

[54] **DISPLAY RACK HAVING A MOLDED HANGER ASSEMBLY BODY AND HANGER SUPPORTS**

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[51] Int. Cl. **A47f 5/02**

[58] Field of Search **211/165, 163, 168, 58, 211/78, 95, 70, 56, 144, 59, 57, 171, 100; 264/261, 250; 29/428**

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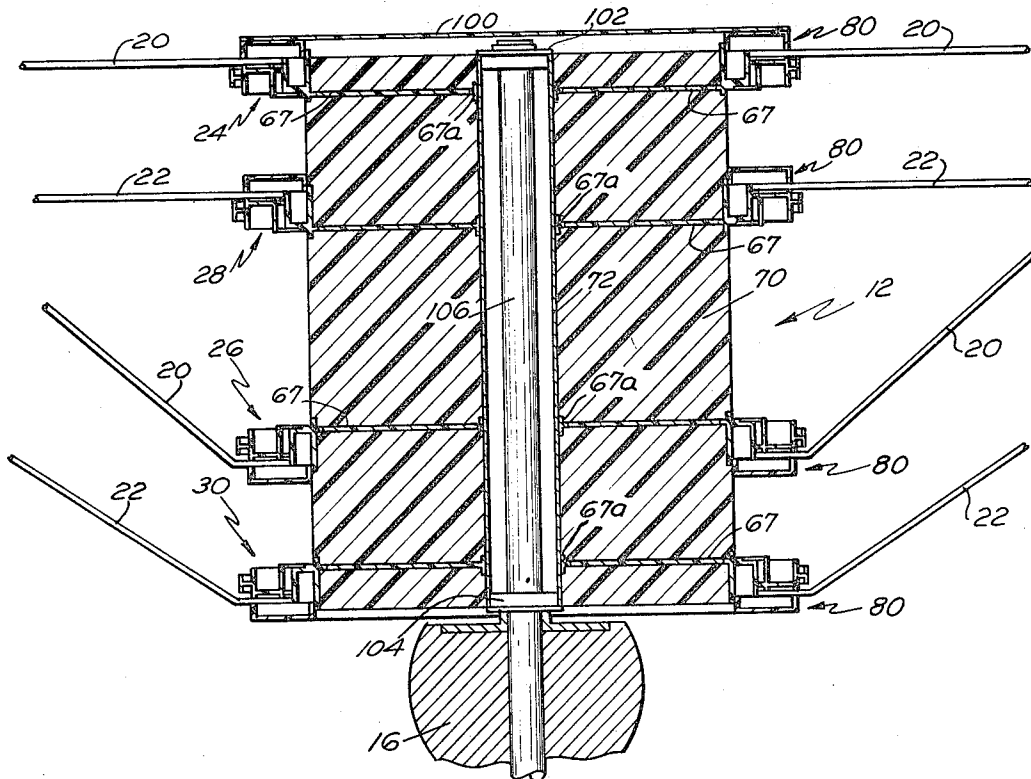
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[57] **ABSTRACT**

A display rack having a hanger assembly that includes a body molded of a plastic material. A plastic hanger support on which hangers are pivotally mounted is adhered directly to the plastic body, the hanger support having a plurality of spring tabs joined thereto over which the hangers are ratcheted and retained in a pivoted position for isolating a selected hanger in a position of use.

20 Claims, 12 Drawing Figures



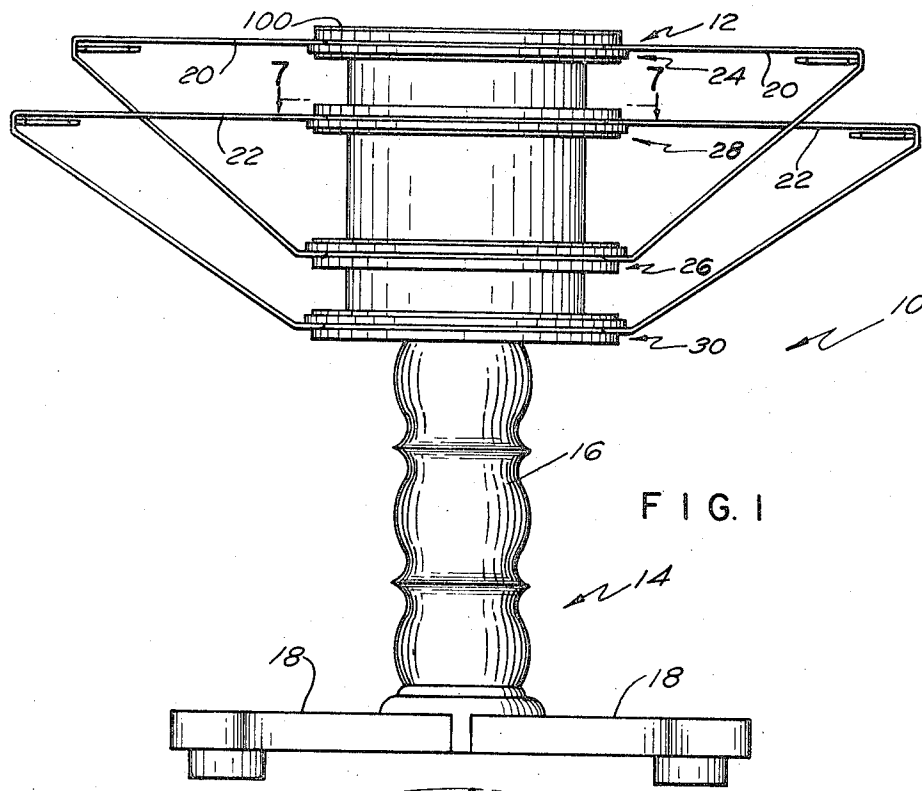


FIG. 1

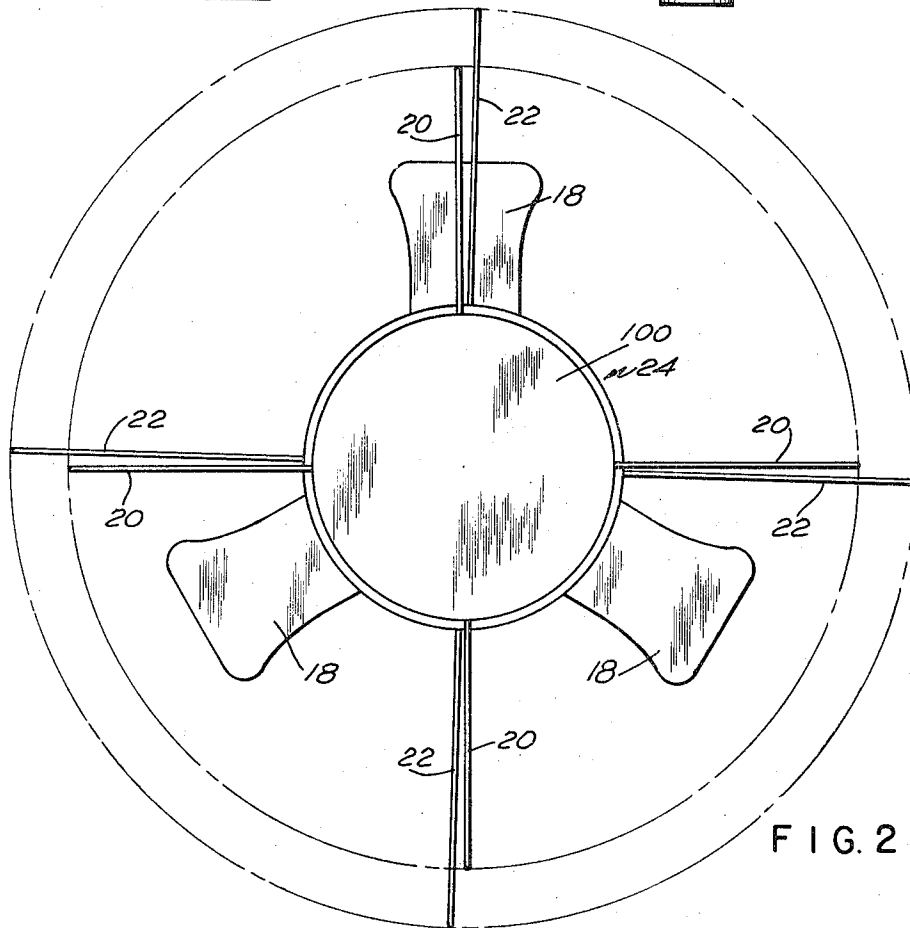


FIG. 2

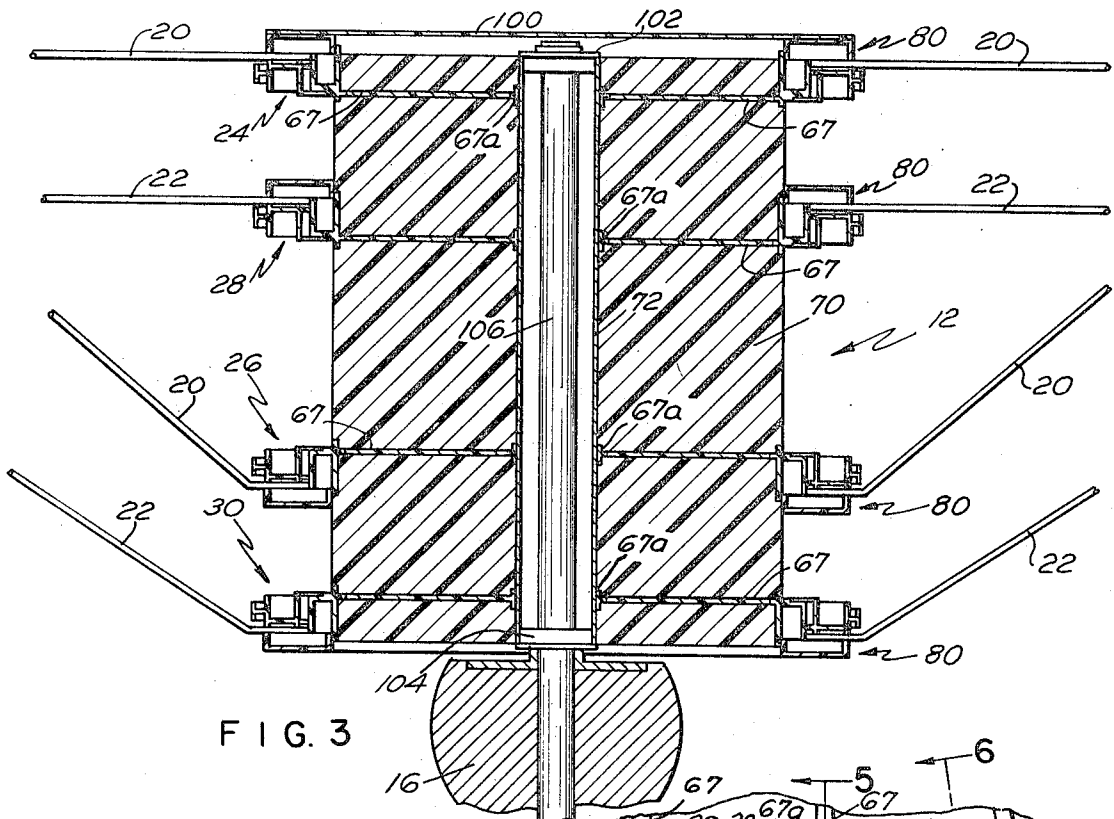


FIG. 3

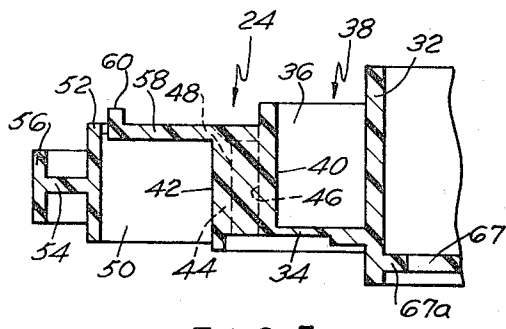


FIG. 5

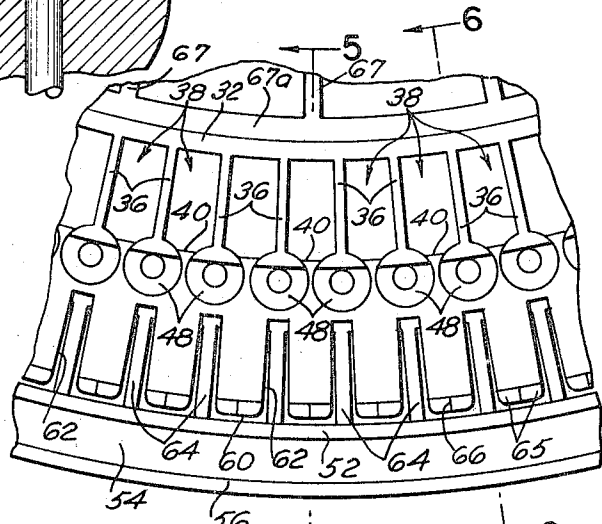


FIG. 4

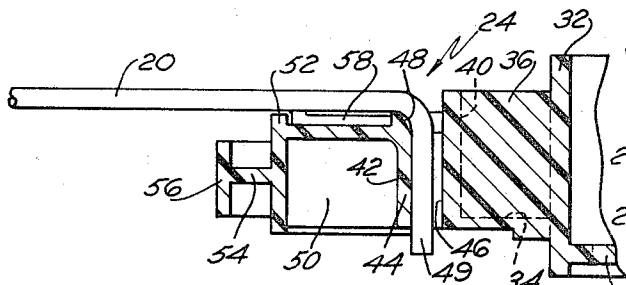


FIG. 6

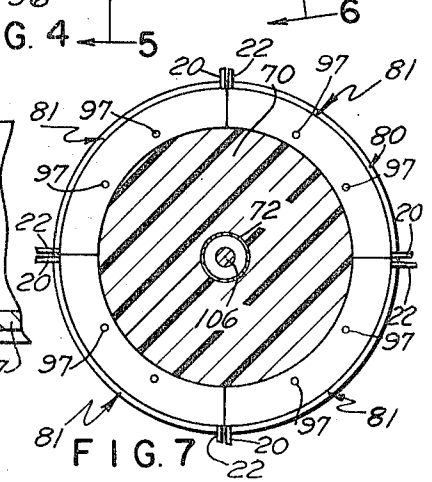


FIG. 7

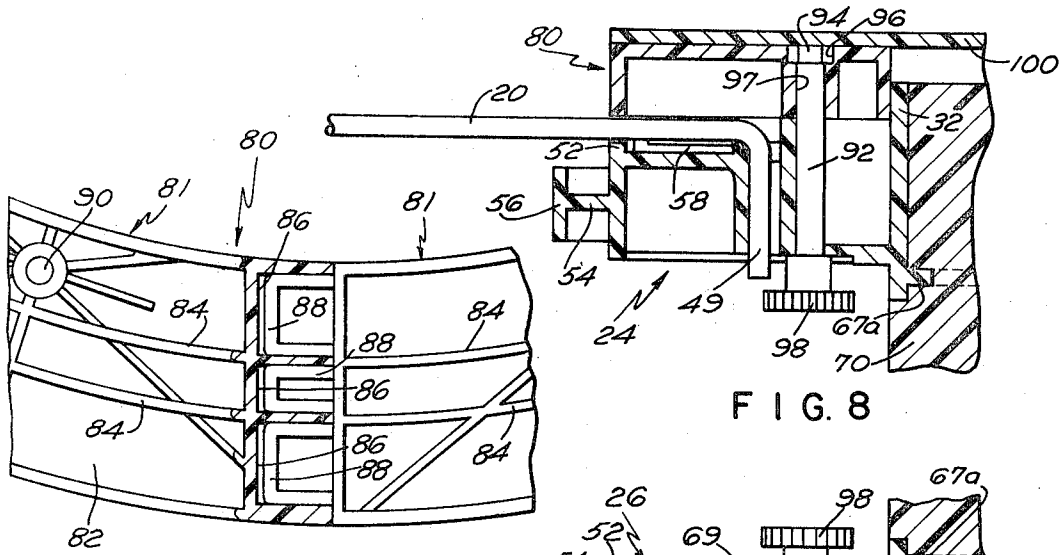


FIG. 8

FIG. 10

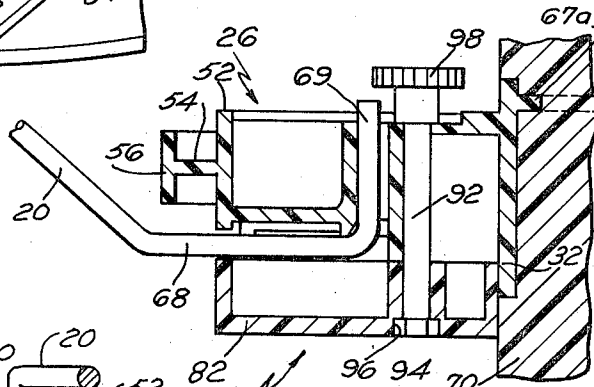


FIG. 9

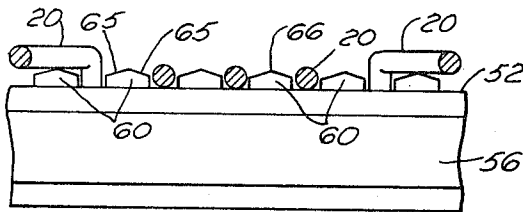


FIG. 11

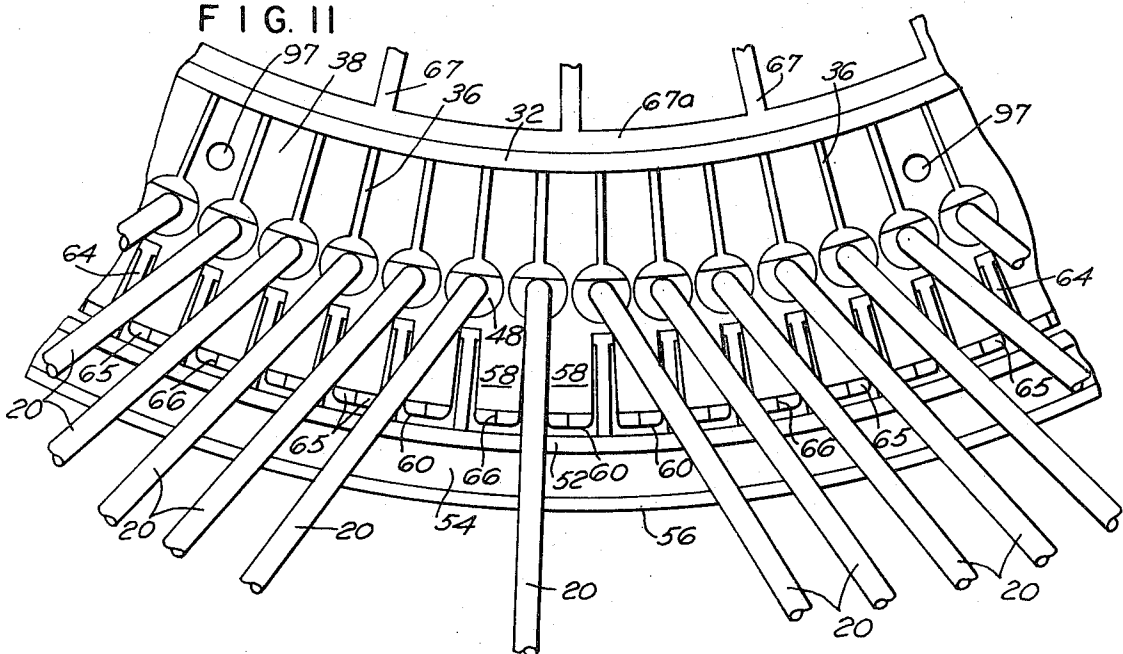


FIG. 12

DISPLAY RACK HAVING A MOLDED HANGER ASSEMBLY BODY AND HANGER SUPPORTS

BACKGROUND OF THE INVENTION

The present invention relates to display racks and has particular application in a circular garment display rack that includes a rotatable hanger assembly having a plurality of hangers mounted for pivotal movement thereon.

The rotatable display rack for garments and the like has normally been constructed of wood or metal materials; and in the form of the garment display rack of the circular type as illustrated in applicant's prior U.S. Pat. No. 2,960,239, a hanger assembly is mounted for rotation on a base and metal hangers are mounted for pivotal movement on the hanger assembly. Although the garment display rack as illustrated in U.S. Pat. No. 2,960,239 has been found to be satisfactory for the use intended, the fabrication of the hanger assembly of wood materials necessarily increased the cost of the rack. In this connection the hanger assembly in U.S. Pat. No. 2,960,239 included a plurality of tubular spacer members, hanger retaining discs and hanger locking means. Each of these parts had to be separately formed and then fitted on the hanger assembly. It is seen that with the increase in the cost of labor and materials in recent years, the cost of construction of the hanger assembly, as illustrated in applicant's U.S. Pat. No. 2,960,239, has also materially increased.

One of the problems encountered with multiple arm garment display racks with the difficulty of placement of a garment on a selected hanger, particularly when the rack hangers were fully loaded with garments. In trouser display racks, the usual procedure in placing a pair of trousers on a selected hanger was for the clerk or customer to spread apart hangers adjacent to the selected hanger, thereby isolating the selected hanger. The loaded hangers were retained apart by manual pressure, while the trousers were placed on the isolated hanger. Obviously, this has been an annoying practice and requires some dexterity and experience in properly placing the trousers on the rack to avoid crushing of the trousers and to maintain a neat appearance for the rack. When a number of people such as customers handle trousers it is even more difficult to prevent the rack from becoming untidy since the trousers are usually not returned in proper position on their hangers by the customers.

SUMMARY OF THE INVENTION

The present invention relates to a display rack that has principle application in the display of garments thereon. The display rack as embodied herein includes a hanger assembly that is uniquely constructed in that it is essentially formed of plastic materials aside from the individual hanger elements and includes a hanger support also molded of a plastic material. A core of plastic material is formed in place in contact with the hanger support and defines a body, the hanger support being captured on the core and adhered thereto. A plurality of the hangers are mounted for pivotal movement on the hanger support and means are secured to the hanger support for locking the hangers thereto. The hanger support may be molded of a plastic material in a unique configuration and has a plurality of openings

formed therein for receiving the hangers in pivotal relation.

One of the principle features of the invention as embodied in the hanger support is the formation of a plurality of individual spring tabs thereon, an upstanding projection being formed on each of the spring tabs and providing for isolating each of the hangers in a positive location when a garment is to be mounted on or removed from the rack. In this connection it is desirable, when selecting a garment on the rack for handling, to isolate the hanger on which the garment is mounted, whereby the garment may be easily withdrawn therefrom. This is accomplished by pivotally urging away from the selected hanger, the hangers located adjacent thereto, wherein the pivotally moved hangers are ratcheted over the upstanding projections of the adjacent spring tabs to positively restrain and locate these hangers in the pivoted positions thereof, thereby isolating the hanger located therebetween. The garment are mounted on the isolated hanger may be easily removed therefrom or returned thereto as required.

Accordingly, it is an object of the present invention to provide a display rack that includes a hanger assembly having a body defined by a core of plastic material that is formed in place and to which at least one hanger support is secured by bonding thereto.

Another object of the invention is to teach a method of forming a display rack, wherein a hanger assembly for the display rack is formed by separately molding multiple sets of hanger supports of plastic material and fixing the plastic hanger rings to a core that is cast in place so that the hanger supports are bonded thereto.

Another object of the invention is to provide a hanger support for use in a display rack that includes a plurality of openings formed therein for receiving hangers in radial relation, a plurality of spring tabs being formed on the hanger support in spaced relation and each pair of tabs having a hanger located therebetween, each spring tab being pivotally flexed in response to pivotal movement of a hanger in contact therewith to permit movement of the hanger to a position between the next adjacent of spring tabs, at which position the hanger is positively located for isolating a hanger that is adjacent thereto.

Other objects, features and advantages of the invention shall become apparent as the description thereof proceeds when considered in connection with the accompanying illustrative drawings.

DESCRIPTION OF THE DRAWINGS

In the drawings which illustrate the best mode presently contemplated for carrying out the present invention:

FIG. 1 is an elevational view of a display rack as embodied in the present invention;

FIG. 2 is a top plan view of the display rack illustrated in FIG. 1;

FIG. 3 is a vertical sectional view of the hanger assembly illustrated in FIG. 1;

FIG. 4 is an enlarged, top plan, fragmentary view of a portion of a hanger support ring as mounted on the hanger assembly illustrated in FIG. 3;

FIG. 5 is a sectional view taken along line 5—5 in FIG. 4;

FIG. 6 is a sectional view taken along line 6—6 in FIG. 4, and further showing a hanger mounted for pivotal movement thereon;

FIG. 7 is a sectional view taken along line 7—7 in FIG. 1;

FIG. 8 is a sectional view similar to FIG. 6, but showing a locking element as mounted in place on an upper hanger ring for securing hangers in position thereon;

FIG. 9 is a sectional view similar to FIG. 8, but showing the locking element as mounted in place on a lower hanger ring for securing hangers in position thereon;

FIG. 10 is a bottom plan view of a portion of a locking ring showing the strengthening ribs therein, and further illustrating the manner of attachment of one section of the locking ring to another section;

FIG. 11 is a fragmentary front elevational view of a hanger support ring showing the position of the hangers as mounted thereon; and

FIG. 12 is an enlarged, fragmentary plan view of a portion of a hanger support ring with the locking elements removed, and further illustrating the isolation of a hanger between adjacent hangers.

DESCRIPTION OF THE INVENTION

Referring now to the drawings and particularly to FIGS. 1 and 2, the display rack embodied in the present invention is illustrated and is generally indicated at 10. The display rack 10 includes a hanger assembly generally indicated at 12 and a base generally indicated at 14 that includes a column 16 to which legs 18 are joined at the bottommost end thereof, the legs defining the support for the column 16 and hanger assembly 12. It is understood that the base 14 may be of any convenient construction depending upon the design incorporated in the rack, and it is contemplated that the base 14 may also be constructed of various materials such as wood, plastic or metal.

As illustrated in FIGS. 1 and 3, the hanger assembly 12 is generally circular in configuration and is of that type that is rotatable with respect to the base 14. The general arrangement, construction and function of the hanger assembly 12 as it relates to the base 14 is illustrated in applicant's prior U.S. Pat. No. 2,960,239. As will be more fully set forth hereinafter, the hanger assembly 12 includes two sets of hangers, one hanger set forming a tier of upper hangers and defined by hangers 20; and the other hanger set forming a tier of lower hangers and defined by hangers 22. The hangers 20 and 22 are of the two point suspension type and generally receive trousers or the like thereon for display. The specific construction of the garment hanger as illustrated in FIG. 1 is more fully disclosed and described in applicant's prior U.S. Pat. No. 2,944,675. Although the hanger assembly 12 as illustrated and described herein includes the two point suspension type hanger, it is understood that a single point suspension hanger may be used, in which case only a single hanger support ring will be employed therefor.

Referring again to FIGS. 1 and 3, the hangers 20 are shown mounted on an upper hanger support ring 24 and a lower hanger support ring 26, the lower hangers 22 being mounted on substantially identically formed hanger support rings indicated as an upper support ring 28 and a lower hanger support ring 30. As described, the hanger assembly 12 includes the double tier of hangers which require the double set of hanger support rings 24, 26, 28, 30; but it is understood that the concept of the invention may be incorporated in a hanger assembly having only a single tier of hangers, or may also be incorporated in a hanger assembly that includes

a three tier set of hangers or more, depending upon the size requirements of the display rack.

Heretofore, hanger support rings as used in connection with hanger assemblies have been normally constructed of wood or metal materials and, as such, were normally machined. Fabrication of the prior known hanger rings required considerable labor and effort and thereby increased the overall cost of the display rack in which the hanger support rings were used. The present invention avoids the use of the prior known wood or metal hanger support rings and provides an innovative concept in the manufacture of display racks by incorporating therein a hanger support ring molded completely of a plastic material.

Referring now to FIGS. 4, 5 and 6, a portion of the plastic support ring 24 as molded is illustrated; and although the support ring 24 defines the topmost hanger support ring of the display rack as indicated, it will be understood that the other plastic support rings—namely, rings 26, 28 and 30—are all molded of plastic material and are constructed in a manner identical to that illustrated by the ring 24 shown in FIGS. 4, 5 and 6. In use the support rings 24 and 28 are positioned similarly, while the support rings 26 and 30 are reversed in position with respect to the support rings 24 and 28.

The hanger support ring 24 is preferably molded of a thermosetting resin having a high flexural strength such as polypropylene, ABS or fiber filled polystyrene; although, it is contemplated that other resinous materials may be utilized as desired. As illustrated in FIGS. 3 and 4, the hanger support ring 24 is molded in a circular configuration and includes an inner annular rim 32, the diameter of which conforms to the body of the hanger assembly as will be described hereinafter. Integrally joined to the inner rim 32 and extending outwardly therefrom, but also stepped with respect thereto, is a horizontal wall 34 to which a plurality of vertical webs 36 are joined. The webs 36, the wall 34 and the rim 32 cooperate with a forward wall 40 to form a plurality of open-top pockets 38. A wall 42 is spaced from the wall 40 and defines therewith an annular section 44 through which a plurality of spaced-apart, vertical openings 46 extend, each of the openings 46 being formed with an upper countersunk portion 48 that enables an end 49 (FIG. 6) of a hanger 20 to be positively directed into an opening 46. Joined to the wall 42 of the annular section 44 and radiating outwardly therefrom are a plurality of spaced vertical webs 50 to the outermost ends of which a wall 52 is joined. A horizontal web 54 is joined to the wall 52, and joined to the web 54 is an outer peripheral rim 56 that defines the outer peripheral rim of the hanger support ring 24.

Joined to the upper portion of the annular section 44 and extending outwardly with respect thereto are a plurality of spring tabs 58, each of which has an upstanding projection 60 formed on the outermost end thereof. As illustrated in FIG. 4, the extension of the longitudinal axis of each spring tab 58 extends inwardly intermediate a pair of adjacent openings 46, and each spring tab 58 is spaced from an adjacent spring tab to define a space 62 therebetween. Extending through the space 62 and between adjacent spring tabs but located out of the plane with respect thereto are a plurality of connecting strips 64 being joined to the annular web 52 and the wall 42 of the section 44.

During pivotal movement of a hanger 20, a spring tab located adjacent thereto is flexed, and for this purpose each of the spring tabs 58 is secured to the annular section 44 only at the inner end thereof and is free at the outer end thereof on which the upstanding projection 60 is formed. The projection 60 extends upwardly with respect to the body of the spring tab 58; and as illustrated in FIG. 11, is formed with inclined surfaces 65 which junction at an apex 66. As will be described, the hangers 20 are normally retained in a positive position by the projections 60 of the spring tabs 58; and upon pivotal movement of a hanger, a projection 60 is engaged, the hanger sliding upwardly on one inclined surface and in so doing flexing the spring tab. The hanger then snaps by the spring tab to the other side thereof for location in position therebetween and the next adjacent spring tab.

Joined to the inner rim 32 and radiating inwardly therefrom are a plurality of spokes 67 that terminate in a central ring 67a. As will be described, the central ring 67a positively locates the hanger support ring 24 on a tube during the molding of a body 70 to which the hanger support ring is bonded, the spokes 67 being imbedded in the molded body 70 and positively locating the hanger support ring 24 thereon.

As shown more clearly in FIG. 6, one of the hangers 20 is illustrated as being mounted on the hanger support ring 24 and includes a horizontal portion that extends outwardly of the support ring, the projection 49 being joined to the horizontal portion of the hanger and extending downwardly through one of the openings 46. The countersunk portion 48 of the opening 46 acts to positively guide the projection 49 into the opening 46, wherein the hanger 20 is mounted for pivotal movement therein. As will be further described in connection with FIG. 9, the hanger 20 which is of the two point suspension type includes a lower inclined portion that terminates in a horizontal portion 68 to which an upwardly extending projection 69 is joined that is received in an opening similar to the opening 46 formed in the hanger support ring 26. However, as will be further described, the hanger support ring 26 that defines the lower support for mounting the hangers 20 in pivotal relation is reversed in position so that each spring tab 58 faces downwardly, wherein the projections 60, now extending downwardly, restrain and normally locate the horizontal portion 68 of a hanger 20 therebetween.

As mentioned hereinabove, all of the hanger support rings, that is, support rings 24, 26, 28 and 30, are molded of a plastic material in an identical construction and configuration; and each support ring includes a plurality of openings 46 for receiving an end of a hanger projection therein. As shown in FIG. 3, the support rings 24 and 28 receive the downwardly projecting portions 49 of the hangers 20 and 22, respectively; while hanger support rings 26 and 30 receive the upwardly projecting portions 69 of the hangers 20 and 22, respectively; and for this purpose are reversed in position with respect to the support rings 24 and 28. As will be further described, the hangers 20 and 22 are locked in position on the hanger support rings 24, 26, 28 and 30 by suitable locking elements, the locking elements being mounted in place on the hanger support rings after the securing of the support rings to a molded core or body as will now be described.

The assembly of the hanger support rings in the assembly 12 is accomplished by casting in place a solid drum that defines the body 70. In the casting procedure, steel bands are hingedly connected together and defined a mold for forming the body 70 and are located in that position for receiving the thermosetting foamed resinous plastic material during the casting of the body 70.

In this connection the following thermosetting resinous materials may be used as the casting material: foamed polypropylene, foamed polyethylene, foamed polyurethane, foamed polystyrene and water extended polyesters. A tube 72 is used as a base for fixing the hanger support rings in position prior to molding; and as described above, each of the hanger support rings is formed with a plurality of inwardly directed spokes 67 that terminate at the inner ends thereof in a ring 67a, the ring 67a of each hanger support ring being received on the tube 72, wherein the hanger support rings are located in the position of use in the hanger assembly. The steel bands are formed with a design on the inner surface to produce a wood grain effect when the plastic material is set, a release material being added to the inner surface of the bands so as to enable the bands to be easily removed from the plastic material after the setting thereof. It is also seen that the spokes 67 of each of the hanger support rings provide for positive location of the support rings with respect to the body 70 as molded.

The polyurethane material is poured into the pocket as defined by the steel bands and flows over the radial spokes 67 of the hanger support rings for embedding the spokes therein, and the plastic material also contacts the inner surface of the annular rim 32 of each of the hanger support rings. The hanger support rings are thus captured in place and are positively located in spaced relation with respect to each other. The tube 72 on which the hanger support rings are mounted is also of sufficient diameter to receive bearings and an inner shaft therein for mounting the hanger assembly on the base 14 for rotating movement as will hereinafter be described.

As previously described hereinabove, the hanger support rings 24 and 28 are located such that the spring tabs 58 formed thereon are positioned upwardly with respect thereto. The hanger support rings 26 and 30 are reversed in position with respect to the support rings 24 and 28, and the spring tabs 58 formed thereon are located downwardly with respect thereto. After the steel bands that define the mold for the body 70 is formed with a grained or simulated wood effect that imparts an appearance to the body of a drum like construction. This appearance is quite similar to the construction of the prior known garment display racks of this type such as illustrated in applicant's U.S. Pat. No. 2,960,239. With the hanger support rings 24, 26, 28 and 30 bonded in place on the body 70 as molded, the hangers 20 and 22 are then fixed in position by locating the downwardly extending projections 49 of the upper portion of each hanger in the openings 46 of the hanger support rings 24 and 28. The upwardly extending projections 69, formed on the lower ends of the hangers 20, 22 are received in similarly formed openings 46 in the hanger support rings 26 and 30. The hangers 20 and 22 are then pivotally mounted on the hanger support rings 24 and 26 and 28 and 30, respectively. In order to lock the hangers 20 and 22 in position on their re-

spective hanger support rings, a locking ring generally indicated at 80 is provided for each support ring and is comprised of a plurality of arcuate sections generally indicated at 81 in FIG. 7. The arcuate section 81 of each locking ring 80 are also molded of a plastic material, and each section is formed with an outer surface 82 to which strengthening ribs 84 are joined on the bottom thereof. The locking ring 80 includes four of the sections 81 that are interfitted around the drum 70 and in overlying relation with respect to the projections 49 or 69, depending upon the hanger support ring to which a locking section 81 is secured. In order to interfit the sections 81 of the locking ring 80 together, one end of each section 81 is formed with spaced pockets 86, and the adjacent section 81 is formed with corresponding projections 88 that are receivable in the oppositely located pockets 86. It is seen that the mating ends of the arcuate sections 81 are secured together through the interfitting of the pockets 86 and projections 88, and in this manner define the ring 80 that extends around the body 70 in overlying relation with respect to the ends of the hangers 20 and 22. It is also understood that the locking rings 80 may be formed in two complementary arcuate sections or in a unitary member having hinged or connecting sections. It is further contemplated to form a one-piece circular locking ring stamped or cast in a very thin cross-section, thereby permitting assembly of the locking ring between the edges of the casting bands and the hanger support rings.

In order to lock the locking rings 80 in place on the hanger support rings, each of the sections 81 is formed with spaced openings 90 therein through which a bolt 92 having a hexagonal head 94 extends. The bolts 92 are inserted through the openings 90 and are prevented from rotating movement therein by location of the hexagonal head 94 of each bolt in a correspondingly formed recess 96 that is located in the wall 82 and that communicates with an opening 90.

The wall 34 of each hanger support ring as described hereinabove is also formed with a plurality of openings 97 as illustrated in FIG. 12, the spacing of which corresponds to the spacing between the bolts 92 located in the locking ring 80. The ends of the bolts 92 project through the openings 97 for engagement by thumb screws 98 which thereby lock the locking rings in place on the hanger support rings. The thumb screws 98 are located below the hanger support rings 24 and 28 as illustrated in FIG. 8 but are located above the hanger support rings 26 and 30 as illustrated in FIG. 9. It is seen that the thumb screws 98 are always located on the side opposite to that of the locking ring and cooperate with the bolts 92 to secure the locking rings 80 in place, thereby locking the hangers 20 and 22 in pivotal position on the hanger support rings. As further illustrated in FIG. 3, the topmost locking ring 80 as defined by the arcuate sections 81 has an upper plate 100 joined thereto by a suitable adhesive or the like, the upper plate 100 being formed of a thermosetting plastic material and having a wood grained appearance and thereby defining the top of the hanger assembly 12. It is also understood that the locking rings 80 may be formed in two complementary arcuate sections or in a unitary member having hinged or connecting sections. It is further contemplated to form a one-piece circular lock ring stamped or cast in a very thin cross-section, thereby permitting assembly of the locking ring be-

tween the edges of the casting bands and the hanger support rings.

Prior to mounting of the uppermost locking ring 80 in place on the hanger support ring 24, a bearing 102 is fixed in the upper end of the tube 72, while a bearing 104 is fixed in the lower end of the tube 104. The bearings 102 and 104 receive a shaft 106 therein in bearing relation, the shaft 106 being mounted in the base 14 and extending thereabove. The hanger assembly 12 is mounted for rotation on the shaft 106 by locating the shaft 106 in the bearings 102 and 104. Removal of the hanger assembly 12 from the base 14 is accomplished by lifting the hanger assembly 12 upwardly until the tube 72 clears the shaft 106.

In the use of the display rack 10, garments such as trousers are mounted on the horizontal portions of the hangers 20 and 22 in the usual manner, and in this connection the hangers 20 and 22 are located in alternate spaced relation as they extend around the drum 70 of the hanger assembly. The hanger assembly 12 is rotatable with respect to the base 14, and a customer selecting a pair of trousers rotates the display rack to that position wherein the selected pair of trousers is immediately in front of him. In order to extract the pair of trousers from the hanger on which it is mounted, the hangers adjacent to the selected hanger on both sides thereof are pivotally urged in a direction away from the selected hanger, such as is illustrated in FIG. 12. The horizontal portions at the top and bottom of the hangers ratchet over the inclined surfaces 65 of the projections 60, the tabs 58 flexing to provide for the movement of the hangers ratchets over a projection 60. After each of the hangers ratchets over a projection 60, it is held in position between the next adjacent pair of projections 60. The selected hanger and trousers mounted thereon are then isolated as illustrated in FIG. 12, and the trousers may be easily lifted from the hanger for inspection as desired. The hangers adjacent to the selected hanger are retained in position by the projections mounted on the spring tabs 58; and after the selected trousers have been returned to the isolated hanger, the adjacent hangers may thereafter be pivotally returned to the original positions thereof. It is seen that the inclined surfaces 65 that define the apex 66 of each of the projections 60 enables the hangers to easily ratchet thereover to the next position, the projections retaining the hangers therebetween in the fixed position to which they have been moved.

Although the hanger assembly as disclosed herein incorporates two tiers of hangers, it is understood that one or more tiers may be mounted on the hanger assembly as required. Further, a single point suspension hanger and support ring therefor may be utilized and mounted on a molded drum without departing from the spirit of the invention. In this connection, each hanger is pivotally mounted on a single hanger support ring, the lower support ring as described herein being eliminated.

Although the physical dimensions of the components of the hanger assembly have not been described, it is also understood that the cross-sectional dimension of the drum must be sufficient to develop enough shear strength to resist the torsional forces exerted by the loads carried by the hangers as mounted on the hanger support rings when the hangers are rotated out of their normal or radial position on the support rings.

While there is shown and described herein certain specific structure embodying the invention, it will be manifest to those skilled in the art that various modifications and rearrangements of the parts may be made without departing from the spirit and scope of the underlying inventive concept and that the same is not limited to the particular forms herein shown and described except insofar as indicated by the scope of the appended claims.

What is claimed is:

1. A display rack, comprising a base, a hanger assembly mounted on said base and including a circular hanger support ring molded of a plastic material, a plurality of openings formed in a circular array in said hanger support ring, a plurality of hangers mounted on said hanger support ring and being received in said openings in spaced apart, angular relation for pivotal movement thereon, means secured to said hanger support ring for locking said hangers in pivotal relation thereon, a plurality of elongated flexible tabs secured to said hanger support ring and extending in an outward direction thereon in spaced apart, angular relation, a projection joined to each of said flexible tabs and being spaced from projections formed on adjacent tabs, each of said hangers normally extending between a pair of said tabs and being positively retained therebetween by the projections on said adjacent tabs, wherein pivotal movement of selected hangers causes each of said selected hangers to ratchet over the projections on adjacent tabs for location between the next pair of adjacent tabs, the projections on said tabs positively locating said selecting hangers in the pivoted positions thereof and isolating an unpivoted hanger that has been retained in the normal position thereof, wherein the pivotally moved hangers are positively retained in their pivoted position apart from the isolated hanger, thereby providing for easy loading or removal of a garment on or from said isolated hanger.

2. A display rack as claimed in claim 1, said hanger support assembly including a body on which said hanger support ring is mounted that is molded of a plastic material in a unitary construction.

3. A display rack as claimed in claim 2, the plastic material from which said hanger assembly body is molded being a thermosetting resinous material having high flexural strength selected from the group consisting of polypropylene, ABS and fiber filled polystyrene.

4. A display rack as claimed in claim 1, said hanger assembly including a body on which said hanger support ring is mounted, said body being cast in place of a plastic material in a unitary construction in contact with said hanger support ring, wherein said hanger support ring is captured on said body and is bonded thereto.

5. A display rack as claimed in claim 4, the plastic material from which said body is cast being a thermosetting resinous material selected from the group consisting of foamed polypropylene, foamed polyethylene, foamed polyurethane, foamed polystyrene and water extended polyesters.

6. A display rack as claimed in claim 4, a shaft fixed to said base and extending upwardly therefrom, said hanger assembly being mounted on said shaft for rotation thereon and relative to said base.

7. A display rack as claimed in claim 6, said hanger support ring being formed in a ring configuration and having an inner peripheral wall to which interior web

elements are joined, the body of plastic material being cast in contact with said inner peripheral wall and interior web elements to positively adhere said hanger support ring to the body after the body is set.

8. A display rack as claimed in claim 7, each of said hangers having an end portion that is received in an opening in said hanger support ring, said locking means including a plurality of sections that are interfitted on said body, and fastening means interlocking said sections to said hanger support ring so that the end portions of the hangers received in the openings in the hanger support ring are interlocked between said sections and said hanger support ring.

9. A display rack as claimed in claim 8, an upper plate attached to the sections that are secured to said hanger support ring, said upper plate further defining the top of said hanger assembly.

10. A display rack as claimed in claim 7, each of said openings as formed in said hanger support ring being located in predetermined spaced-apart relation with respect to the openings located adjacent thereto, each of said flexible tabs formed on said hanger support ring being located intermediate to adjacent openings and projecting outwardly toward the periphery of the hanger support ring, wherein a space is defined between adjacent tabs that is aligned with an opening, a projection formed on the outer end of each tab, each hanger having an arm that is received in the space between adjacent tabs, said projections normally locating the hanger in positive position therebetween, and each hanger being pivotally movable in the opening in which the end portion thereof extends, wherein the arm of the hanger is forcible over a projection and between the next pair of adjacent tabs to retain the hanger in positive position thereat, said hangers being pivotally movable to a plurality of positive positions as defined by the spaced projections located adjacent thereto.

11. A display rack as claimed in claim 10, said hanger support ring defining an upper support for said hangers, and a second hanger support ring bonded to said body and spaced vertically below said first named hanger support ring to define a lower support for each of said hangers, said hangers having a lower portion that is received in an opening formed in said lower hanger support ring, wherein said hangers are pivotally mounted at the upper and lower ends thereof on said upper and lower hanger support rings, respectively.

12. A display rack comprising a base, a hanger assembly mounted for rotation on said base and including at least one hanger support ring formed of a plastic material, and a body defining a solid cylindrical drum formed of a plastic material and being adhered to said hanger support ring in coaxial relation therewith, wherein said hanger support ring is captured on said body and is permanently bonded thereto in surrounding relation, a plurality of hangers mounted for pivotal movement on said hanger support ring in a circular array, means secured to said hanger support ring for locking said hangers in pivotal relation thereon, said hanger support ring having an inner wall to which interior web elements are joined, said solid cylindrical drum of plastic material being molded in intimate contact with the inner wall of said support ring and interior web elements for permanently adhering said support ring to said body, an axial bore formed in said drum, and a shaft mounted on said base and extending upwardly

into said bore for mounting said hanger assembly on said shaft for rotation relative to said base.

13. A display rack as claimed in claim 12, means formed on said hanger support ring and cooperating with said pivotally movable hangers for locating each hanger in a plurality of positive positions, wherein each hanger may be isolated from the hangers located adjacent thereto when removing or inserting an article from or on the isolated hanger.

14. A display rack as claimed in claim 13, a plurality of spring tabs formed on said hanger support ring each of which has a projection formed on the outer end thereof, each of the hangers being normally locatable between a pair of said spring tabs, and being pivotally urged over the projections of adjacent spring tabs to a position between another pair of spring tabs for location in a positive position thereof, the spring tabs over which said hangers are moved being flexed in response to contact of the hangers with the projections thereof to permit the movement of the hangers.

15. A display rack as claimed in claim 14, said hanger support ring defining an upper support for said hangers, and a second hanger support ring bonded to said body and spaced vertically below said first named hanger support ring to define a lower support ring for said hangers, said hangers having lower portions that are received in openings formed in said lower hanger support ring, wherein said hangers are pivotally mounted at the upper and lower ends thereof on said upper and lower hanger support rings, respectively.

16. A hanger assembly for supporting articles for display thereon, comprising a cylindrical body, a circular support ring mounted on said body, said circular ring having a plurality of openings formed therein and extending therearound in spaced apart relation to define a circular array of openings, a plurality of hangers having end portions that are received in said openings for pivotally mounting said hangers in a circular arrangement on said circular ring, said hangers each having an

arm on which an article is received for display thereon, a plurality of elongated, flexible spring tabs located on said circular ring in spaced apart, angular relation, each tab being integrally molded to said ring at one end and having an outwardly extending free end, an extension of the longitudinal axis of each tab being located intermediate a pair of said openings, the arm of each hanger extending between a pair of said spring tabs, and an upstanding projection formed on the free end of each of said spring tabs for normally retaining an arm of a hanger therebetween and an adjacent projection, each spring tab being flexed in response to pivotal movement of a hanger into contact with the projection thereof to permit movement of that hanger thereover to a position between the next adjacent pair of projections as formed on adjacent spring tabs, at which position the hanger is positively located for isolating a hanger that is positioned adjacent thereto.

17. A hanger assembly as claimed in claim 16, the portion of each projection formed on the free end of each spring tab and that is engaged by a hanger being formed with inclined surfaces that junction to define an upwardly extending apex, the apex defining a cam edge over which a hanger is urged as the spring tab to which the projection is joined flexes to accommodate such movement.

18. A hanger assembly as claimed in claim 16, said said circular disc being formed of a plastic material in a unitary construction.

19. A hanger assembly as claimed in claim 18, a locking member secured to said circular disc and cooperating therewith to lock said hangers in said openings in pivotal relation.

20. A hanger assembly as claimed in claim 19, said locking member formed of a plastic material and including at least two interfitting elements that are arcuate in configuration and conform to the configuration of said circular disc.

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