

[54] **DRAPERY HARDWARE**

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[51] **Int. Cl.**..... **E05d 13/02**

[58] **Field of Search** 16/87.2, 87.4, 87.6, 87.8, 16/93, 94, 95, 96, 171; 160/345, 346, 347, 348

[56] **References Cited**

UNITED STATES PATENTS

2,996,116	8/1961	Hudson	160/348
3,156,756	11/1964	Seaver	16/171 X
2,512,376	6/1950	Perlmutter	160/348 X
3,191,665	6/1965	Rosenbaumetal.	160/348
3,214,788	11/1965	Poultney	16/87.2
3,192,996	7/1965	Greenstadt et al.	16/94 D X
3,158,914	12/1964	Guarini	16/87.2 X
3,296,651	1/1967	Baker	16/87.4 R
2,986,768	6/1961	Perlmutter	16/87.2

3,329,196 7/1967 Algie..... 16/87.2 X

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[57] **ABSTRACT**

The disclosure relates to improvements in drapery hangers and pleaters. Each pleater comprises two hingedly interconnected parts each insertable into a pocket or the like formed to either side, respectively, of a preformed pleat, with means for pivotally supporting the pleater on a pair of drapery hangers which are slidable on a rod. A clearly defined accordion fold pleat is formed in the draperies, with each fold occurring to the rear, toward the supporting rod. A pair of specially formed hangers at the center of the drapery are so configured that the center edges of the respective right and left drapery panels readily overlap at the center of a center pull drapery without interference with each other. The various hanger and pleater parts are so formed as to permit them to be readily molded from plastic materials.

7 Claims, 20 Drawing Figures

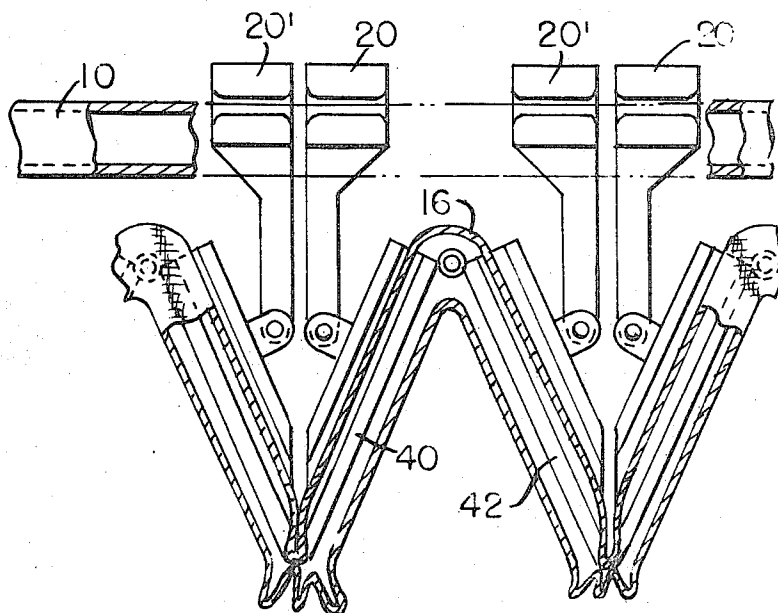


FIG. 1.

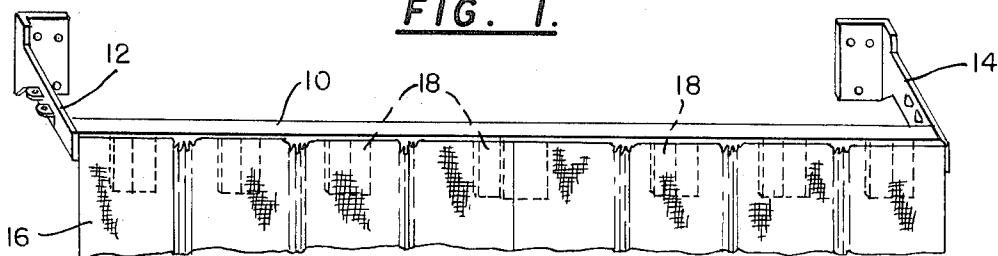


FIG. 2.

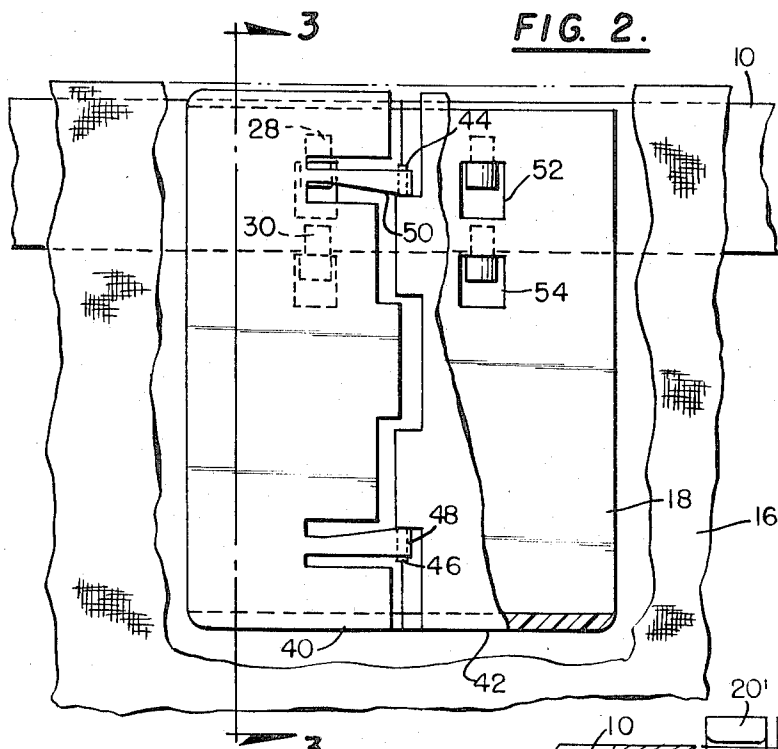


FIG. 3.

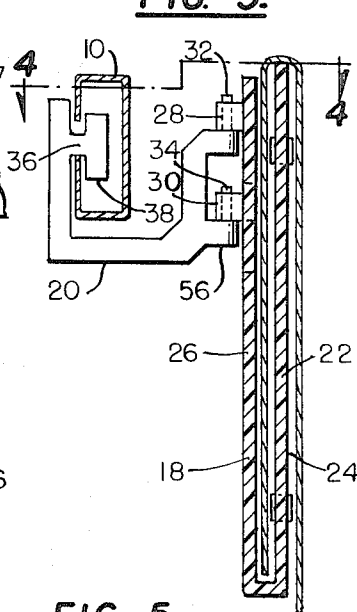


FIG. 5.

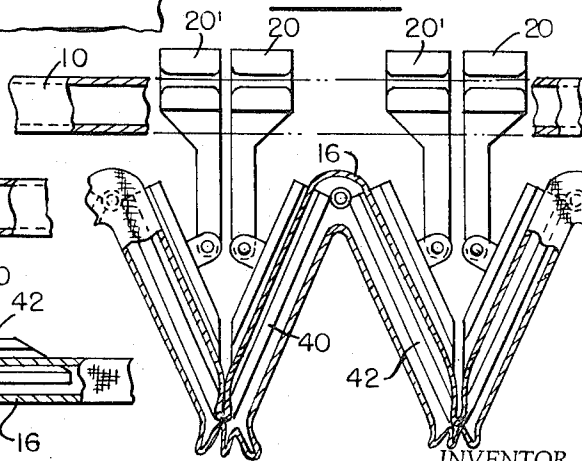
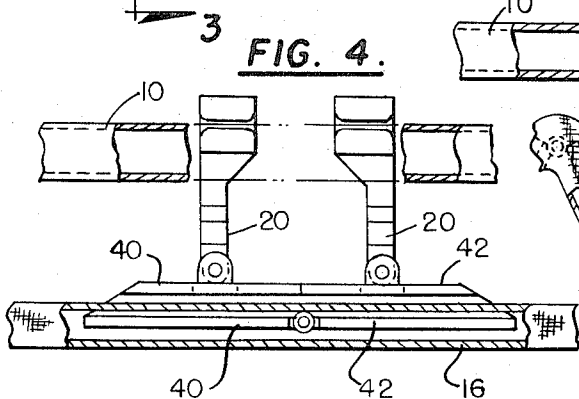


FIG. 4.



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FIG. 6.

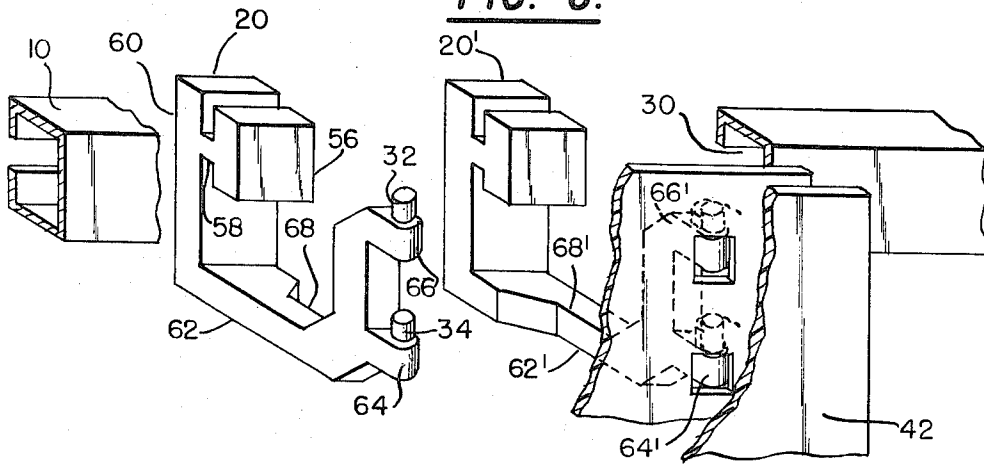


FIG. 8.

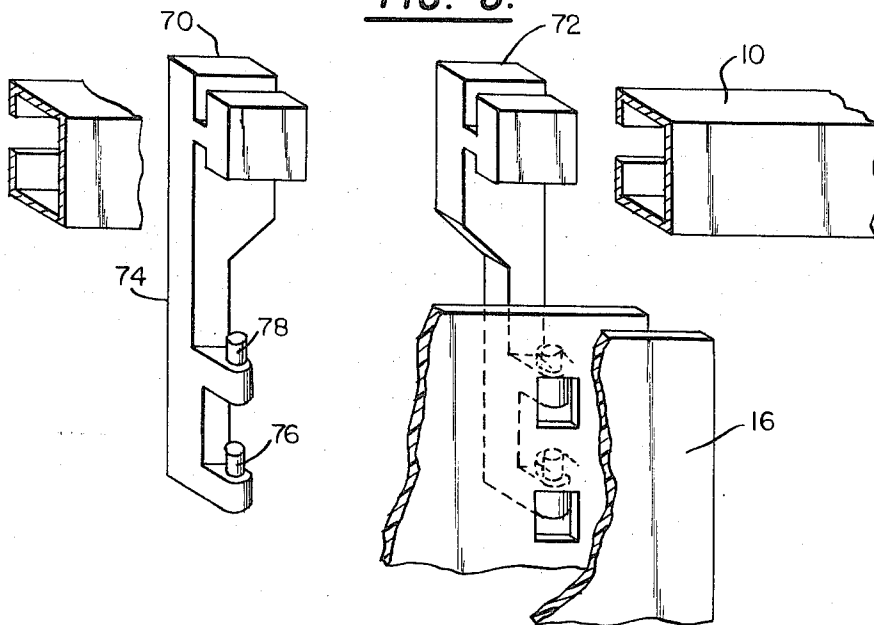
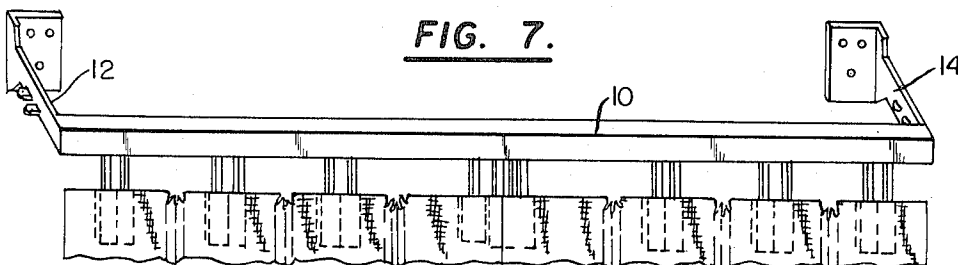


FIG. 7.



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FIG. 9.

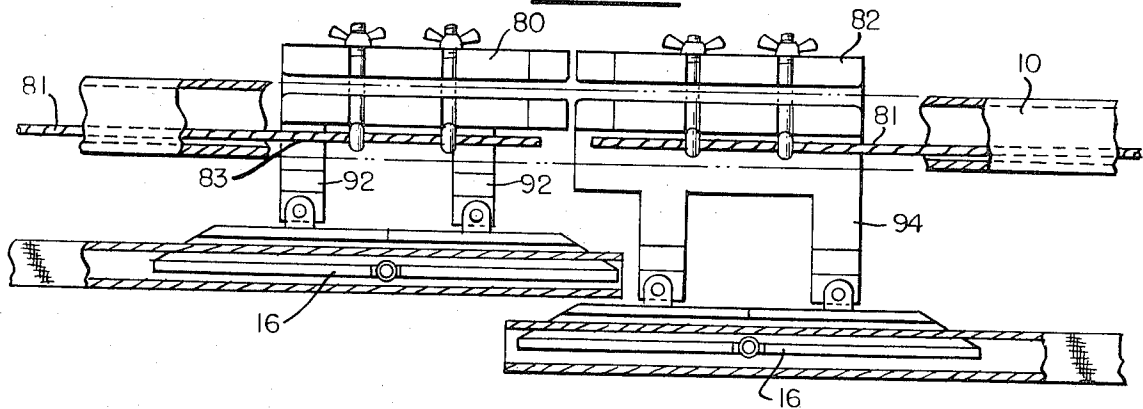


FIG. 10.

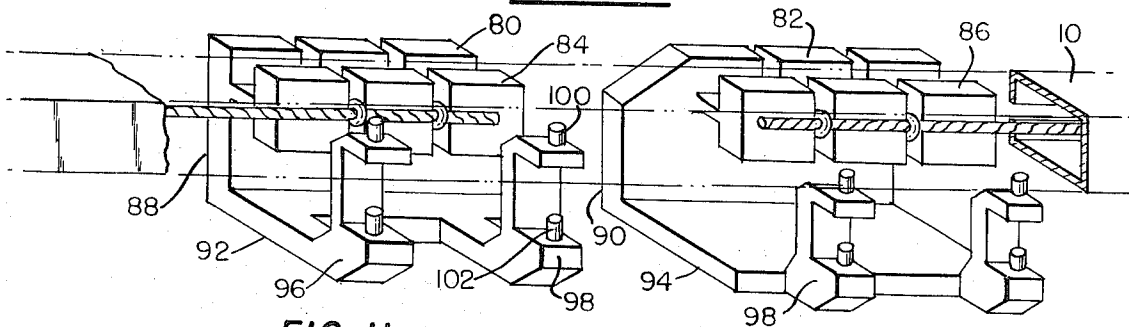


FIG. 11.

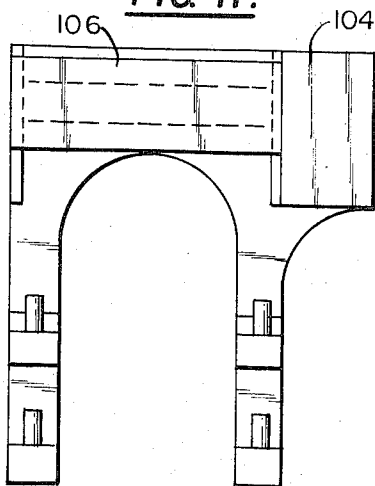


FIG. 12.

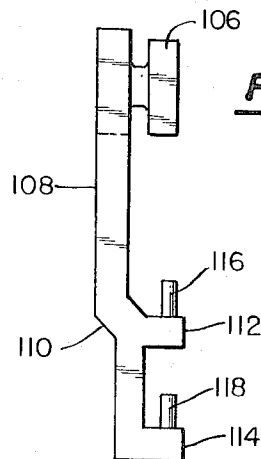
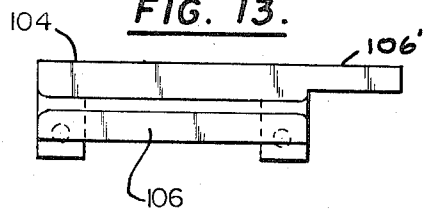


FIG. 13.



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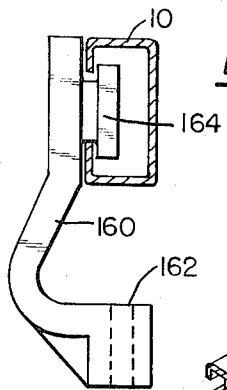


FIG. 15.

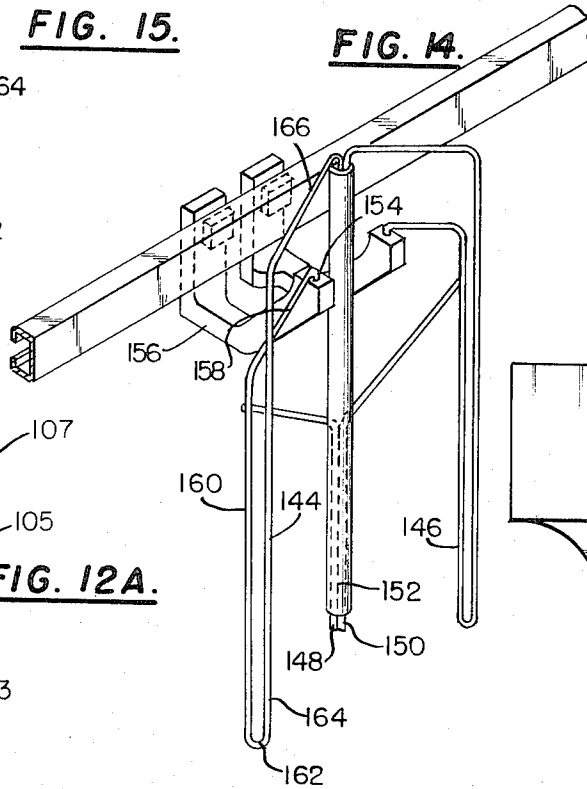


FIG. 14.

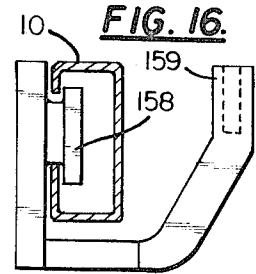


FIG. 16.

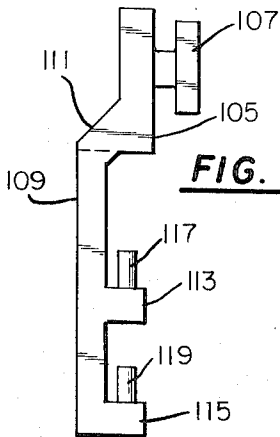


FIG. 12A.

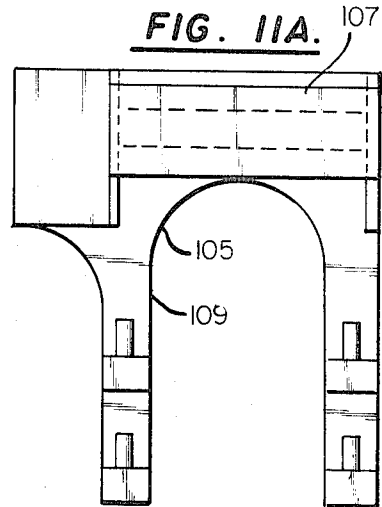


FIG. 11A.

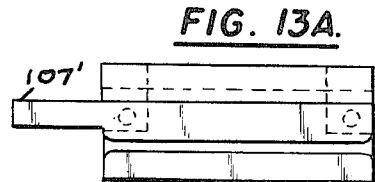


FIG. 13A.

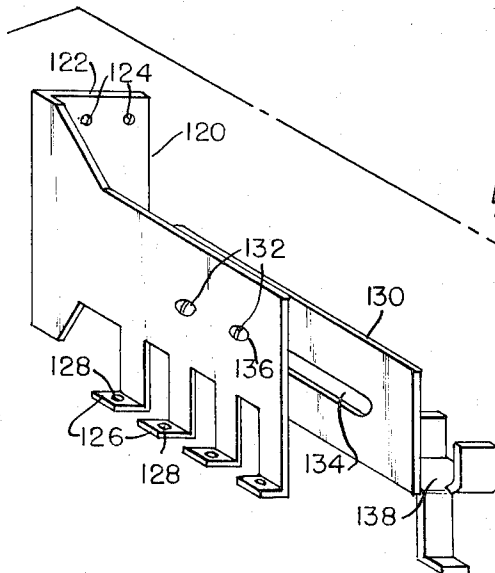
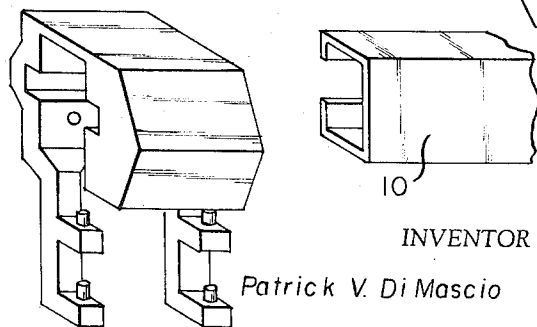


FIG. 17.



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DRAPERY HARDWARE

BACKGROUND OF THE INVENTION

The invention relates to improvements in drapery hangers and pleaters.

It is well known in the art to provide wire frame pleater hooks for draperies which can be inserted into preformed pockets formed in the drapery material and with the pleater hooks being suitably adapted to be supported on drapery hangers which are slidably mounted on a drapery rod. Anyone who has had experience with the most commonly available types of hardware for the aforementioned purposes is aware of various drawbacks to these devices. One of the drawbacks is that it is difficult to form in the drapery a perfect accordion-type pleat when the drapery is opened. Another disadvantage is that the presently available drapery hardware permits the top of the pleat frequently to hang forwardly thereby presenting an unsightly appearance. Also, the drapery hooks can often readily become detached from the pleater, particularly during the installation process. Still another disadvantage is that the presently available types of drapery hardware often permit the center hems of the respective right and left drapery panels to abut each other rather than to overlap neatly when the drapery is closed. A further disadvantage is that quite frequently the draw cord is visible on the rear side of the traverse rod and also it is quite frequently difficult to adjust the centering of the drapery overlap.

All of the foregoing disadvantages of the presently available types of drapery hardware are overcome by the improvements in drapery hardware comprising the present invention.

SUMMARY OF THE INVENTION

The present invention comprises, essentially, improvements in the drapery pleater and also in the associated drapery hangers. Preferably, each drapery pleater is molded from plastic and comprises an essentially solid plate-like portion which fits into a preformed pocket in the upper hem of the drapery and also comprises a rearwardly extending plate-like portion which is adapted to be pivotally supported on a drapery hanger. Two such plate-like portions are hingedly interconnected together along their vertically extending edges to comprise a single drapery pleater device forming a single inwardly extending bellows pleat for the drapery material.

The drapery hanger comprises an element having a portion which is slidable within a channel-shaped traverse rod and comprises also a forwardly extending portion which provides a pivotal support for one of the plate-like portions of a single drapery pleater. An adjacent, complementary-shaped drapery hanger, similarly slidably mounted in the channel-shaped traverse rod, has a forwardly extending portion which likewise comprises a pivotal support for the other half of the plate-shaped portion forming the pleater.

The two adjacent drapery hangers associated with a single pleater element are so configured that the minimum spacing therebetween along the traverse rod will under all circumstances permit a rearwardly extending pleat to be formed between such adjacent hanger elements. Also, each hanger element forms at least one hinge pin thereon which provides a hinge support for

a respective half of a drapery pleater in such manner that the pleater, although rotatable about an axis formed by the hanger, at all times maintains its axis of rotation parallel to itself and not at a skew angle thereto, thereby ensuring that the upper end of the drapery pleat cannot hang forwardly in an unsightly manner irrespective of the weight of the drapery material.

The drapery hardware disclosed herein further includes novel end brackets which are particularly adapted to support a channel-shaped traverse rod, and with such return or end brackets providing for the securing of a drapery pleater thereto in order to provide for drapery returns to the wall at one or both ends of the drapery rod.

In addition, the drapery hardware of this invention is particularly adapted to permit supporting of the drapes in such manner that the top of the drapery is substantially at a level with the top of the drapery rod or, alternatively, in such manner that the top drapery is below the top of the drapery rod as may be desired when, for example, a valance is to be employed.

DESCRIPTION OF THE DRAWINGS

In the drawings:

FIG. 1 is a view of a drapery rod of the invention supporting a pleated drapery;

FIG. 2 is a view illustrating a drapery pleater of the present invention;

FIG. 3 is a cross-sectional view of the drapery pleater of FIG. 2 taken along the section line 3—3 of FIG. 2;

FIG. 4 is a cross-sectional view of the drapery pleater of FIGS. 2 and 3 taken along the section line 4—4 of FIG. 3;

FIG. 5 is a top view showing a plurality of hangers and pleaters and with the drapery open so as to form an accordion pleat;

FIG. 6 is a perspective view of a pair of drapery hangers;

FIG. 7 is a view illustrating an assemblage of drapery hardware according to this invention and adapted particularly to support the top of the drapery at a level below that of the traverse rod;

FIG. 8 is a perspective view of a plurality of drapery hangers which are particularly adapted to support the top of the drapes in a lowered position as in FIG. 7;

FIG. 9 is a top view of a pair of drapery hangers of the type which are used at the center of the drapery to provide for the overlap of the respective right and left drapery panels;

FIG. 10 is a perspective view of the drapery hangers for the center of the drapes as illustrated in FIG. 9;

FIGS. 11, 11a, 12, 12a, 13 and 13a are views illustrating center drapery hangers similar to those in FIGS. 9 and 10, but particularly adapted for use where the drapery is to be suspended in a position where the drapery top is below the level of the traverse rod;

FIGS. 14, 15 and 16 illustrate an alternative embodiment of the invention wherein the drapery pleaters are formed of wire frame members; and

FIG. 17 is a perspective view illustrating the mounting brackets which support the traverse rod.

DETAILED DESCRIPTION OF THE INVENTION

FIG. 1 discloses a drapery rod 10 supported on left and right end brackets 12 and 14 which are respec-

tively adapted to be secured, as by screws, to a wall surface. The pleated drapery 16 is supported on the drapery rod 10 by means of drapery pleaters 18 which are secured to drapery hangers (not shown in FIG. 1). At the center of the drapery, where the respective right and left drapery panels overlap, specially formed hangers are affixed to rod 10, and these hangers are adapted to permit overlap of the drapery panels.

FIG. 2 illustrates, in greatly enlarged scale, a single one of the drapery pleaters 18 of this invention, and FIG. 3 is a side cross-sectional view of such a typical pleater 18 and illustrating also its hinged connection to a typical hanger element 20. As can be particularly seen in FIG. 3, the pleater element 18 is generally U-shaped in cross-section, having one inner leg portion 22 which can be inserted upwardly into a pocket 24 formed by appropriate stitching in the upper hem of the drapery 16. The outer leg 26 of pleater 18 has integrally formed therewith a pair of rearwardly extending bosses 28 and 30 which together define coaxially extending bores therein to receive vertically extending hinge pins 32 and 34 integrally formed on the hanger 20. FIG. 3 also shows that the traverse rod 10 is of channel-shaped cross-section, having an uninterrupted elongate slot 36 along its rear wall for receiving the portion 38 of hanger element 20. It will be appreciated that a plurality of hanger elements 20 is supported along the length of rod 10 and that each one is inserted into place with its portion 38 within the channel of the rod by sliding such portion 38 into the open end of the channel-shaped rod.

FIG. 2 particularly illustrates that each pleater 18 is formed of two hingedly interconnected pleat like elements 40 and 42. The element 42 has integrally formed therewith the two vertical hinge pins 44 and 46 which are preferably coaxial with each other with the one pin 44 extending upwardly and the other pin 46 extending downwardly as shown. The corresponding hinge portions 48 and 50 are provided with axially aligned bores for receiving the respective hinge pins 44 and 46, and it will be noted that these hinge portions 48 and 50 are actually in the form of fairly long arms having their remote ends secured in cantilever fashion with the remainder of the element 40 in such manner that both the portions 48 and 50 have a substantial resilience and can be deflected in the direction of the bore axis. As a result, it is possible to readily couple the two plate-like portions 40 and 42 together by deflecting the portion 50 upwardly and the portion 48 downwardly so that the two portions can have their bores sufficiently spaced longitudinally to fit over the respective hinge pins 44 and 46. Each of the pleater portions 40 and 42 is provided, as shown in FIG. 2, with through apertures as shown at 52, 54 for the right-hand pleater portion 42. The function of such through apertures 52 and 54 is to provide clearance for the forwardly extending arm portions 56 (see FIG. 3) which support the hinge pins 32, 34 as the two parts 40, 42 rotate relative to each other as the draperies are opened and closed.

FIG. 4 is a top cross-sectional view of the element shown in FIGS. 2 and 3 and particularly illustrates the manner in which the drapery pleater 40, 42 is pivotally suspended at two pivot points on respective drapery hangers 20, 20'. FIG. 5 illustrates the manner in which an accordion bellows-type pleat is formed in the drapery 16 when the drapes are opened. Thus, as the various drapery hangers 20, 20' are brought together along

the rod 10 by pulling the center of each panel outwardly along the rod toward the end brackets, each pleater 40, 42' folds about its central pivot point and with the pivot point then extending inwardly toward the rod between the associated pair of hangers 20, 20'. Since the hinge axis for the pleater elements 40, 42 lies in the plane of the outer leg portions 22, each pleater can readily fold inwardly toward rod 10 but cannot fold outwardly with its hinge axis away from rod 10.

In FIG. 6, the two hangers 20, 20' associated with a single pleater are shown in perspective view. Each hanger such as the hanger 20 comprises a forwardly extending portion 56 which is adapted to fit within the hollow interior of the channel-shaped traverse rod 10. A central portion 58 of the hanger 20 connects the forwardly extending portion 56 with the rearward wall portion 60, and it is this connecting portion 58 which extends through the longitudinal slot 36 in rod 10. The hanger 20 further comprises a forwardly extending portion 62 which is integrally formed with the rear wall portion 60, and extending forwardly from the portion 62 are two projecting arms 64, 66, each of which has integrally formed therewith an upstanding hinge pin 34, 32, respectively. It will be noted that the forwardly projecting arms 64, 66 have their left-most surfaces in the same plane as the left edge of the hanger member 20 but that the similar forwardly projecting arms 64', 66' of the right-hand hanger 20' are situated in effect on the far right-hand portion of the member 20'. The purpose of this is to ensure that the pair of hinge pins on each of the respective members 20, 20' is spaced by a predetermined minimum distance along the length of rod 10 even when the two hangers 20 and 20' are brought quite close together. This fact, together with the fact that the bottom, forwardly extending arms 62, 62' are each provided with inwardly extending recesses at 68, 68', ensure that there will be adequate space between the pair of hangers members 20, 20' to receive an inwardly extending pleat caused by the folding inwardly of the members 40, 42.

FIG. 7 illustrates a modification of the apparatus previously described which is different in that it permits the top of the drapery to be hung at a lower level, well below the topmost edge of the traverse rod 10. FIG. 8 illustrates a pair of drapery hangers 70, 72 which may be strung along a traverse rod 10 and with the members 70, 72 having a configuration adapted to permit the drapery 16 to be hung at substantially lower level relative to rod 10. Thus, the rearwardly extending wall 74 of member 20 now extends at a much lower level so as to permit the respective hinge pins 76, 78 to be disposed at a level well below that of rod 10.

FIGS. 9 and 10 are particularly directed toward the center pull drapery hangers and the manner in which they are arranged so as to provide for the desired overlap between the two respective drapery panels. Thus, the two center pull drapery hangers are shown at 80 and 82, and each of these members is provided with a plurality of forwardly extending projections 84 and 86 respectively which are slidable along the interior of the channel-shaped traverse rod 10. Each of the forwardly extending projections 84 or 86 is integrally connected with the back wall 88 or 90, as the case may be, and integrally connected with each back wall is a forwardly extending portion 92 and 94 respectively supporting forwardly and upwardly extending arms 96 and 98, respectively. Each forwardly extending arm 96 or 98 has

integrally formed therewith a pair of axially aligned hinge pins such as the pins 100 and 102 associated with the arm 98.

As indicated in FIG. 9, each hanger 80 or 82 is adapted to have detachably coupled thereto a respective one of the drapery pleaters 16 of the kind already disclosed above. It will be appreciated of course that the two pairs of hinge pins integrally formed on either hanger 80 or 82 are spaced at a fixed distance along the rod corresponding to the spacing of the corresponding pin sockets on a hanger 18 when the hanger is in the flat condition as shown in FIG. 9. Also, as FIG. 9 illustrates, the forwardly extending portion 94 of hanger 82 extends forwardly of the traverse rod 10 by an amount greater than the corresponding portions 92 of hanger 80, thereby ensuring that the two drapery center hems of the respectively right and left panels will be one behind the other, as is clearly shown in FIG. 9.

FIG. 9 further illustrates the manner in which the drapery draw cord may conveniently be attached to each of the members 80 and 82. Thus, referring particularly to member 80, the cord 81 which may be strung along the interior of rod 10 may also be inserted through an aperture 83 in member 80 and secured in place by a screw 85 threaded into a cross aperture 87 which intersects the aperture 83 and this can bear tightly against cord 81 and wedge it into place. This means provides not only a convenient means for securing the cord 81 but also provides a very convenient means for adjusting the various hangers to ensure that the drapery overlap will occur at the center of rod 10.

FIGS. 11, 12 and 13 comprise the front side and top views of an alternative type of center hanger for a pair of drapes, being particularly adapted for hanging a drape whose topmost edge is intended to be below that of the traverse rod 10. The left-hand center pull is as shown in FIGS. 11, 12, and 13, and the right-hand center pull is as shown in FIGS. 11A, 12A, and 13A. The part 104 (FIGS. 11-13) comprises a forwardly extending portion 106 which, in this case, extends substantially along the width of the part 104, and the rear wall 108 extends downwardly and also frontwardly at the portion 110 to provide two forwardly extending arms 112 and 114 which support integrally formed hinge pins 116 and 118.

Referring to FIGS. 11A, 12A, and 13A, it can be seen that the part 105 comprises a forwardly extending portion 107 which, like the corresponding portion 106 of part 104, is intended to slide within the rod 10. Also, the rear wall 109 extends downwardly and rearwardly at portion 111, instead of downwardly and forwardly as does the left-hand part 104. Consequently, the rearwardly extending arms 113 and 115 support hinge pins 117 and 119 to the rear of the corresponding hinge pins 116 and 118 of part 104 so as to provide suitable clearance for drapery overlap at the center. It should also be noted that portion 106' of part 104 lies in a plane at the rear of part 104; whereas, the portion 107' of part 105 lies in a plane which lies intermediate the part 105; this provides overlap for the two parts 105 and 107 when the drapes are pulled together at the center.

The end brackets may be as shown in FIG. 17. Thus, each end bracket comprises a portion 120 which has a flat plate portion 122 defining therein a plurality of apertures 124 through which screws may be inserted to secure the bracket 120 to the wall. Formed along the

outer surface of the bracket member 120 are a plurality of outwardly extending tabs 126 each of which defines therein an aperture 128 into which an eyelet may be inserted in order to permit a pleater 18 to be secured thereto.

FIG. 17 further illustrates that the end brackets each comprise a second bracket portion 130 which may be slidably coupled to the bracket portion 120 and with the relative positions of the two fixed as by screws 132 which passes through a slot 134 in member 130 and through a circular aperture 136 in the member 120. In addition, FIG. 17 shows that the member 130 has a portion 138 which extends in the direction of rod 10 and which can be inserted into the interior of the channel-shaped rod 10. Further support for rod 10 is provided by means of an inwardly turned base portion 140 of member 130 which, together with the upstanding tab 142, provides secure support for rod 10.

It will be appreciated that, in assembling a combination of the parts disclosed herein to provide a complete drapery rod assembly, one merely has to select a rod 10 of the desired length, secure the end brackets 120 to the wall at desired locations, and then assemble on the rod 10 any desired number of drapery hangers 18, a pair of center pull hangers 80 and 82 and then to secure the rod 10 with the appropriately mounted hangers between the respective end bracket supports 130 which may then be coupled to the brackets 120 by means of screw 132.

An alternative embodiment of the invention is shown in FIGS. 14, 15 and 16. In this alternative embodiment, instead of employing drapery pleaters which are formed of solid plastic portions such as the portions 40, 42 shown in FIG. 2, the pleater is instead formed of wire frame elements. Thus, referring particularly to FIG. 14, it can be seen that the pleater comprises two wire frame members 144 and 146. These two members are, in effect, hingedly connected together by encasing respective portions 148 and 150 respectively, in a hollow tube 152 so that each of the members can freely rotate within the confines of the tube. Referring more particularly to the wire frame member 144, starting with the bent-over end pin portion at 154 which is inserted in a vertically aligned hole in left-hand hanger member 156, it will be seen that the wire frame member extends downwardly at an angle as indicated at 158, then downwardly as at 160, then makes a 180° bend at 162 so as to extend upwardly and parallel to the previously-described leg portion 160 at 164, then angles inwardly and upwardly at 166, and finally downwardly into the interior of the tube 152 along the final portion 148. When two such wire frame members 144 and 146 are provided and are hingedly connected as shown in tube 152, it can be seen that, with respect to wire frame member 144, the parts 164, 166 and 148 can all be inserted into the pocket or recess formed in the upper hem of the pleat to receive a pleater and that the downwardly extending pin portion 154 can be inserted into the hole in hanger member 156 and with a similar arrangement being provided for the wire frame member 146. Thus, there is provided most of the advantages resulting from the preferred embodiment described above but in a somewhat simpler construction since the several members can be formed quite cheaply of drawn wire bent to suitable configuration. Of course, the wire frame members do not have the rigidity as to

the hingedly connected portions and 42 of the pleater 18 previously described.

Referring to FIG. 16, this shows a typical hanger 156 having a portion 158 which is adapted to be inserted within the interior of the channel-shaped rod 10 and is also so shaped as to provide an aperture 159 for receiving the pin end of a wire frame member at a suitable elevation to ensure that the top of the drape will be substantially on the same level as the top of the traverse rod 10. In FIG. 15, on the other hand, the hanger element 160 is so configured that its aperture 162 for receiving the pin end 154 of wire frame member 144 is positioned well below the portion 164 so that the top of the drape will then be well below the top surface of traverse rod 10.

What I claim is:

1. Means for suspending a draw drapery from a traverse rod comprising in combination:

a plurality of pleaters each including two hingedly interconnected elements, each said element having a first portion defining a generally planar surface and adapted to be inserted into a mating pocket formed in said drape and a second portion also defining a generally planar surface and extending exteriorly of said drapery pocket,

each said pleater element being U-shaped in cross-section in a plane at a right angle to the longitudinal axis of the traverse rod with one leg thereof comprising said first portion and the other leg comprising said second portion,

a pair of drapery hangers for each said pleater slidably mounted on said rod,

and additional hinge means in part on said second portion of each said two elements of each pleater and in part on each said hanger of said pair of hangers for hingedly securing each of said two elements of said pleater on a respective one of said pair of hangers,

each pleater and its associated pair of hangers being slidable as an independent assembly along said rod.

2. The combination of claim 1 wherein said hinge

means on said second portion of each said pleater element is positioned intermediately of its said edges, whereby the act of drawing the drape to an open position with a resultant drawing together of the plurality of hangers on the traverse rod causes the hinged portion of each pleater to fold inwardly toward the rod.

3. The combination of claim 1 in which said hinge means comprises a pair of axially aligned hinge pins and a pair of axially aligned sockets for receiving said hinge pins.

4. The combination of claim 1 in which said two hangers hingedly coupled to the two respective elements of said pleater are so formed as to provide an open space therebetween when said two hangers are brought into abutting relationship on said rod, whereby space is provided to receive a portion of said pleater as it folds inwardly toward said rod.

5. The combination of claim 4 in which the hinge connection between said two elements of said pleater only permits the hinge axis to move inwardly toward said rod when the associated hangers are brought together on the rod and not outwardly away from the rod.

6. The combination of claim 1 which further includes two overlap drapery hangers each adapted to support a respective pleater secured to a respective one of two drapery panels intended to overlap substantially at the center of the rod, a first of said overlap hangers supporting its associated hinge means further forwardly of said rod than does the other of said overlap hangers.

7. The combination of claim 1 in which said pleater is formed of flexible wire and the hinge connection between said two elements comprises first and second wire portions each forming a respective part of one of said two pleater elements and lying along the predetermined hinge axis, and further comprises a tubular member encircling said first and second wire portions,

whereby said first and second wire frame elements are hingedly interconnected about the axis defined by said tubular member.

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