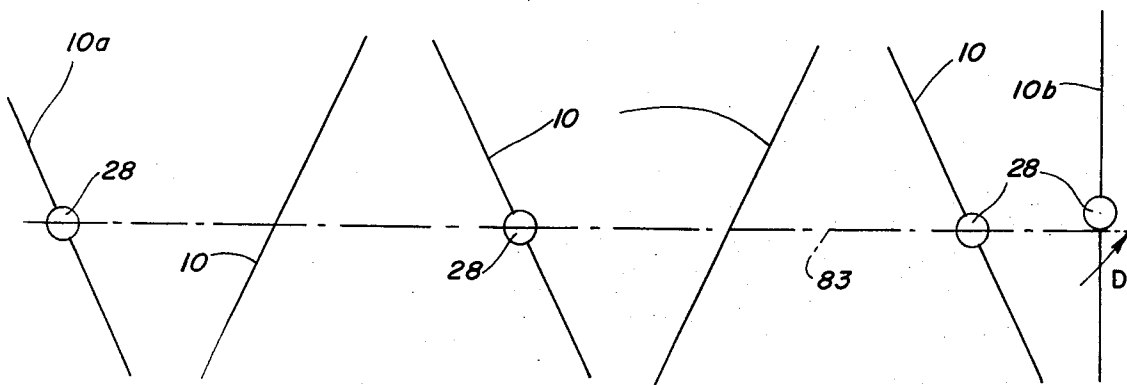


FIG. 18



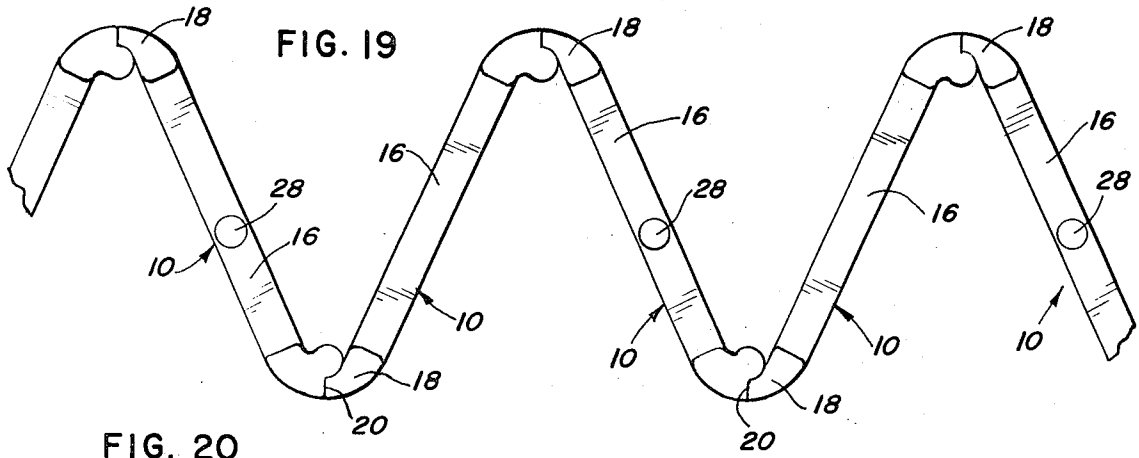


FIG. 20

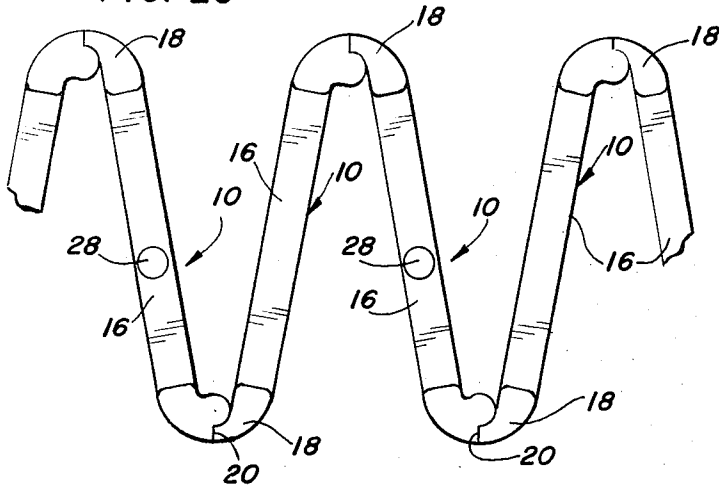


FIG. 21

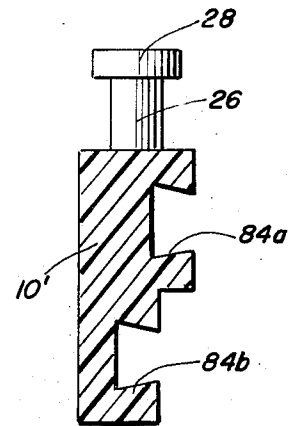


FIG. 22

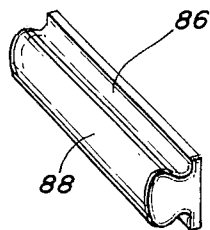
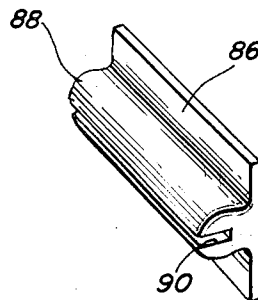


FIG. 23



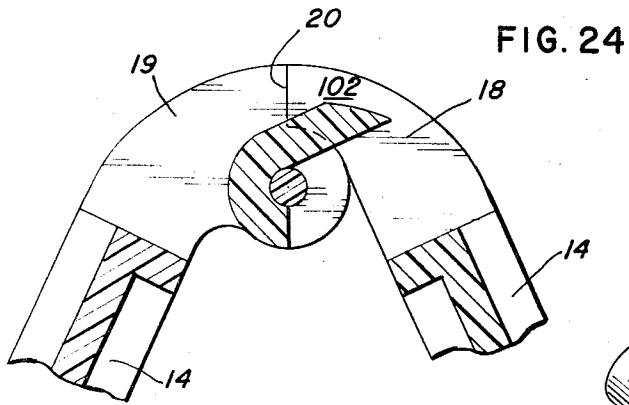


FIG. 24

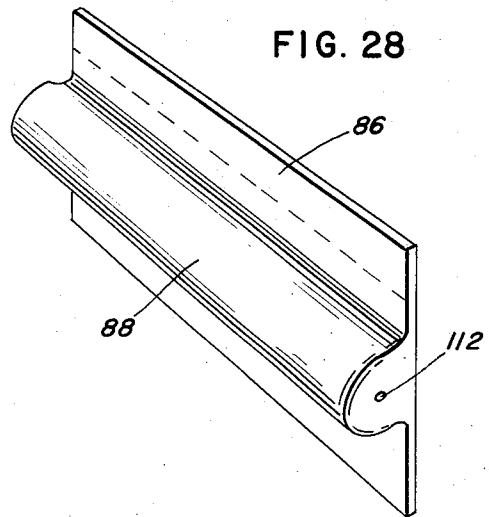


FIG. 28

FIG. 27

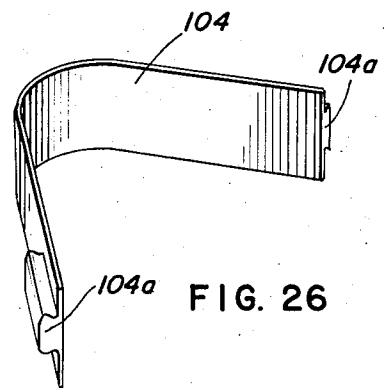
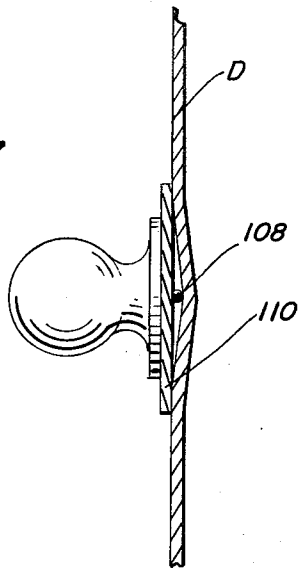


FIG. 26

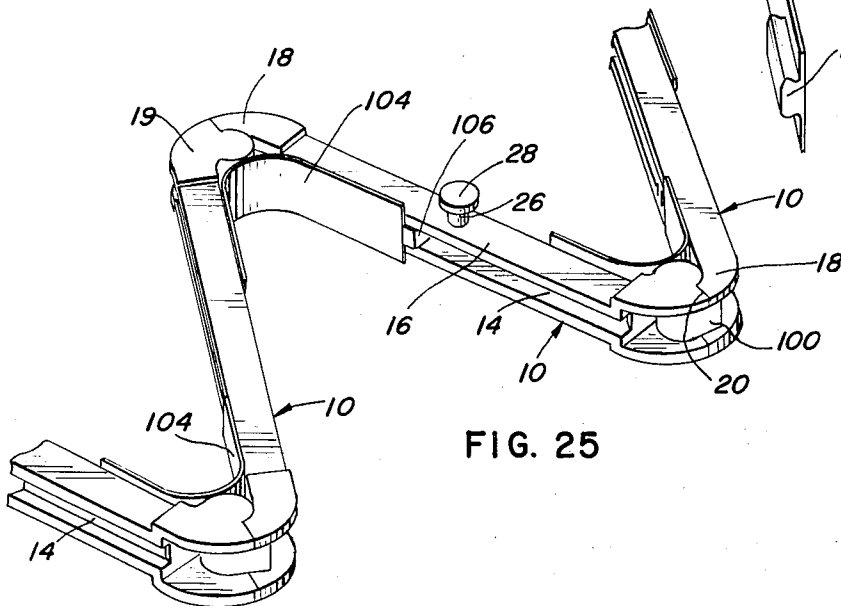


FIG. 25

FIG. 29

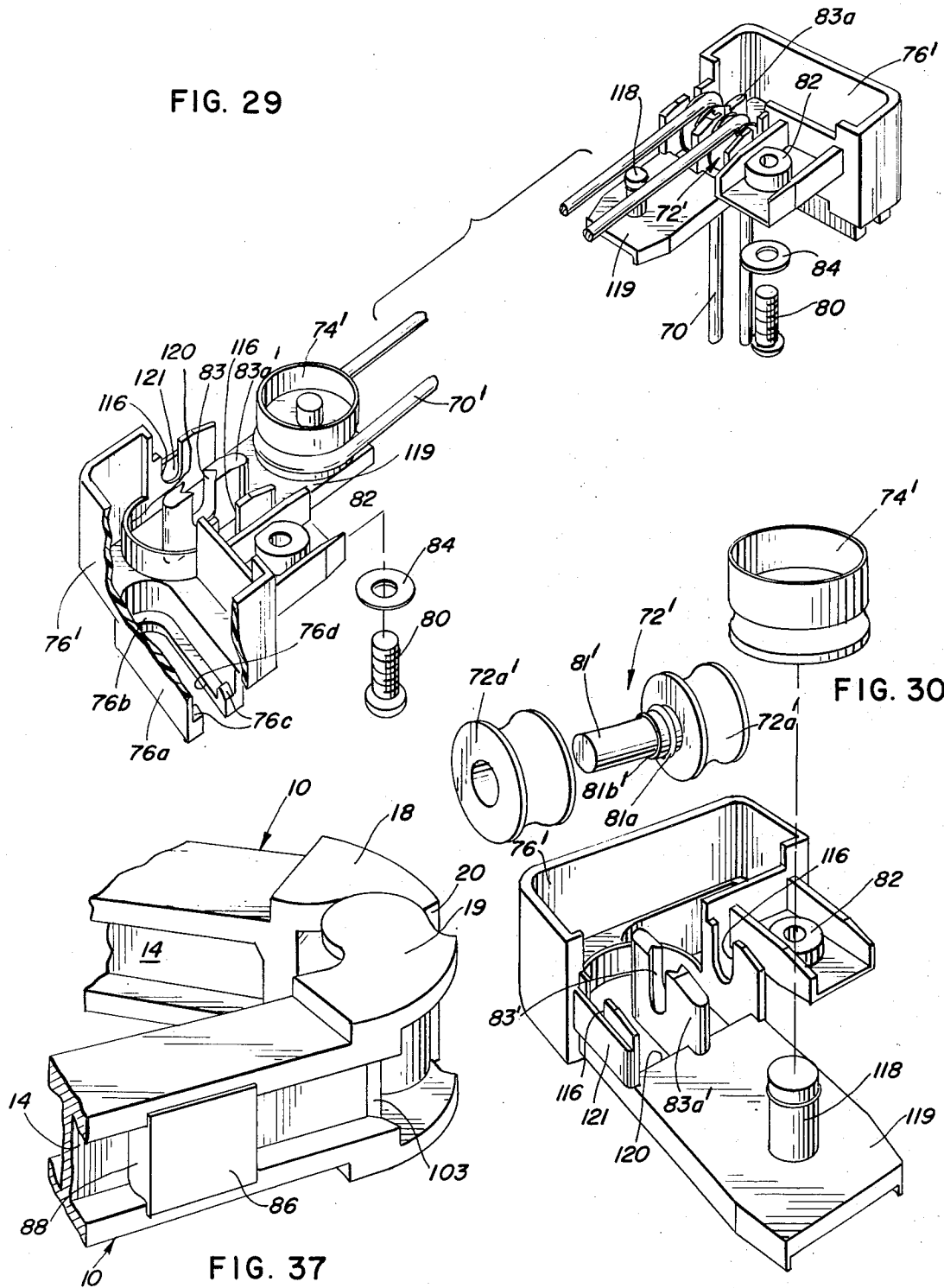


FIG. 31

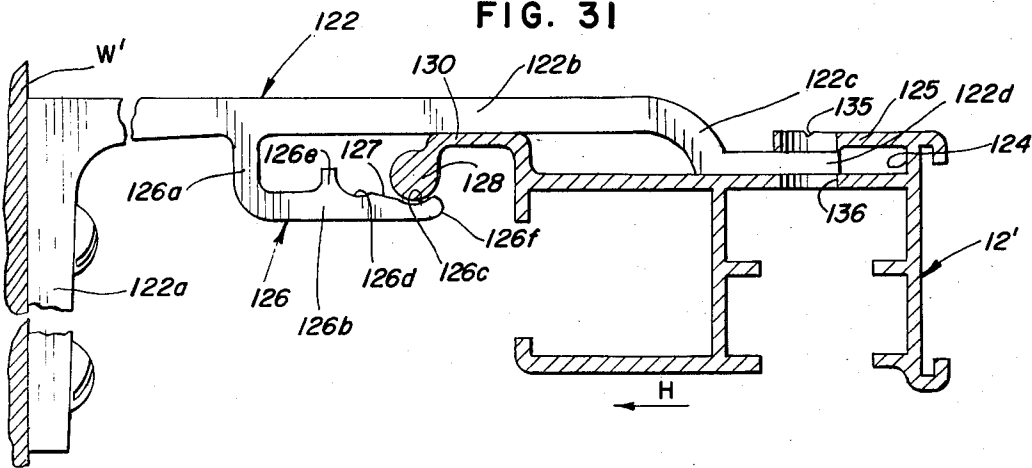


FIG. 32

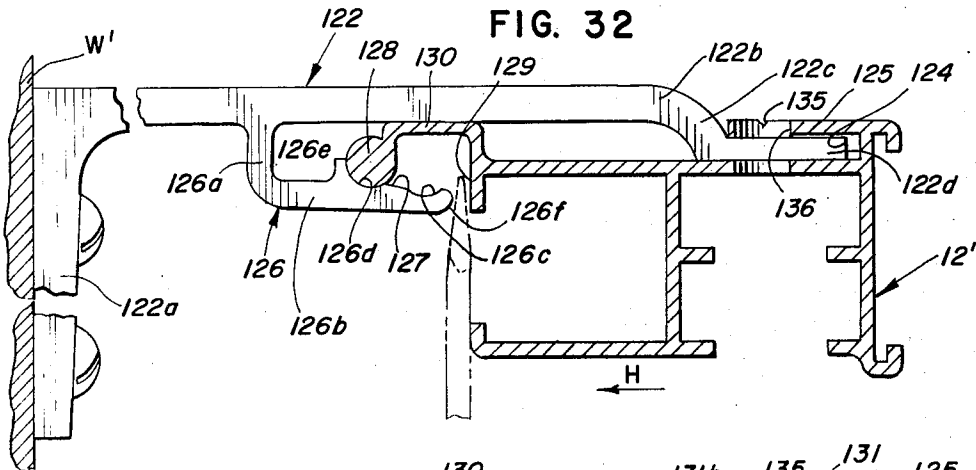
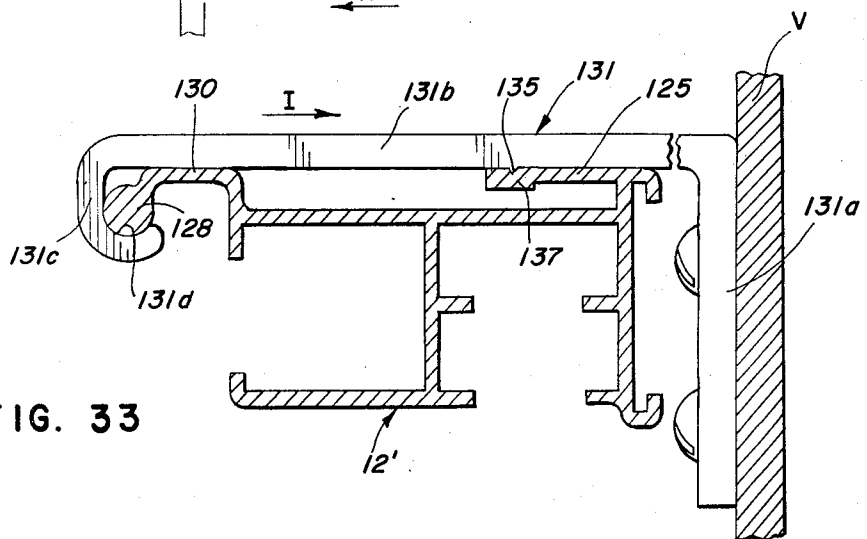


FIG. 33



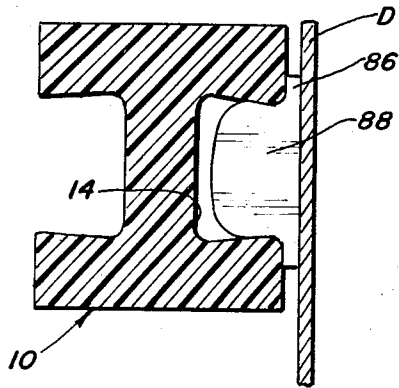


FIG. 34

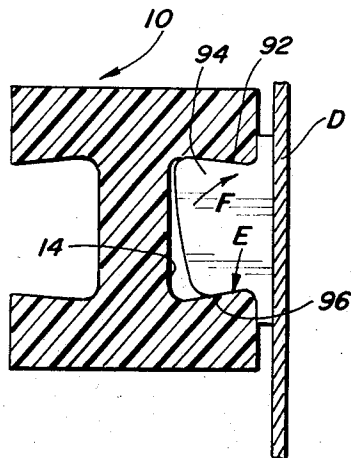


FIG. 35

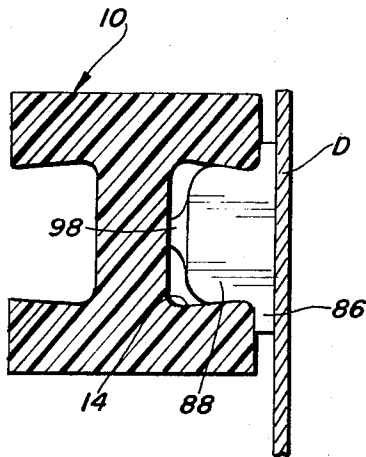


FIG. 36

FIG. 39

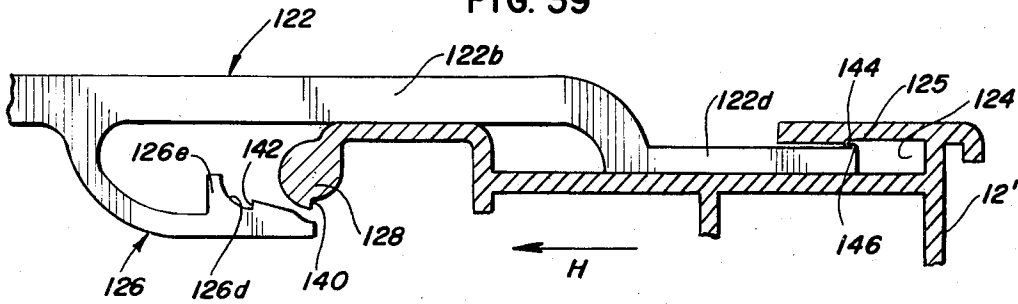


FIG. 40

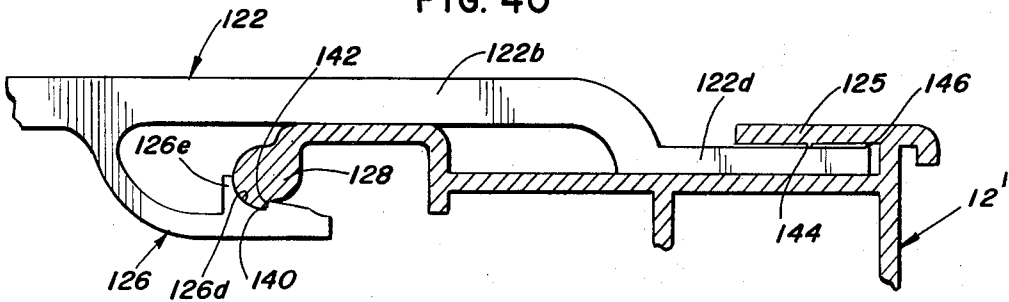


FIG. 41

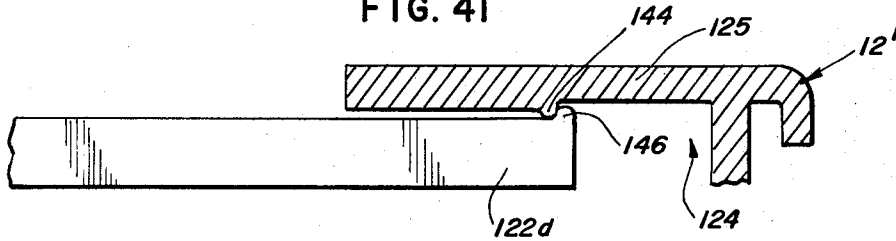


FIG. 42

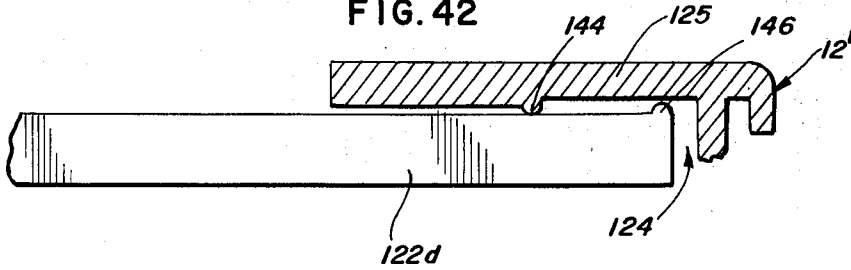


FIG. 43

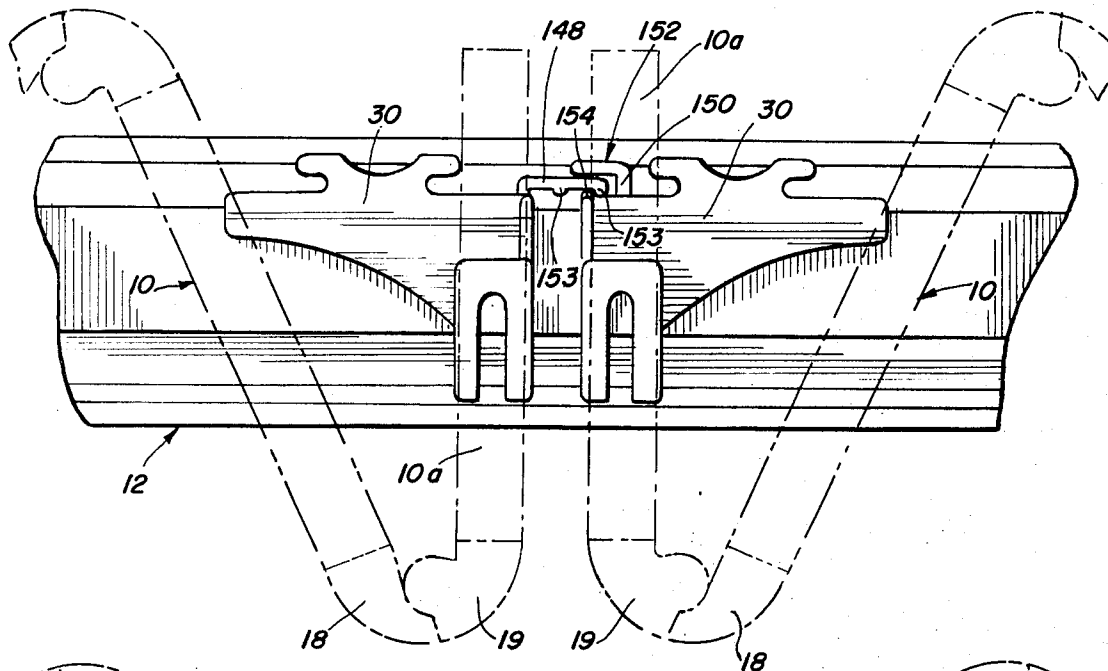
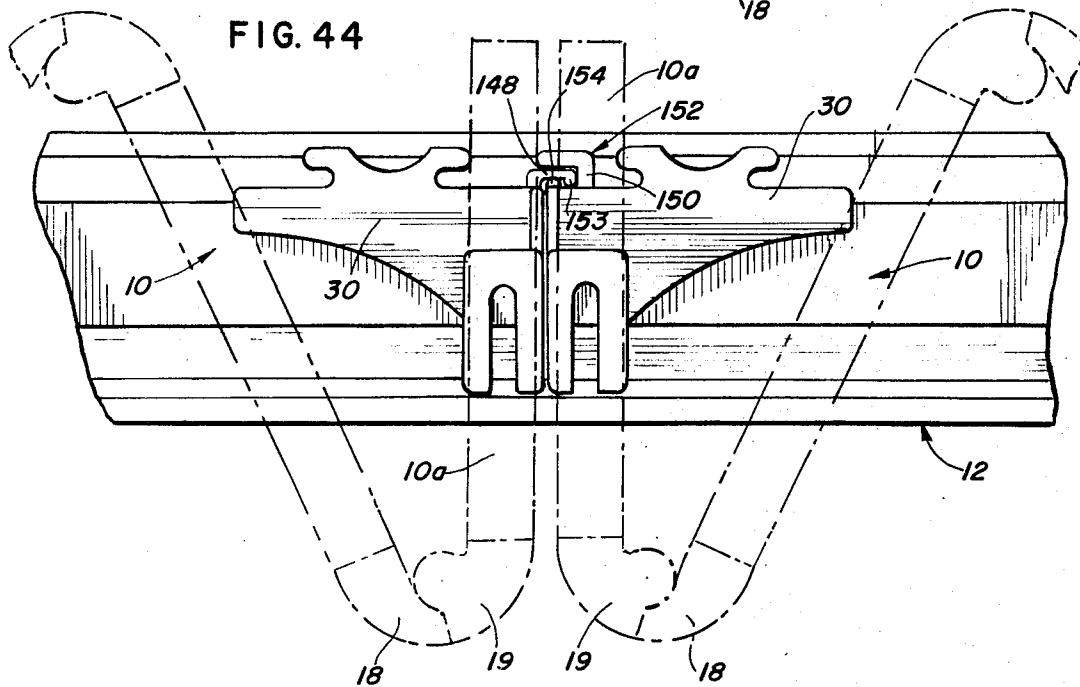


FIG. 44



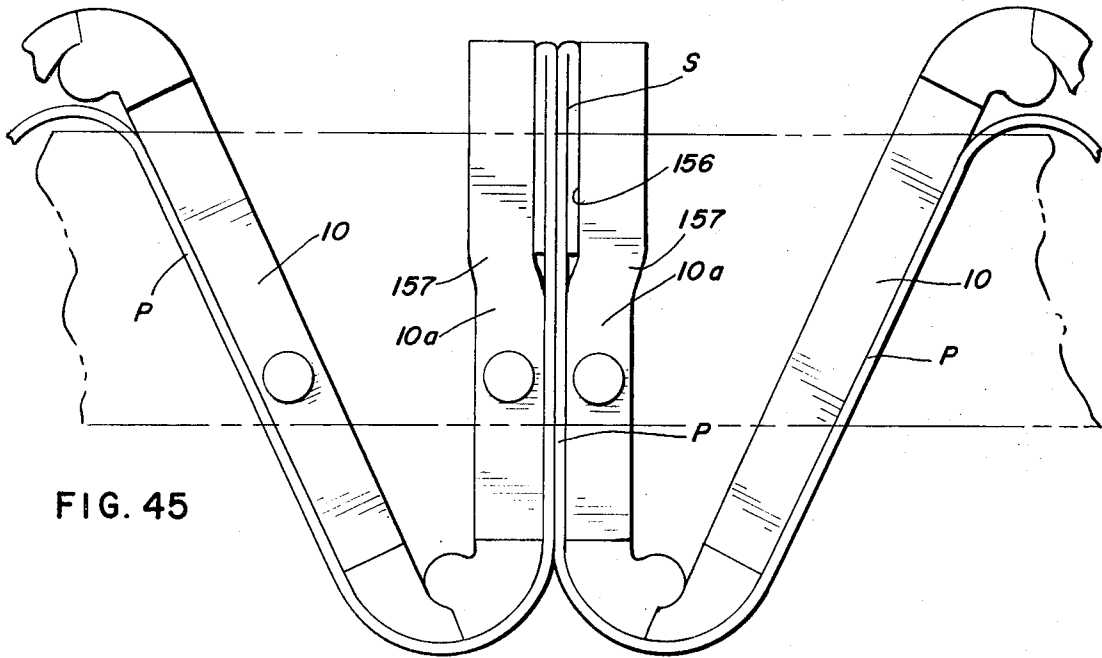


FIG. 45

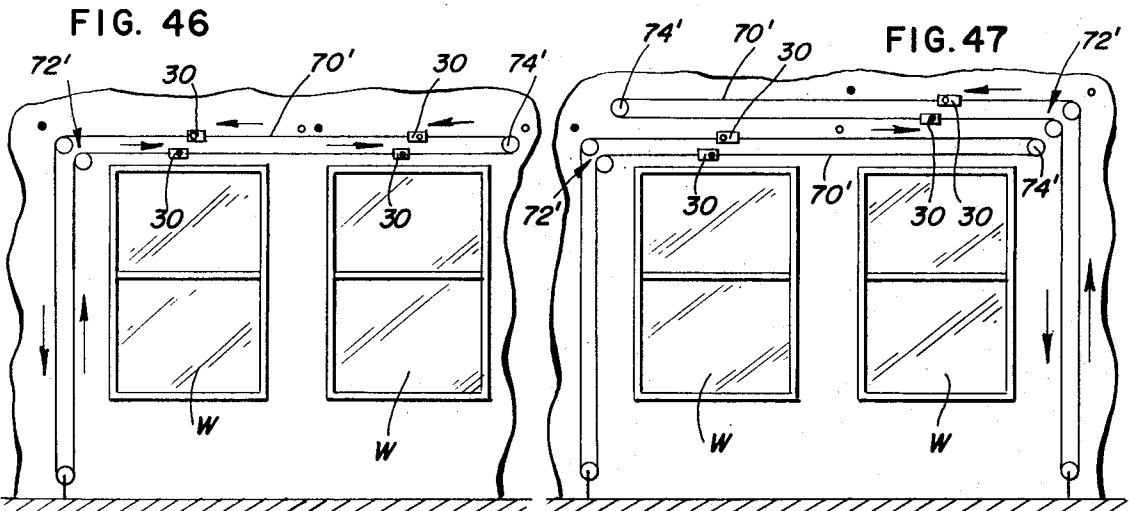


FIG. 46

FIG. 47

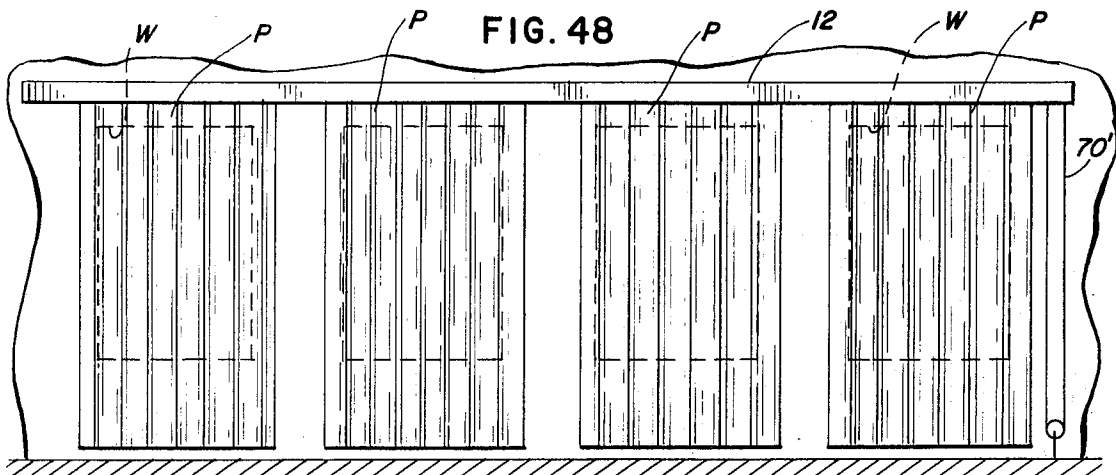


FIG. 48

DRAPERY SUPPORT

BACKGROUND OF THE INVENTION

As seen in my U.S. Pat. No. 3,296,651, entitled "Drapery Support", an improved fixture for hanging draperies comprises a plurality of drapery folding plates hinged together end to end, suspended from an elongated, rigid supporting rod or track, and carrying a drapery in such a way that the drapery, which hangs from the plates, can shift longitudinally on the plates. The drapery is provided with means by which it may be slidably attached to the folding plates and easily removed therefrom. With such a fixture, as the hinged folding plates are opened and closed, the drapery panels follow the contour of the folding plates and slide to a proper position to form the desired folds, without the use of hooks or pleats. The folding plates are attached to carrier or slider members which traverse along the elongated track.

The present invention relates to a track and associated apparatus utilizing such folding plates, including improved carrier members, support brackets for the track structure, valance hangers, drapery attaching means, and other related features which will be apparent hereinafter.

SUMMARY OF THE INVENTION

The present invention relates to drapery fixtures, and more particularly to apparatus for shifting draperies, or the like, along a traverse rod or track structure.

An object of this invention is to provide an improved traverse rod or track structure and cooperating slider or carrier members which support drapery folding plates of the character described.

Another object of this invention is to provide an improved traverse rod or track structure and cooperating support brackets. In one embodiment of the invention, the brackets have a snap engagement with the track structure, without additional holding or clamping means.

A further object of this invention is to provide an improved traverse rod or track structure and cooperating brackets for supporting a drapery valance or the like. In one embodiment of the invention the drapery valance brackets are snap fit onto the track structure, without additional means.

Yet another object of the invention is to provide means to insure that the drapery folding plates fold and unfold uniformly to prevent gathering of the drapery.

Still a further object of the invention is to provide new and improved means attachable to the drapery to snap fit the drapery onto the folding plates. In one embodiment, accommodation is made for relatively heavy draperies such as velvet or the like. In another embodiment, a friction drag is provided to limit the sliding movement of the drapery along the folding plates.

Another object of the invention is to provide a new and improved means for shifting the drapery along the traverse rod or track structure, including end fittings with interchangeable replaceable pulleys over which an operating cord passes for shifting the drapery, particularly a continuous or closed loop type cord. The pulleys include a control pulley at one end of the track structure and a return pulley at the other end of the track structure, said pulleys being selectively positionable at

either end of the track structure so as to change the end of the track at which the free or operating end of the cord loop is located, without removing the cord or disassembling the track.

Other objects, features and advantages of the invention will become apparent from the following detailed description taken in connection with the accompanying drawings.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a drapery fixture embodying one form of the invention looking at the backside of the fixture, and showing a pair of support brackets for attaching the fixture to a wall or the like;

FIG. 2 is a perspective, fragmentary view, on an enlarged scale, of one end of the fixture, with portions of the track cut away to illustrate the structure of the drapery folding plates, and slider or carrier members;

FIG. 3 is an exploded perspective view, on an enlarged scale, of the drapery fixture of FIG. 1 looking at the front thereof and with a major portion of the track cut away;

FIG. 4 is a section through one of the carrier members for the drapery folding plates, taken generally along the line 4—4 of FIG. 2;

FIG. 5 is a partial, elevational view, on an enlarged scale, taken generally in the direction of line 5—5 of FIG. 1, with portions of the track structure cut away to facilitate the illustration;

FIG. 6 is a section through a master carrier member, taken generally along the line 6—6 of FIG. 5;

FIG. 7 is a partial top plan view looking down at a control pulley;

FIG. 8 is a partial elevational view, on an enlarged scale, looking generally in the direction of line 8—8 of FIG. 3;

FIG. 9 is a vertical section taken generally along the line 9—9 of FIG. 7;

FIG. 10 is a partial top plan view of the track structure, illustrating a support bracket and latch member which attach the track structure to a wall or the like, with the latch member in position prior to locking the track structure and bracket together;

FIG. 11 is a view similar to that of FIG. 10 with the latch member pivoted to lock the track structure and bracket together, with portions of the track structure and bracket broken away to facilitate the illustration;

FIG. 12 is a perspective view of one form of drapery valance bracket supported on the track structure shown in FIG. 1;

FIGS. 13 through 16 are schematic views showing sequential positions of the drapery folding plates during unfolding of the drapery, particularly illustrating the fore and aft movement of a leading hinge plate;

FIGS. 17 and 18 are schematic views showing sequential positions of the drapery folding plates during unfolding of the drapery, particularly illustrating the fore and aft movement of the trailing or last carrier member;

FIG. 19 is a top plan view of a plurality of folding plates hinged together end to end and in their unfolded positions to illustrate one angle of fold for the drapery;

FIG. 20 is a view similar to that of FIG. 19 and showing a plurality of drapery folding plates having lesser angles of fold for the drapery;

FIG. 21 is a vertical section through the center of a modified drapery folding plate, illustrating means for hanging a pair of draperies or a drapery and a drapery lining from the same side of the folding plate;

FIG. 22 is a perspective view of an extruded slider member for attaching a drapery panel to the drapery folding plates;

FIG. 23 is a view similar to that of FIG. 22 showing a modified form of slider member which includes a lengthwise slot to enhance the resiliency of the attaching portion of the slider;

FIG. 24 is a horizontal central section through the cylindrical hinge of a pair of adjacent drapery folding plates showing a modified form wherein the center of the hinge is cut away to accommodate slider members such as that shown in FIGS. 22 and 23;

FIG. 25 is a partial perspective view of a plurality of drapery folding plates hinged together end to end and having spring means at the hinge joints to provide for uniform folds of the plates;

FIG. 26 is a perspective view, on an enlarged scale, showing the spring means shown in FIG. 5 at the hinge joints of the folding plates;

FIG. 27 is a vertical section through a drapery panel, with a drapery attaching means secured thereto and embodying a resilient spring wire between the drapery panel and the drapery attaching means;

FIG. 28 is a view similar to that of FIG. 22, on an enlarged scale, showing a slider member which includes a resilient spring wire embedded in the slider;

FIG. 29 is a perspective view of different forms of end pieces for the track structure, including means to mount the control and return pulleys for the operating cord at either end of the track structure;

FIG. 30 is a perspective view of the end piece shown at the right in FIG. 29, with return and control pulleys exploded therefrom;

FIG. 31 is a vertical section through a modified form of track structure, with an associated support bracket in elevation, and with the track structure in a first position of attachment to the bracket;

FIG. 32 is a view similar to that of FIG. 31, with the track structure in a sequential position of attachment to the support bracket;

FIG. 33 is a vertical section of the track structure of FIGS. 31 and 32, and showing a drapery valance support or bracket adapted for said track structure;

FIG. 34 is a section through the drapery attaching slider of FIG. 22 in position within a slot in one of the drapery folding plates;

FIG. 35 is a view similar to that of FIG. 34, showing a modified form of drapery attaching slider adapted to hold relatively heavy drapery panels;

FIG. 36 is a view similar to that of FIGS. 34 and 35, showing a modified form of drapery attaching slider incorporating means to provide a frictional drag on the slider within the slot of the drapery folding plates;

FIG. 37 is a partial perspective view of the cylindrical hinge of a pair of adjacent drapery folding plates which incorporate stop means to prevent the slider members from sliding out of the slots in the folding plates;

FIG. 38 is a section taken generally along the line 38—38 of FIG. 4, showing a top plan view of the carrier member;

FIG. 39 is a vertical section through a modified form of track structure somewhat similar to that shown in FIGS. 31 and 32, with a complementary support bracket in elevation, and with the track structure in a first position of attachment to the bracket;

FIG. 40 is a view similar to that of FIG. 39, with the track structure in a sequential position of attachment to the support bracket;

FIG. 41 is a fragmentary view, on an enlarged scale, of the upper right-hand portion of the track structure and bracket as shown in FIG. 39;

FIG. 42 is a fragmentary view, on an enlarged scale, of the upper right-hand portion of the track structure and bracket as shown in FIG. 40;

FIG. 43 is a fragmentary bottom plan view of a track structure and a pair of modified master carrier members, the carrier members having means for latching together when in their closed position, spaced from each other to accommodate relatively thick draperies, and with associated folding plates shown in phantom;

FIG. 44 is a view similar to that of FIG. 43, with the latch means on the master carrier members modified to reduce the spacing between the carrier members;

FIG. 45 is a plan view of a modified form of end drapery folding plates which have recessed portions to accommodate the added thickness of a seam along the edge of the supported drapery panels;

FIG. 46 is a schematic view of a continuous "loop" type operating cord having a pair of master carrier members for simultaneously operating two sets of drapery panels for a pair of windows, or the like;

FIG. 47 is a schematic view of a pair of continuous "loop" type operating cords which may be utilized in conjunction with the structure shown in FIGS. 29 and 30 to shift one set of drapery panels along the traverse supporting rod by one of the cords independently of the drapery panels operatively connected to the other cord; and

FIG. 48 is a view of a plurality of spaced drapery panels which may be operated by the utilization of the traverse support assembly of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Generally, as shown in my U.S. Pat. No. 3,296,651, the traverse drapery support or fixture to which this invention relates includes a plurality of drapery hanging members or folding plates, generally designated 10, hinged together in end to end relation. The folding plates slide longitudinally along a rod or track structure, generally designated 12, to move a drapery between open and closed positions. The drapery is provided with sliders, to be described in greater detail hereinafter, which facilitates easy installation and removal of the drapery panels by simply snapping into longitudinal slots 14 provided in the folding plates. The draperies are self-positioned as a result of their sliding relation to the plates.

Referring to the drawings in greater detail, FIG. 1 shows a plurality of hinged drapery folding plates 10 slidably carried by the track structure 12. The plates are made of molded plastic or any other suitable material, and may vary in size or shape depending on the nature of the drapery installation. The embodiment of the invention shown in FIGS. 1 and 2 has folding plates with two spaced parallel faces in generally vertical planes forming an elongated straight center section 16, with complementary hinge sections 18 and 19 offset

laterally at the ends of the plates and engageable to interconnect a plurality of plates end to end in an accordion fashion. When the folding plates are interconnected end to end, successive plates simply are inverted to enable the complementary end hinge sections to be joined. The hinge sections are provided with stop surfaces 20 which limit the degree of opening of the plates.

The hinged drapery folding plates are suspended from the track structure 12 by an appropriate means which will permit the plates to move longitudinally along the track and to rotate with respect to the track. In the embodiment of the invention illustrated herein, track 12 has a longitudinal channel defined partially by flanges 22 (FIG. 3) in which a plurality of carrier members, generally designated 24 (FIG. 2), are received. Each carrier 24 has an internal recess 24a (FIGS. 2, 4 and 38) and a downwardly opening slot 24b. Selected ones of the plates 10 have a supporting pin 26 forming a neck portion extending generally vertically upwardly from the top of each of the folding plates and terminating in an enlarged head portion 28 which is received in the recess 24a of a carrier 24 (as best seen in FIGS. 4 and 38), with the head portion 28 resting at the bottom of the recess and overlying the sides of the slot 24b. The head portion 28 is free to rotate within the recess of the carrier member allowing the plates to pivot with respect to the track 12 as the drapery is drawn back and forth along the track. The downwardly opening slots are elongated slightly, as best seen in FIG. 38, to permit limited fore and aft movement of the pins 26 (and thus the plates 10) relative to the carrier members 24 in a direction generally perpendicular to the track 12, for purposes to be described hereinafter. The supporting pins 26 preferably are provided on every other folding plate to prevent possible binding of adjacent plates and thereby provide free movement of the folding plates in folding and unfolding the draperies. At least one outer end or master carrier member, generally designated 30 (FIGS. 2 and 6) and to be described in greater detail hereinafter, is provided for connection to an appropriate operating cord for moving one end of a drapery panel to thereby fold and unfold the drapery.

As seen in FIG. 1, the track 12 is mounted on a wall or the like by latch type brackets, generally designated 32, to be described in greater detail hereinafter.

Once the track structure 12 and drapery folding plates 10 are installed, the invention is remarkably easy to use. The drapery panel normally is merely a rectangular panel of material which is suspended from the drapery folding plates by sliders which are snap fit into the dovetail slots 14. As the hinged folding plates are opened and closed, the drapery panels follow the contour of the folding plates and slide to a proper position to form the desired pleats or folds.

As seen in FIG. 1, the support brackets 32 are generally L-shaped with a vertical portion 32a for attachment to a wall or the like and a horizontal portion 32b extending outwardly from the wall over the track 21 for attachment thereto by means of a latch member, generally designated 34. As best seen in FIGS. 3, 10 and 11, the track has a pair of longitudinally extending lugs or ribs 36a, 36b protruding upwardly from the upper surface of the track along the marginal edges thereof, and inwardly extending flanges 38a, 38b at the top of the lugs defining inwardly opening grooves 40a, 40b. The horizontal portion 32b of each bracket member 32 ter-

minates in a shoulder 32c and a downwardly offset projection 32d (FIG. 11) extending into the front groove 40a to engage the flange 38a.

Referring to FIGS. 1, 10 and 11, the latch member 34 is pivotally mounted, as by a rivet 42, on the underside of the horizontal portion 32b of each bracket member 32 above the top surface of the track 12. The latch member 34 is generally flat and U-shaped with a bight portion 34a and a pair of leg portions 34b and 34c. The latch member is pivoted to the bracket member generally at the juncture of the bight portion 34a and the leg portion 34b. As best seen in FIG. 1, the leg portion 34c of the latch member terminates in a downwardly extending stop tongue 34d. To mount the track 12 onto the brackets 32, the offset projection 32d on the end of the horizontal portion 32b of each bracket 32 first is positioned within the groove 40a at the front of the track beneath the flange 38a, with the latch member 34 pivoted to the position shown in FIG. 10 so that the leg portion 34d bypasses the flange 38b to a position between the flanges 38a, 38b in line with the groove 40b. The latch member 34 then is pivoted to the position shown in FIG. 11 whereby the leg portion 34b seats within the groove 40b on the underside of the flange 38b to lock the track 12 to the bracket 32 as the stop tongue 34d abuts against the backside of the track.

FIG. 4 shows a section through a carrier member 24 (FIG. 2) with the enlarged head portion 28 on top of the neck portion 26 of a folding plate 10 seated within the recess 24a of the carrier member. As seen best in FIG. 2, the carrier members 24 are generally U-shaped and have horizontal slots 44 which receive the flanges 22 (FIG. 3) to mount the carrier members on the track 12 whereby the carrier members ride along the flanges 22 as the drapery is folded and unfolded. An upstanding flange 46 is formed on opposite sides of the elongated slots 24b at the mouth 48 leading to the recess 24a. As best seen in FIG. 4, the top of the flanges 46 have surfaces 50 inclined upwardly and inwardly toward the recess 24a to guide the head portion 28 of a folding plate 10 into the recess. The flanges 46 prevent the head portions 28 from jumping out of the recesses accidentally as the folding plates and carrier members are moved along the track. By inclining the top of the flanges 46, sufficient space is provided to permit the head portions to clear the front lower edge of the track 12 and enter the recess. The head is inserted into the recess by tilting plate 10 so that the head portion is generally parallel to the inclined surface.

Referring to FIGS. 2, 5 and 6, the master carrier members 30 are somewhat similarly mounted on the underside of the track 12 for movement therealong to carry an end folding plate 10a, as best seen in FIGS. 1 and 2. Referring to FIG. 6, the master carrier members 30 have an interior recess 52 for receiving the head portion 28 on the top of a neck portion 26 extending upwardly from the top of the end folding plate 10a. As with the carrier members 24, the master carrier members have a flange 54 extending upwardly into the mouth 48 of the recess 52 on opposite sides of a downwardly opening slot 56 to prevent the head portion 28 from jumping out of the recess 52. The flanges 54 also have inclined upper surfaces 54a for purposes described above with relation to the carrier members 24. The master carrier members have a slot 58 for receiving one of the flanges 22 of the track 12 for movement therealong. The rear of the master carrier members has

an inwardly offset, upwardly extending plate portion 60 which seats behind a downwardly extending flange 62 of the track 12, with the lower end of the plates 60 terminating in a shoulder 64 which seats on top of an inwardly extending flange 66 of the track to guide the master carrier members along the track structure. As best seen in FIGS. 2 and 5, the upwardly extending plate portion 60 of the master carrier members 30 has keyhole type apertures 68 for receiving an operating cord 70 in a conventional manner so that the master carrier members are pulled back and forth along the track 12 when an operator pulls on one or the other runs of the operating cord in a conventional manner. As best seen in FIGS. 5 and 6, a rib 69 is formed on the master carrier members 30 integral with the plate portion 60. This rib performs two functions. First, it rigidifies the plate portion 60 to prevent shrinkage or deformation of the plate portion. Second, it spaces the cord 70 outwardly from the plate portion, as best seen in FIG. 6, for easy gripping to loosen the cord, for instance for adjustment purposes. For purposes to be described in greater detail hereinafter, and referring particularly to FIG. 6, the downwardly opening slot 56 for receiving the neck portion 26 on the top of the innermost (relative to the track) end folding plate 10a is elongated to permit the neck portion 26 and thus the end folding plate 10a to move relative to the master carrier members 30, perpendicular to the track 12 during movement of the master carrier members along the track to fold and unfold the drapery.

End pieces 76, to be described in greater detail hereinafter, are provided at the ends of the track 12, and each end piece has a portion, generally designated 76a in FIG. 3, depending from the underside thereof and shaped similar to the underside of the master carrier members. More particularly, as with the carrier members 24 and master carrier members 30, each end piece portion 76a has an interior recess 76b for receiving the head portion 28 on top of the neck portion 26 extending upwardly from an end folding plate 10b (FIG. 1). Flanges 76c extend upwardly into the mouth of the recess on opposite sides of a downwardly opening slot 76d to prevent the head portion of the end folding plate 10b from jumping out of the recess 76b. As with the master carrier members 30, the slots 76d are elongated to permit the outermost end folding plates 10b to move relative to the end pieces 76 when the drapery is folded and unfolded, for purposes described hereinafter.

Before going into the function of the elongated slots 56 and 76d in the end carrier members and end pieces, reference first should be made to FIGS. 7-9 which show the structure and arrangement for moving the master carrier members by means of the operating cord 70. Referring first to FIG. 3, it can be seen that the operating cord 70 has a pair of oppositely movable runs, as is conventional, with the cords hanging freely over a control pulley, generally designated 72, shown at the right-hand end of the track 12 in FIG. 3. At the opposite end of the track, the cord passes around a return pulley 74. The cord extends generally from end to end of the elongated track 12 and is disposed within a hollow channel 75 of the track. The cord may be of the continuous "loop" type. In the embodiment of the invention shown in FIG. 3, the pulleys 72 and 74 are mounted on the end pieces 76 which fit into the end of the track 12. The end pieces 76 have channel shaped portions 76a which are inserted into the track 12 in a

hollow space defined by the top of the track and a pair of flanges 78 on which the channel-shaped portions 76a of the end pieces seat. The end pieces 76 are held in position within the end of the track 12 by means of tapping screws 80 screwed into threaded bosses 82 on the inside of the channel shaped portions 76a of the end pieces 76. Washers 84 are positioned between the heads of the tapping screws and the flanges 78. Once the end pieces 76 are positioned at the ends of the track 12, both the control pulley 72 and the return pulley 74 are concealed within the hollow space of the channel 76 of the track 12 through which the runs of the cord 70 extend.

The various views of the control pulley 72 in FIGS. 7-9 show that the control pulley has a generally horizontal shaft 81 extending generally perpendicular to the track 12. Vertical slot means 82 (FIGS. 3 and 8) are provided for receiving the ends of the shaft 81. The slots 82 are slightly smaller than the diameter of the shaft 81 at the entrance of the slots, with the base 82a of the slots being enlarged, so that the control pulley can be snapped into the slots and seated in the base portion 82a thereof for free rotation, and with the shaft 81 prevented from jumping out of the slots during movement of the operating cord 7, as best seen in FIG. 8. The control pulley 72 comprises a pair of pulley members 72a which are journaled on the shaft for rotation relative thereto. The pulley shaft 81 is positioned axially relative to its respective end piece 16 by an annular, triangularly shaped rib 81a (FIGS. 7 and 9) which is received in a complementarily shaped groove 83 formed in an upstanding rib 83a of the end piece between the pulley members 72a. As seen in FIG. 9, the pulley shaft 81 has shoulders 81b for axially positioning the pulley members 72a and preventing the pulley members from rubbing against the rib 83a of the end piece.

As stated above, the downwardly opening slots 56 of the end carrier members are elongated in a direction perpendicular to the track 12 to permit the end folding plates 10a to move fore and aft during folding and unfolding of the drapery. This is important to prevent binding of the end plates as they are pulled by the operating cord 70, primarily during the initial unfolding of the drapery and at the extreme unfolded position of the drapery. FIGS. 13 through 16 show positions of an innermost (relative to the ends of the track) end folding plate 10a and intermediate folding plates 10 during various sequential positions of unfolding of a drapery. FIG. 13 shows the end and intermediate folding plates in their respective positions when the drapery is completely folded. As the drapery initially is unfolded, the master carrier member 30, through the cord 70, pulls the end folding plate 10a (see FIG. 14) away from the intermediate folding plates 10 toward the opposite end of the track. When this is done, the innermost end folding plate 10a has a tendency to pivot in the direction of arrow A (FIG. 14) which, without limited fore and aft movement of said end plate, would tend to cause binding of the master carrier member because of the tendency to twist relative to the elongated track 12. By providing the elongated slot 56 in the master carrier member, the innermost end folding plate 10a is permitted to move slightly away from the center line 83 of the remaining folding plates, as shown in FIG. 14. As the unfolding of the plates continues, and the succeeding intermediate folding plates 10 are unfolded, as shown

in FIG. 15, the innermost end folding plate 10a moves back in line with the remaining folding plates 10 until the folding plate 10a reaches its limit of travel and all of the folding plates are in their fully extended unfolded position. When the plates are completely unfolded, as shown in FIG. 16, the end plate 10a which is being pulled by the cord 70 again has the tendency to move perpendicular to the track 12 to the opposite side of the center line 83 of the remaining folding plates 10, again with a tendency to bind. By providing the elongated slot 56 in the master carriers 30, the end folding plate 10a is permitted to move slightly in a fore and aft direction to the position shown in FIG. 16 wherein all of the folding plates are in their fully extended position. FIGS. 17 and 18 show that the outermost end folding plate 10b (to the right in FIGS. 17 and 18) also has a tendency to move perpendicular to the track as the plates approach and reach their fully unfolded position. Arrow C in FIG. 17 illustrates that as the folding plate 10 immediately adjacent the outermost end plate 10b begins to pull on said end plate, it tends to pull the end plate 10b to one side of the center line 83. As the folding plates reach their completely unfolded position, the forces are such that said adjacent end folding plate 10 (as best seen in FIG. 18) tends to kick the outermost end plate 10b back toward the opposite side of the center line 83 in a pivoting direction indicated by arrow D. Thus, as with the innermost end plate 10a which is pulled by the master carrier member 30, the outermost end plate 10b has limited movement in a direction perpendicular to the track 12 as is provided by the elongated slots 76d in the end pieces 76. Furthermore, as pointed out above, the slots 24b of the carrier members 24 also are slightly elongated, as best seen in FIG. 38, to permit limited fore and aft movement of the intermediate folding plates 10 in a direction perpendicular to the track 12. As with the master carrier members 30 and the end pieces 76, this prevents possible binding of the intermediate folding plates 10 as they move back and forth during opening and closing of the drapery.

As best seen in FIGS. 19 and 20, the stop surfaces 20 may be formed at different angles to provide different angles of fold for the folding plates 10 and thus provide for different shaped pleats in the supported drapery. The angle of fold is dependent upon the angle formed between the stop surfaces 20 and the elongated center section 16 of the folding plates. The greater the angle between the stop surfaces and the center section 16 of the folding plates, the greater is the angle of fold. The angle between the stop surfaces 20 in FIG. 20 and the center section 16 of the folding plates is less than the corresponding angles in the folding plates illustrated in FIG. 19 and, thus, lesser angles of fold are provided. Since the ends of the folding plates have complementary hinge structures, as described above, folding plates such as those shown in FIGS. 19 and 20 may be mixed so as to provide varied angles of folds along the track 12 and therefore varied shaped pleats along a single drapery panel supported by the track.

As stated above, the folding plates shown in FIGS. 1 and 2 are provided with slots 14 on both vertical faces of the plates. This is provided to make it possible for draperies to be attached on both sides of the plates to form an area divider, for example, or to suspend a drapery lining from the slots on one side of the folding plates, with the drapery panel being suspended from the opposite side of the plates. FIG. 21 shows a vertical

cross sectional view through a modified form of folding plate wherein a pair of dovetail slots 84a, 84b are formed on the same side of a folding plate 10' to accommodate a drapery and a drapery liner, for instance, on the same side of the plate. The slots 84a, 84b are vertically spaced, with the lower slot 84b being offset inwardly of the slot 84a so that two panels may be hung on the same side of the plate, the outside panel being attached to the plate in slot 84a and the inside panel (e.g., a drapery liner) attached to the plate in the slot 84b.

In U.S. Pat. No. 3,296,651, the drapery attaching means or sliders are shown in the form of a fabric strip sewn to the top of a drapery panel, with a plurality of male portions of a standard snap fastener providing the means for snapping the drapery panel into the dovetail slots of the folding plates. The male portions of the snap fastener strip simply are snapped into the slots of the folding plates and slidable therealong to a proper position to form the desired pleats which follow the contour of the folds of the folding plates. FIGS. 22, 23 and 34 herein show an attaching means which comprises a flexible extruded, preferably plastic, strip having a generally flat base portion 86 for attachment to a drapery panel and a bead-like, elongate upstanding male portion 88 for snapping into the slots 14 on the drapery folding plates 10. The flat base portion 86 is sufficiently thin so as to permit the strip to be sewn directly to the drapery panel. The form of the strip shown in FIG. 23 includes a slot 90 extending lengthwise of the elongate upstanding portion 88 to enhance the resiliency thereof for snapping into the slots 14 of the folding plates. FIG. 34 shows a cross sectional view through the center section 16 of a folding plate 10 with the attaching strip of FIG. 22 snapped within one of the slots 14 of the folding plate.

FIG. 35 shows a modified form of attaching strip or slider similar to that shown in FIGS. 22 and 34, but designed to support a relatively heavy drapery panel, such as one made of velvet or the like. In this embodiment, the bead-like male portion of the attaching strip has a generally straight surface portion 92 mating generally with the upper flat side 94 of the dovetail slot 14 to strengthen the connection between the slot and the slider. The opposite side of the bead-like male portion is rounded as at 96 whereby the straight surface portion 92 may be prepositioned within the slot and the rounded side 96 then may be forced into the slot to snap the slider into the slot. Although a substantial portion of the weight of the drapery panel generally will be in the direction of arrow E in FIG. 35, there is a tendency for the slider type attaching means to pivot in the direction of arrow F. By providing the straight surface portion 92 on the slider, there is a lesser tendency with heavy drapery panels for the slider to pop out of the slot 14 in the folding plates than with the embodiment shown in FIG. 34.

FIG. 36 shows another form of the attaching means or slider wherein means is included to provide a frictional drag between the sliders and the folding plates to limit longitudinal movement of the sliders within the slots 14 of the plates. As seen with the form of the invention shown in FIG. 34, the generally rounded or oval shaped slider is spaced from the bottom of the slot 14 when positioned therein. In the slider shown in FIG. 36, a raised portion 98 is provided for engaging the bot-

tom of the slot 14 to provide a frictional drag for the slider.

As shown in my U.S. Pat. No. 3,296,651 and in FIGS. 1 and 2 herein, the complementary offset end sections 18 and 19 form a generally cylindrically shaped hinge and, when hinged together end to end, at least one offset hinge section (i.e., 18) has an outer rounded portion 100 (FIG. 2) which forms the outer extremity of the hinge. In certain instances, it may be desirable to permit the flexible elongated sliders, such as those shown in FIGS. 22, 23 and 34-36, to pass about the outer periphery of the hinges. FIG. 24 shows a modified form of hinge wherein a cutaway portion 102 is provided so as to permit the elongated sliders to be positioned about and to move about the hinge connections between adjacent folding plates.

FIG. 37 shows a further modification of the folding plates 10 wherein a raised, inclined rib or ramp 103 is formed at the ends of the slots 14 which receive the sliders attached to the drapery panel. These ribs or ramps prevent the sliders from accidentally pulling out of the ends of the slots 14 during movement of the drapery panel. In the preferred embodiment, the ribs or ramps 103 do not block the ends of the slots completely so that the sliders may be forced out of the ends of the slots to remove the drapery panel from the folding plates. The ribs are inclined to provide a cam surface to facilitate forcing the sliders thereover.

FIGS. 25 and 26 show a spring means to establish uniform folds between the folding plates along the entire length of the track 12 so as to form uniform pleats in the drapery panel. In the embodiment shown in FIGS. 25 and 26, the spring means comprises a generally flat resilient strip 104 fabricated of plastic or like material which is bent and nested into the hinged joints of adjacent folding plates as best seen in FIG. 25. A male slider portion 104a is disposed at each end of the flat, strip for snapping into the slots 14 of the folding plates. The strip 104 is sufficiently thin to permit the strips to be sewn directly onto a drapery panel, not only to provide the spring for the hinge joints but also to comprise the means to attach the drapery to the folding plates. Stops 106 (FIG. 25) are formed on the folding plates within the slots 14 to prevent the spring strips 104 from sliding away from the hinge joints of the folding plates. FIG. 27 shows another form of such means wherein a resilient wire-like member 108 is sandwiched between the drapery panel D and the attaching strip 110 of a standard snap fastener strip which is sewn directly to the drapery panel. FIG. 28 shows a further modified form of the invention wherein a resilient wire-like member 112 is embedded within the bead-like male portion of the extruded fastener strip shown in FIG. 22 to add resiliency to the strip, particularly when the strip is nested within the hinges of the folding plates.

FIGS. 29 and 30 show modified end pieces 76' for the track in which the pulleys are interchangeable, enabling selection of the end at which the operating portion of the cord is located without disassembly of the track. The structure shown in said figures is similar to that shown in FIG. 3 in that the end pieces 76' are provided for insertion into the end of the track 12 and held therein by tapping screws 80. Like numerals will be applied where applicable and elements which are modified are given like numerals with a prime (') mark. As with the structure shown in FIG. 3, a control pulley 72'

and a return pulley 74' are provided, with one end of the loop of the cord passed around the return pulley mounted on one of the end pieces 76' at one end of the track and the other end of the loop of the cord hanging freely from the other end of the track after passing over the control pulley 72', for access to operate the cord to move the drapery. Each end piece 76' has a saddle formed by slots or notches 116 and a groove 83', to be described in greater detail hereinafter, for receiving the control pulley 72' with a control pulley shaft 81' received in the notches 116 generally on a horizontal axis. As with the structure shown in FIGS. 7 and 9, the control pulley 72' comprises a pair of pulley members 72a' which are journaled on shaft 81' for rotation relative thereto. The pulley shaft 81' is positioned axially relative to the end pieces 76' by an annular, triangularly shaped rib 81a' which is received in a complementarily shaped groove 83' formed on an upstanding rib 83a' of the end pieces between the pulley members 72a'. As seen in FIG. 30, the pulley shaft 81' has shoulders 81b' for axially positioning the pulley members and preventing the pulley members from rubbing against the rib 83a' of the end pieces. In front of or inwardly of the rib 83a' is a shaft stub 118 extending upwardly from a flat base portion 119 of the end piece 76' and over which is received the return pulley 74'. An aperture 120 is formed in the flat base portion 119 substantially around rib 83a' and beneath the saddle formed by the notches 116 and groove 83' through which the free operating end of the loop of the cord 70' may extend for access to operate the cord to move the master carrier 30 to fold and unfold the drapery folding plates. A reinforcing rib 121 is provided spanning the outside notch 116 to provide support for the flat base portion 119. In order to interchange the end of the track from which the accessible looped portion of the cord extends, the screws 80 first are loosened so that the end pieces 76' may be moved out of the end of the track 12 to expose the pulleys. The cord 70' then is loosened and the control pulley 72' is lifted out of the saddle formed by the notches 116 and groove 83'. The control pulley then is moved to the opposite end of the track and positioned in the saddle formed in the opposite end piece 76'. Similarly, the return pulley 74' is lifted off of the shaft stub 118 on the left-hand end piece, as viewed in FIG. 29, and is positioned on the shaft stub 118 on the opposite or right-hand end piece 76' at the opposite end of the track. The closed loop of the cord (at the left-hand end in FIG. 29) then is pulled through the aperture 120 in the left end piece until the opposite end loop of the cord is pulled upwardly and wrapped around the return pulley now positioned on the right end piece 76', as viewed in FIG. 29. Now, the looped cord hangs freely from the left end piece at the opposite end of the track from its orientation shown in FIG. 29.

Not only does the structure shown in FIGS. 29 and 30 permit selection of the end of the track at which the operating portion of the cord is located without disassembly of the track, but, with further reference to FIG. 47, the structure described above permits the utilization of a plurality of operating cords 70' for independently shifting drapery panels along the track. More particularly, as schematically shown in FIG. 47, a control pulley, generally designated 72' and a return pulley 74' both may be disposed in operating position within each end of the track, one each on each of the end

pieces 76'. A set of such pulleys, comprising a control and a return pulley at each end of the track, thereby accommodates two of the continuous "loop" type operating cords passing through the track. One end of the loop of each of the cords is wrapped around a return pulley 74' at one end of the track and the other end of the loop of each cord hangs freely from the other end of the track after passing over the control pulley 72' at that end of the track for access to operate the respective cord. With reference to FIG. 47, it can be seen that two cords may be utilized independently of each other, with the ends of the cords being accessible at opposite ends of the track. In this manner, a set of master carrier members 30 (FIG. 47) may be connected to each of the cords 70' for shifting independently two sets of drapery panels along the track for a plurality of windows W. For instance, an air conditioner may be positioned within the casing for one of the windows W. In the summer time, it may be desirable to pull the drapery away from the air conditioner during the operation thereof in one of the windows while keeping the drapery closed over the other window, or vice versa in the winter time. Thus, by means of a single track and support structure, independent operation of the drapery panels for the respective windows is afforded by the utilization of the two cords 70'.

FIG. 12 shows an assembly for supporting upright panels such as drapery valances or the like in front of the traverse rod or track 12. The assembly includes a bracket member, generally designated 120, having a vertical portion 120a for attachment to a valance V or the like in front of the track 12 and a horizontal portion 120b extending inwardly over the track and terminating in a lip 120c projecting into the groove 40b formed beneath the flange 38b at the rear top edge of the track 12. A downwardly projecting rib 120d is formed on the underside of the horizontal portion 120b and spaced forwardly of the lip 120c abutting the top of the track behind the flange 38a at the front top edge of the track to prevent movement of the bracket 120 and support the valance spaced from and in front of the track. The flange 38a is but a portion of the preferred form of track structure and, in its absence, the rib 120d on the underside of the horizontal portion 120b of the bracket would be positioned to abut against the elongated rib or lug 36 at the front top edge of the track, or other similar upwardly protruding boss.

FIGS. 31 and 32 show a traverse drapery support assembly wherein the track structure and supporting brackets each have means defining complementary interengaging surfaces providing a snap fit therebetween to mount the track on the bracket without additional screws, clamps or other holding means. Brackets, generally designated 122, are similar to the brackets shown in FIGS. 1, 10 and 11 to the extent that they have a vertical portion 122a for attachment to a wall W', or the like, and a horizontal portion 122b extending outwardly therefrom and terminating in a shoulder 122c and a downwardly offset projection or lip 122d projecting into a groove 124 beneath a flange 125 at the front top edge of the track 12'. The track extends rearwardly beneath the brackets 122 and a male-female connection is provided between the brackets and a rear portion of the track to mount the track on the brackets solely by moving the track in the direction of arrow H (FIGS. 31 and 32). More particularly, an L-shaped lip 126 is formed on the underside of the hor-

izontal portion 122b of the bracket 122 and has a downwardly extending leg 126a and a forwardly extending leg 126b. The forwardly extending leg 126b has sequentially stepped recesses 126c and 126d formed on the top thereof for receiving a beaded rib 128 formed at the rear of the track generally at the top thereof. The track 12' has a generally flat portion 120 formed integral with and above the beaded rib 128 for abutment against the underside of the horizontal portion 122b of the brackets 122. The leg 126b of the L-shaped lip provides resiliency as the beaded rib 128 is snapped into the recesses 126c and 126d. Thus, in order to mount the track 12' onto the brackets 122, the offset projection or lip 122d of a bracket 122 is positioned for movement into the groove 124 at the front top edge of the track 12'. The length of the bracket lip 122d and the width of the flange 125 are such that the lip will be disposed in the groove 124 formed beneath the flange before the beaded rib 128 of the track is engaged with the L-shaped lip 126. The beaded rib 128 at the rear of the track then is positioned for movement into the first recess 126c on the underside of the bracket whereby initial movement of the track 12' in the direction of arrow H (FIG. 32) will cause the beaded rib 128 to seat within the recess 126c, with the front of the track being supported by the projection 122d of the bracket disposed within the groove 124 of the track. With the track in the position shown in FIG. 31, a relatively loose support and location of the track on the bracket is provided so that the track can slide with respect to the brackets and be properly located along the wall. Once the track is snap fit into the first recesses 126c of all of the brackets along the wall and properly located, the track is forced rearwardly toward the wall in the direction of arrow H (FIG. 32) until the beaded rib 128 seats in the upwardly stepped recess 126d on the top of the horizontal leg 126b of the L-shaped lip 126, as shown in FIG. 32, to establish a firm mounting of the track on the bracket. This may be done by a sharp blow with the hand or a soft mallet. In this position, the offset projection 122d at the front of the bracket is moved completely within the groove 124 to support the track and the rib 128 and track portion 130 are frictionally held between recess 126d and bracket portion 122b. A rearwardly inclined ramp or cam surface 127 is formed between the recesses 126c and 126d to facilitate snapping the beaded rib 128 of the track from the lower recesses 126c to the upwardly stepped recesses 126d. An upstanding rib 126e is formed on the top of leg 126b of the L-shaped lip 126 generally intermediate the ends thereof and against which the beaded rib 128 of the track may abut to positively define the mounting position of the track on the bracket and prevent the beaded rib 128 from riding past the recess 126d when the track is forced in the direction of arrow H. The track may be released from the bracket by inserting a tool, as the blade of a screwdriver, between the outer edge 126f of the bracket lip 126 and the rear wall 129 of the track, and, by twisting, force rib 128 out of the recesses 126d and 126c.

The flange 125 along the top front edge of the track 12' is provided with a small groove 135 in the top surface thereof, lengthwise of the flange, to provide for the location of holes 136 which may be drilled through the track 12' to permit the track to be attached directly to the ceiling of a room by screws inserted upwardly through the holes. As best seen in FIG. 33, the flange

125 has a greater thickness along the inner edge thereof, as at 137, to provide reinforcement in the areas where the holes 136 might be drilled.

FIG. 33 shows structure providing a snap fit between the track 12' and a valance bracket, generally designated 131, supporting a valance V or like panel in front of the track. The track 12' is similar to the track shown in FIGS. 31 and 32. The bracket 131 has a vertical portion 131a for attachment to the valance V and a generally horizontal portion 131b extending rearwardly therefrom and terminating in a downwardly extending L-shaped portion 131c which has a recess 131d, similar to the recesses 126c, 126d in FIGS. 31 and 32. Thus, with the track 12' properly mounted on appropriate wall brackets, the valance brackets 131 are positioned with the rear downwardly extending portion 131c at the top rear of the track 12'. The brackets 131 then are pulled forwardly in the direction of arrow I (FIG. 33) until the beaded rib 128 at the rear of the track 12' is seated within the recess 131d on the underside of the horizontal portion 131b of the valance brackets 131. The brackets 131 and the attached valance V simply rest by gravity on the top of the track 12' and are mounted to the track by means of the complementary interengaging surfaces afforded by the bead-like rib 128 on the track and the recess 131d on the downwardly extending portion 131c on the underside of the brackets 131.

FIGS. 39 through 42 show a traverse drapery support assembly which is a modification of the structure shown in FIGS. 31 and 32 wherein the track structure and supporting bracket have means defining complementary interengaging surfaces providing a snap fit therebetween to mount the track on the bracket without additional screws, clamps or other holding means. A first modification is the provision of a positive lock means which comprises abutting surfaces on the beaded rib 128 of the track and the rounded recess 126d of the bracket. The abutting surfaces comprise a notched portion 140 on the beaded rib 128 and a complementary notched portion 142 in the recess 126b. Thus, as the track is forced rearwardly toward the wall in the direction of arrow H, as described above, the beaded rib 128 seats in the recess 126d and the notched portions or surfaces 140 and 142 will come into abutment as shown in FIG. 40 to provide a positive lock means to prevent the track 12' from becoming disengaged from the brackets 122.

As stated above, a relatively loose support and location of the track on the brackets is desirable so that the track can slide with respect to the brackets and be properly located along the wall before the track is forced rearwardly to establish a firm mounting of the track on the brackets. In the structure shown in FIGS. 39 through 42, particularly FIGS. 41 and 42, a downwardly depending rib 144 is formed on the underside of the flange 125 of the track 12', within the groove 124. A complementary upwardly extending rib 146 is formed on the outer end of the bracket lip 122d. As stated above, the length of the bracket lip 122d and the depth of the groove 124 are such that the lip will be disposed in the groove before the beaded rib 128 of the track is engaged with the L-shaped lip 126 of the bracket. The rib 144 on the track and the rib 146 on the bracket define shoulders which oppose movement of the lip out of the groove when the track structure is in its locating position on the brackets to prevent the

track from falling off of the brackets when the track is located along the wall.

FIGS. 43 and 44 show modified master carrier members 30 which have means to maintain the master carrier members in a spaced relationship when at their closed position to accommodate relatively thick drapery panels sandwiched between the end folding plates 10a which are supported by the master carrier members, or to adjust the spacing to accommodate thinner drapery panels. In addition, the spacing means is utilized to provide a latch means to hold the master carrier members in their closed positions. More particularly, one of the master carrier members 30 has an arm 148 protruding therefrom toward the other master carrier member for abutment against a leg portion 150 of an L-shaped arm 152 formed on the other master carrier member. As seen in FIG. 43, the arm 148 spaces the master carrier members when in their closed positions. The master carrier members, as well as the arm 148, preferably are fabricated of plastic or nylon material to facilitate easy severance of portions of the arm to provide for adjustment of the spacing between the master carrier members to accommodate drapery panels of varying thicknesses. FIG. 44 illustrates that the arm 148 has been severed generally intermediate the ends thereof so that when the master carrier members are in their closed positions, the end folding plates 10a will draw the drapery panels closer together than shown in FIG. 43. The arm 148 has one or more shoulders 153 which seat behind a shoulder 154 on the opposite master carrier member to provide a latch means to hold the master carrier members in their closed positions. A plurality of shoulders 153 may be provided on the arm 148 so that various lengths of the arm may be cut off to adjust the spacing between the master carrier members while still providing a latch means for the master carrier members in their closed positions.

FIG. 45 shows a modification of the end drapery folding plates 10a to accommodate the added thickness of a seam S or the like along the edge of the drapery panels P, so that the end folding plates will draw the ends of the drapery panels closely together when the drapery is closed. More particularly, the straight rearwardly extending section of the end folding plates 10a may be provided with recessed portions 156 at the rearward ends thereof facing the opposite end folding plate. The recessed portions 156 preferably would be the depth of the thickness of the drapery panel P so that the ends of the drapery panels extend along the straight section of the end folding plates 10a without protruding outwardly therefrom at the seam S. Preferably, the recesses are formed by offsetting the straight section of the folding plates, as at 157, so as not to weaken the plates.

FIG. 46 shows, for illustration purposes, that the master carrier members 30 may be so positioned along the operation cord 70' in sets to simultaneously open drapery panels for a plurality of windows in the wall along the drapery supporting structure. Heretofore, such multiplicity of master carrier members proved undesirable because of the non-uniformity of the pleats in the drapery panels between the two windows when the drapery panels are opened toward each other. With the various drapery folding plates shown herein, along with the various associated means for maintaining uniform folds in the plates, the use of a plurality of master carrier members to simultaneously open and close the

drapery panels for a plurality of windows along a wall is facilitated.

FIG. 47 shows, for illustration purposes, that two continuous loop operating cords 70' actuate two sets of master carrier members 30 for independent control of two sets of drapes on adjacent windows. A single track spans both windows and is provided with both control and return pulleys 72', 74', as in FIGS. 29 and 30, at each end.

FIG. 48 shows yet another arrangement of drapery panels which, heretofore, has been difficult to utilize. In FIG. 48, a plurality of spaced drapery panels P are disposed along the length of a track 12 for covering a series of spaced windows W. A single operating cord 70' is disposed within a track structure 12. The cord is accessible at the right-hand end of the track as seen in FIG. 48, to draw the drapery panels seriatim from the left to the right along the track 12. With the improved folding plates and carrier members disclosed herein, the ease of operation of the drapery support assembly is greatly facilitated and a plurality of such panels as shown in FIG. 48 may be drawn from one end of a relatively long track without causing binding (as is prevalent in structures heretofore available).

The foregoing detailed description has been given for clearness of understanding only and no unnecessary limitations should be understood therefrom as some modifications will be obvious to those skilled in the art.

I claim:

1. In a traverse support assembly for supporting substantially upright panels such as draperies or the like, the combination comprising:

an elongated, rigid track structure having means defining guide surfaces extending lengthwise thereof,

a plurality of panel hanging members at least certain ones of which have an upstanding neck portion and an enlarged head portion disposed at the top of said neck portion,

and a carrier member for each of said certain ones of said panel hanging members, the carrier members being supported on said track structure for movement lengthwise thereof along said guide surfaces, and each of the carrier members having an internal recess with a mouth on one side thereof and a downwardly opening slot communicating with said mouth, said slot being of a size for receiving the neck portion of one of said hanging members and said mouth being of a larger size to receive there-through said enlarged head portion of one of the hanging members whereby said head portion seats within said recess with portions thereof extending beyond the sides of said slot, and an upstanding flange on opposite sides of said slot and in said mouth, the top of said flanges having surface means inclined upwardly and inwardly toward said recess to guide the head portion of said hanging member into said recess, with the flanges preventing the head portion from jumping out of the recess as the hanging member and carrier member are moved along said track structure.

2. The traverse assembly of claim 1 wherein said downwardly opening slot in at least one of said carrier members extends perpendicular to said track structure and is elongated to permit said neck portion and thus said hanging member to move relative thereto gener-

ally perpendicular to said track during movement of the carrier member along said track structure.

3. In a traverse assembly for supporting upright panels such as draperies or the like, the combination including a generally horizontal elongate track structure, a carrier member supported on said track structure for movement lengthwise therealong, a plurality of panel hanging members hinged together in end-to-end relation, a panel hanging member at one end being fixed to said track against movement lengthwise thereof and another panel hanging member at the other end being connected to said carrier member, the connection between the other panel hanging member and said carrier member including means permitting limited movement of said other panel hanging member in a horizontal plane and generally perpendicular to said track structure as the carrier member and panel hanging member move lengthwise therealong.

4. The traverse assembly of claim 3 wherein said carrier member for the other panel hanging member has a downwardly opening slot extending in a horizontal plane and generally perpendicular to said track structure, and said panel hanging member has a neck portion extending upwardly through said slot with an enlarged head portion disposed at the top of said neck portion and extending outwardly beyond the sides of said slot, the extent of said slot perpendicular to the track being greater than the dimension of said head portion whereby the other panel hanging member is free to move in a horizontal plane and a direction perpendicular to the track.

5. In combination with a drapery supporting rod, a drapery support including a plurality of elongated drapery folding plates hinged together in end-to-end relation, means suspending said drapery folding plates from said supporting rod for longitudinal movement along said rod and for rotation with respect to said rod between retracted and extended positions, means for hanging a drapery from said plates so that the drapery follows the contour of the folding plates, the improvement comprising spring means at the hinge joints between each of the adjacent drapery folding plates, urging adjacent plates apart so that the plates fold in a uniform manner along said rod to form uniform pleats in said drapery with the plates intermediate the retracted and extended position.

6. The combination of claim 5 wherein said spring means comprises a generally flat resilient strip which is bent and nested into the hinge joints of the folding plates.

7. In combination with a drapery supporting rod, drapery support means including a plurality of elongated drapery folding plates hinged together end to end and suspended from said rod for longitudinal movement along the rod and for rotation relative to the rod, means for hanging a drapery from the rod including a longitudinal slot on said plates with a dovetail cross section and having spaced upper and lower inwardly diverging flat sides, and spaced sliders snapped into said slots, the improvement comprising sliders having a generally rounded or oval cross section and of a size to be spaced from the bottom of said slot when positioned therein, and including a raised portion on each of said sliders for engaging the bottom of said slot to provide a frictional drag between the sliders and the slot to limit the longitudinal movement of the sliders in the slot.

8. In combination with a drapery support, a hinged folding device for use on the drapery support comprising an elongated plate with a straight center section and offset hinge sections at each end defining cylindrically shaped hinges with adjacent plates when hinged together end to end, the plate having a longitudinal slot in said center section, a plurality of flexible elongated sliders slidingly received in said slot, and a cutaway portion on each of said cylindrically shaped hinges to permit said flexible elongated sliders to pass about the hinges.

9. In a traverse assembly for supporting upright panels such as draperies or the like, the combination including an elongate horizontal track structure, a plurality of carrier members supported on said track structure for movement lengthwise therealong, a plurality of folding plates hinged together in end-to-end relation, the carriers and plates having interengaging surfaces suspending one plate from each of said carrier members for rotation relative thereto and for movement therewith along the track structure, the interengaging surfaces suspending the plates from the carrier members including means affording limited movement of at least the endmost of said folding plates relative to its respective carrier member horizontally and in a direction generally perpendicular to said track structure as the respective carrier member and folding plate move therealong.

10. The traverse assembly of claim 9 wherein the

endmost of said folding plates is supported by a carrier member which has a downwardly opening slot extending horizontally and in a direction generally perpendicular to said track structure, and said endmost folding plate has a neck portion extending upwardly through said slot with an enlarged head portion disposed at the top of said neck portion and extending outwardly beyond the sides of said slot, the extent of said slot perpendicular to the track being greater than the dimension of said head portion whereby each endmost plate is free to move horizontally and in a direction perpendicular to the track.

11. The traverse assembly of claim 10 wherein said carrier member has an internal recess with a mouth on a side thereof facing in a direction perpendicular to said track structure, said downwardly opening slot communicating with said mouth and said mouth being of a size to receive therethrough said enlarged head portion whereby said head portion seats within said recess and permits relative rotation between the one folding plate and the respective carrier member.

12. The traverse assembly of claim 3 in which the connection between the panel hanging member fixed at said one end and said track includes means permitting limited movement of said one panel hanging member in a generally horizontal plane and generally perpendicular to said track structure.

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