April 8, 1969 R. W. STONIER ET AL 3,437,059

DECORATIVE POLE ASSEMBLY

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Fig. 1.

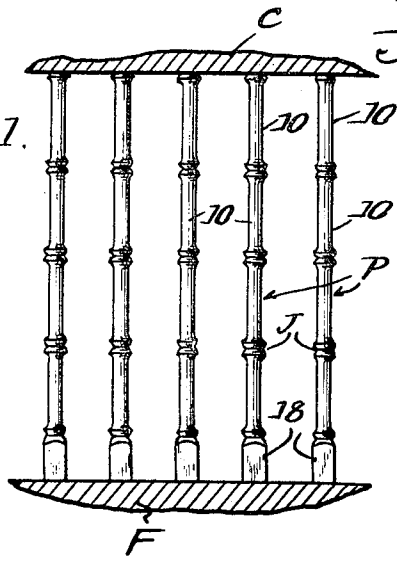


Fig. 2

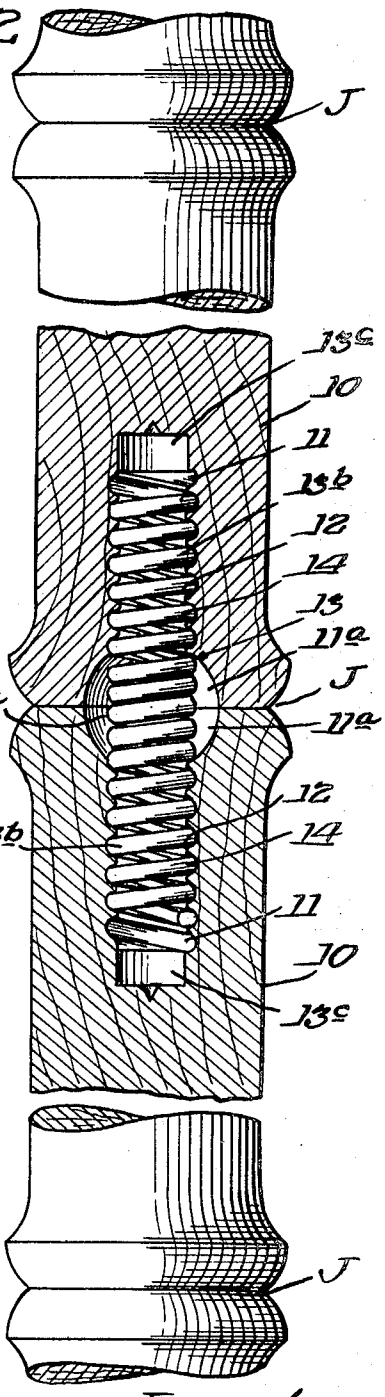
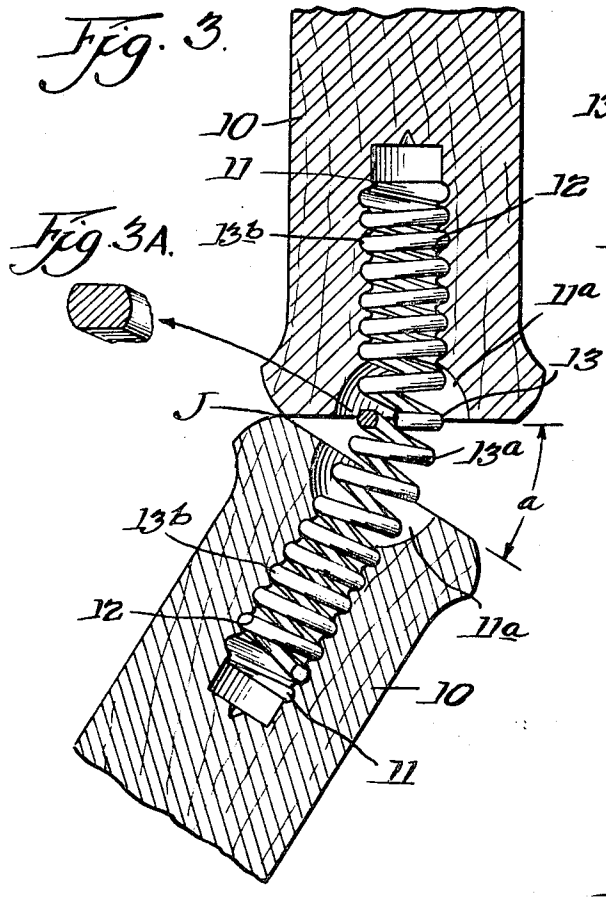


Fig. 3.

Fig. 3A.



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Fig. 4.

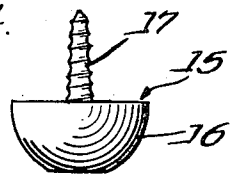


Fig. 5

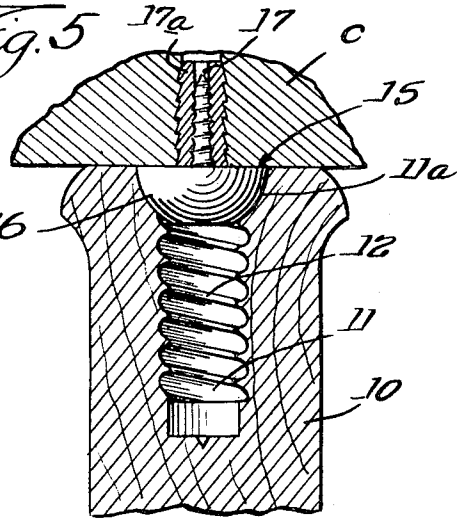


Fig. 7.

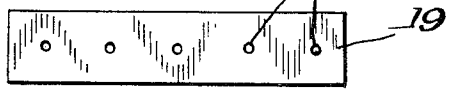


Fig 8

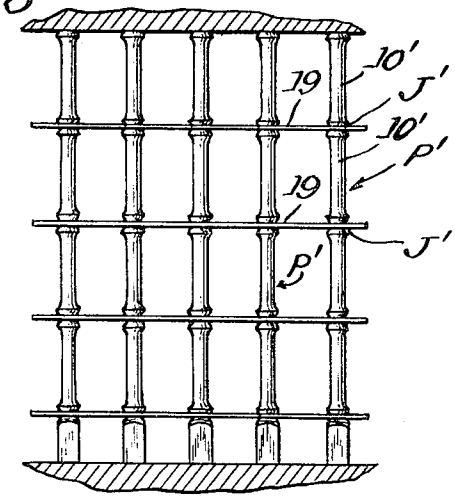
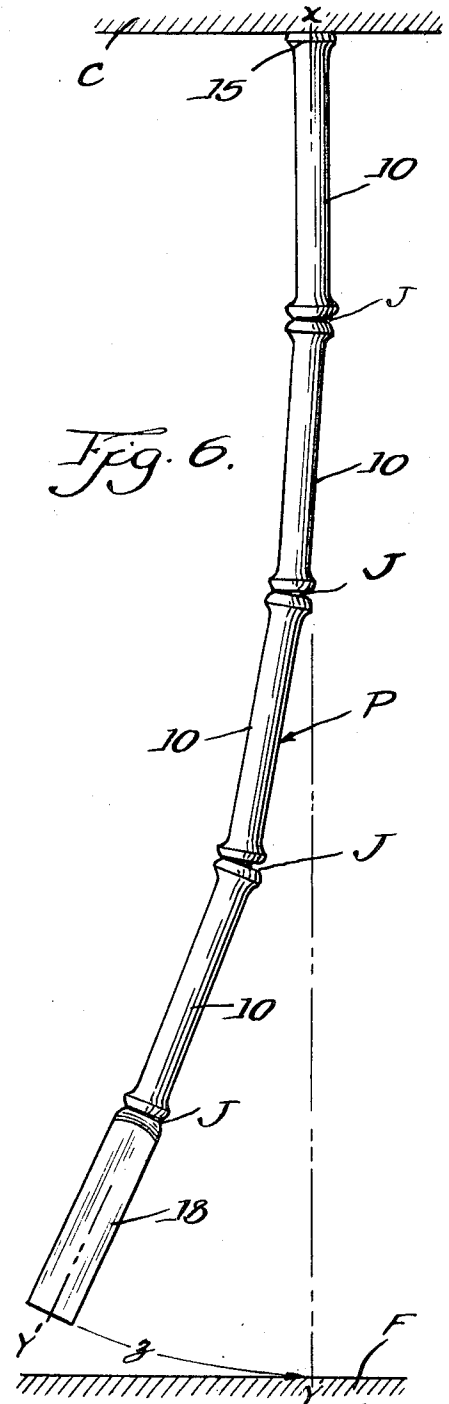


Fig. 6.



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Fig. 9.

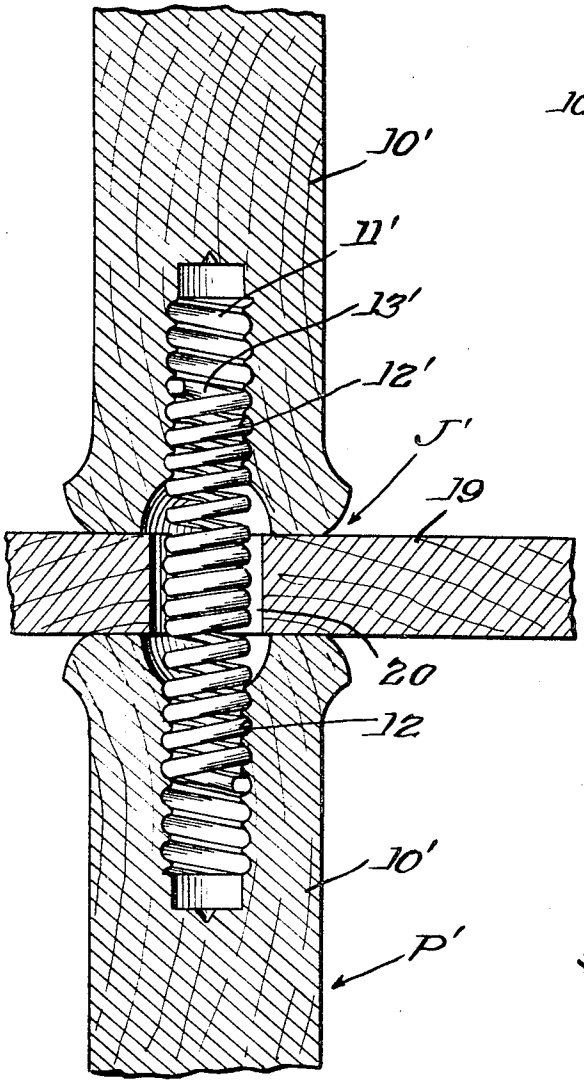
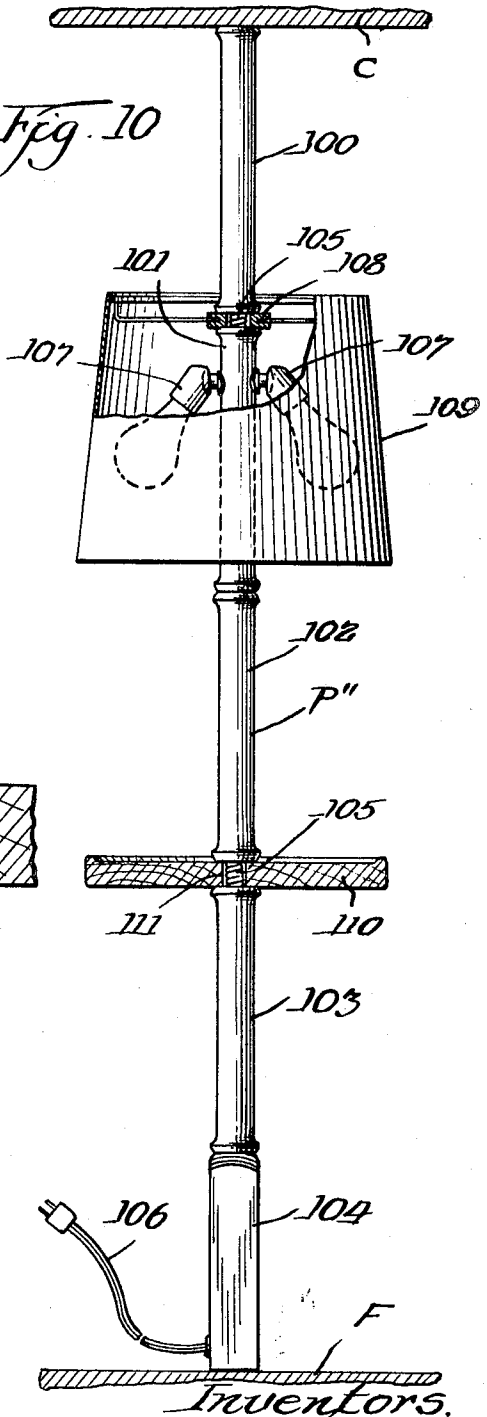


Fig. 10



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Fig. 11.

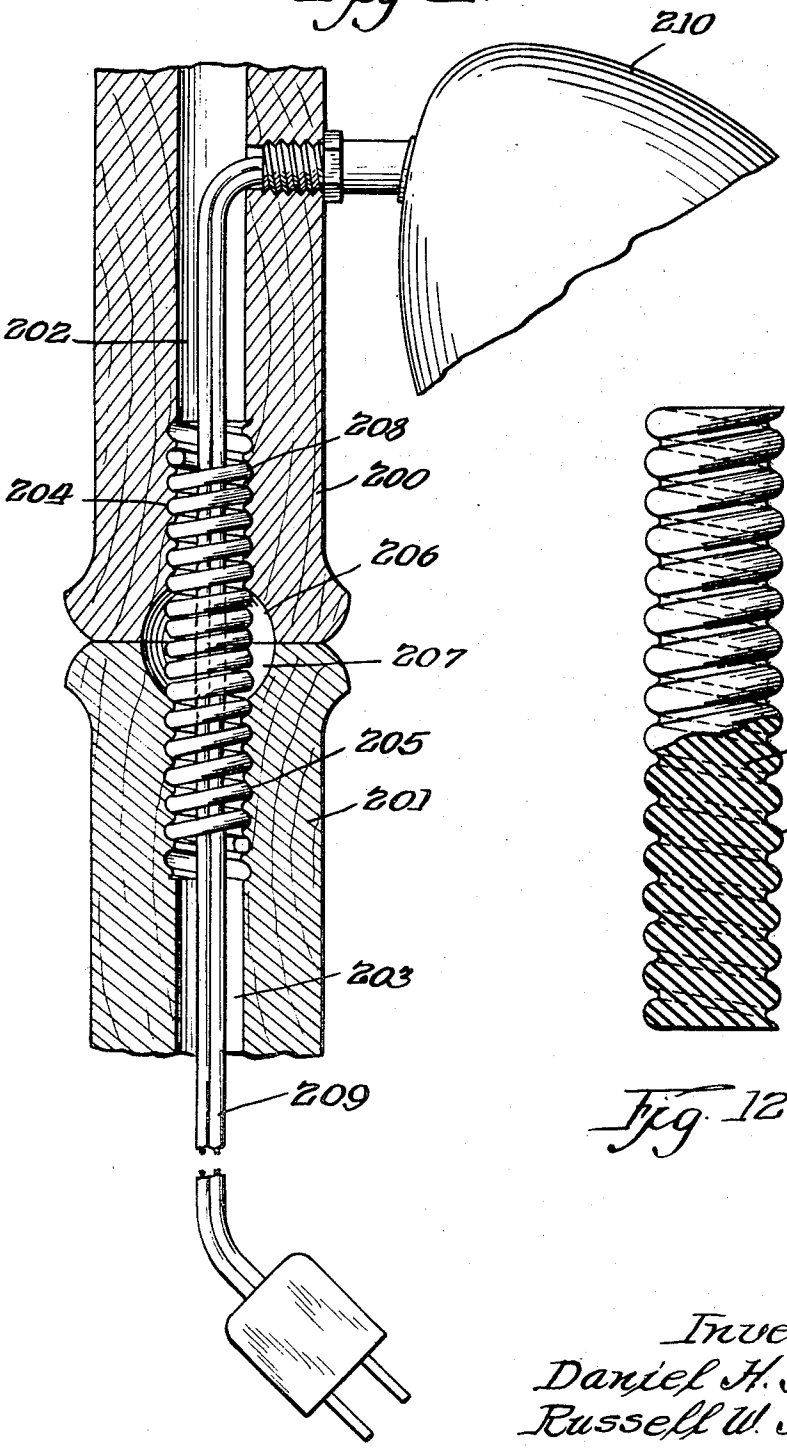


Fig. 12.

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DECORATIVE POLE ASSEMBLY

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Int. Cl. A47b *13/04;* F16b *7/00;* F16m *13/00*
U.S. Cl. 108—151 9 Claims

ABSTRACT OF THE DISCLOSURE

A decorative pole assembly which may be readily installed between, and removed from, the floor and ceiling of a room. The pole assembly includes a plurality of ornamental pole segments and a plurality of connectors. The ends of the pole segments are provided with axially aligned, internally threaded recesses which threadably receive the connectors to form a multi-jointed pole. At least one of the connectors is a coil spring which provides a joint which may be flexed to facilitate the installation or removal of the pole.

Background of the invention

This invention relates to a decorative pole assembly which has a variety of uses, but which is particularly adapted for installation between two facing surfaces such as the floor and ceiling of a room. Typically, a series of the pole assemblies would be installed as an ornamental room divider. The pole assemblies may also be used as decorative accessories in archways, window openings, as dividers between booths in restaurants, etc. The pole assemblies may also be used in more utilitarian applications, such as providing the support posts for bookshelves, including free standing shelf units, pole-type lamps, table supports, and the like.

Decorative poles or posts formed from wood turnings have long been used as room dividers and in related applications. Where the pole is formed from a one-piece turning, it is expensive and difficult to install. Even if segmental turnings are used to form the post assembly, the practice has been to connect the turnings by dowel pins, thereby forming a rigid post which presents the same installation problem as the one-piece post. Moreover, after the rigid post assemblies are installed, they are difficult to remove, as may be desired where the layout or decor of the room is being changed. It would be desirable to provide a decorative pole assembly which may be readily installed without requiring special tools or skills, and which can be removed as required. For example, the removal of the poles may be desirable where the room is being painted.

It is a general object of the present invention to provide a decorative pole assembly which substantially overcomes the limitations and disadvantages described above. More specifically, it is an object to provide a decorative pole assembly which may be readily and conveniently installed between two facing surfaces such as the floor and ceiling of a room, and which may be readily removed while being held in place with sufficient rigidity during normal use. Further objects and advantages will be indicated in the following detailed specification.

This invention is shown in illustrative embodiments in the accompanying drawings, in which—

FIGURE 1 is an elevational view of a room divider formed from the pole assemblies of this invention;

FIG. 2 is an enlarged elevational view, partly in section, of one of the joints of the pole assembly of FIG. 1;

FIG. 3 is a vertical sectional view of the same joint assembly, the joint being shown in separated or flexed condition;

FIG. 3A is a fragmentary enlarged detail sectional view of one turn of the spring connector employed in the joint illustrated in FIGS. 2 and 3;

FIG. 4 is an elevational view of a stud which may be installed in the ceiling of a room for positioning and holding the upper segment of the pole assembly;

FIG. 5 is an enlarged elevational sectional view showing the ceiling stud of FIG. 4 in its assembled relation with the upper segment of the pole assembly;

FIG. 6 is an elevational view showing the pole assembly of the preceding Figures being installed between the floor and ceiling of a room;

FIG. 7 is a plan view of a shelf or connector member which may be employed with the pole assemblies of this invention;

FIG. 8 is an elevational view of a series of pole assemblies connected by laterally-extending members like the member of FIG. 7, thereby providing shelves which may be used as book shelves or for other purposes;

FIG. 9 is an enlarged vertical sectional view of one of the joints of the assembly of FIG. 8 showing the relation of the shelf member to the joint;

FIG. 10 is an elevational view, partly in section, of a pole-type lamp and table combination, utilizing the pole assembly of the present invention;

FIG. 11 is a fragmentary elevational view, partly in section, of another type of pole lamp which may be constructed from the pole assembly of the present invention; and

FIG. 12 is an elevational view, partly in section, of a modified form of flexible connector for connecting the joints of the pole assemblies.

Looking first at FIGURE 1, there is shown a series of decorative pole assemblies P installed between the floor F and ceiling C of a room, thereby providing an ornamental room divider. The pole assemblies P are formed from a plurality of ornamental pole segments **10** which are arranged in end-to-end alignment to form a multi-jointed pole. Preferably, the segments **10** are wood turnings. In the illustration given, the turnings **10** are in the form of spools having recessed central portions and enlarged ends for providing a decorative effect. It will be understood, however, that the exterior of the turnings may be provided with a wide variety of ornamental grooves, rings, and other surfaces to vary the decorative appearance of the poles. In certain embodiments, the pole segments may have non-circular cross sections, such as square, octagonal, etc., and may be formed of other materials than wood, such as plastics or metals. It will also be understood that the exterior surfaces of the pole segments may be finished in any manner, such as staining, varnishing, or painting.

The pole assemblies P are provided with a plurality of joints J which are formed between the abutting ends of the segments **10**. The preferred construction of the joints J is illustrated in FIGS. 2 and 3, which will now be explained.

The adjacent joint-providing ends of the segments **10** include axially aligned cylindrical recesses **11** having internal screw threads **12**. A cylindrical connector **13** has its opposite end portions received within the adjacent pairs of the recesses **11**, as shown in FIGS. 2 and 3. At least the connector outer end portion should provide external screw threads **14** adjustably engaging the corresponding threads **12** of the recess walls.

In accordance with the present invention, the connectors **13** are provided with a flexible resilient central portion **13***a* unconnected to the walls of the recesses **11**. Preferably, the inner end portions **11***a* of the recesses **11** are enlarged and the walls provided by the inner end

portions are spaced from the connector central portion **13***a*. For example, a hemi-spherical type of enlargement may be provided as shown in FIGS. 2 and 3. As shown in FIG. 3, the joint J may be flexed by bending and stretching the connector central portion **13***a*. The advantage of this construction will subsequently be explained in greater detail.

In the embodiment of FIGS. 2 and 3, the connector **13** is a metal coil spring. The outer portions of the springs **13***b* provide turns which are spaced and sized to engage the threads **12** provided by the walls of recesses **11**. Preferably, the central portions **13***a* of the coil springs provide turns more closely spaced than the outer portions **13***b*. In the illustration given, the turns of spring central portion **13***a* are substantially contiguous or touching when the spring is in its normal unstretched or unflexed condition. This arrangement is shown most clearly in FIG. 2. The central portion **13***a* with the closely spaced turns lies within the enlarged inner ends **11***a* of the recesses. When the turns of spring central portion **13***a* are more closely spaced than the turns of the outer portions **13***b*, the outer ends of the central portion **13***a* will act as stops since the closely spaced central portion of the spring will resist entry into the threaded portions of the recesses **11**. Preferably, therefore, spring central portion **13***a* has a length substantially equal to or slightly less than the axial distance across the enlarged, nonthreaded central recess portions **11***a*. When the spring is fully inserted as shown in FIG. 2, the adjacent ends of the wood turnings **10** will abut each other, and the outer ends of the spring central portion **13***a* will just begin to engage the threads of the recesses **11**. Another advantage of having more closely spaced turns in the spring central portion **13***a* is that greater rigidity or stiffness can be provided in the assembled pole without interfering with the desired flexibility for installation, the flexing serving to open the turns of the central portion, as shown in FIG. 3.

Preferably, the axial length of the threaded portions of the recesses **11** are at least as great as the length of the spring sections having the expanded turns for being received in the threads of the recesses. In the illustration given, the spring sections **13***b* are shown extending substantially to the bottom of the threaded recess portions. The recesses also provide unthreaded outer portions **13***c*, which are not essential for the operation of the assembly but may be desirable for ease of fabrication. For example, an axial bore may be formed in the ends of the wood turnings **10**, the bore having the diameter of the outer end portions **13***c*. The bore may then be enlarged at the inner end portions by a countersinking procedure to provide the enlargements **11***a*. As a final step, the bore may be tapped to provide the threads **12**.

As shown in FIG. 3A, the turns of the coil springs **13** may have a rectangular cross section, while having rounded external side portions for engaging the threads of the recesses or bores **11**. Springs having turns with circular or round cross sections can also be used, but the rectangular cross section as shown in FIG. 3A has the advantage of providing a central portion **13***a* which is stiffer than would be obtained with a spring having turns of circular cross section.

One suitable means for positioning and holding the uppermost pole segment **10** in an established relation to a ceiling is illustrated in FIGS. 4, 5 and 6. A stud **15** may be provided having an enlarged head **16** and a screw shank **17**. The enlarged head **16** may be formed of rubber or other resilient material, and may be sized to be snugly received within the enlarged inner end portion **11***a* of the recess **11**. As shown in FIG. 5, the threaded shank **17** of the stud **15** can be inserted in the ceiling C, and the enlarged end **11** of the upper segment **10** inserted over the head **16**, thereby stabilizing and positioning the upper end of the pole assembly, as shown more clearly in FIG. 6.

To provide for the adjustment of the floor-to-ceiling length of the pole assembly, the lower end of the pole assemblies P may be provided with base blocks **18**, as shown in FIGS. 1 and 6. Preferably, the base blocks **18** are formed of wood so that they may be readily cut to adjust the overall length of the assembly.

In the installation of the pole assembly P, as illustrated in FIG. 6, the segments **10** may be connected with the flexible connectors **13**, as previously described with reference to FIGS. 2 and 3. It will be understood that the upper end of the base block **18** will also be provided with a recess similar to the recess **13** in the adjacent end of the lower segment **10**, thereby permitting the base block **18** to be connected to the lower segment **10** in the same manner. Either before or after assembly of the base block **18** to the lower segment **10**, the lower end of the base block will be cut to provide an overall length of the pole assembly Y′ corresponding to the floor-to-ceiling height Y at the point of installation. With this step completed, the upper end of the upper segment **10** may be inserted over the stud **15**, and the segments of the pole assembly flexed to a condition like the one shown in FIG. 6 where base block **18** is slightly above the floor F. It is then a simple matter to move the base block inwardly along the line Z to its final position where the entire pole assembly P is verical and extends from floor to ceiling. If desired, some suitable fastener may be used for attaching the bottom of the base block **18** to the floor F, although this is not essential. It will be appreciated that the pole assembly P can be readily removed whenever desired by the reverse of the procedure just described. By flexing the joints J, the vertical length of the assembly can be shortened, thereby releasing the base block **18** from the floor F and the upper segment **10** from the ceiling C.

FIGURES 7, 8 and 9 illustrate a modified pole assembly P′ having modified joints J′ which receive members **19** having a lateral extent. In the illustration given, the members **19** serve as shelves or connectors extending horizontally between the joints J′ of a plurality of the pole assemblies P′. The shelf members **19**, which conveniently may be formed of wood, plywood, hardboard, etc., are provided with spaced openings **20** of sufficient size to permit the spring connectors **13′** to extend therethrough, as shown in FIG. 9. By tightening the outer turns of spring **13′** into the threaded portions of the recesses **11′**, the portions of shelf **19** adjacent each of the openings **20** may be clamped between the adjacent inner end portions of the segments **10′**. In the assembled structure, as shown in FIG. 8, the shelves 19 may be used for storing books or other objects. It will be understood that the entire assembly of FIG. 8 may be installed in the same manner as the pole assembly P of FIG. 6.

In FIG. 10, there is shown a pole assembly P″ which is designed to provide a pole-type lamp. The pole segments **100**, **101**, **102**, **103** and the base block **104** may be connected by spring connectors **105** having a construction similar to the spring connectors **13** previously described. A bore may be provided through the pole assembly for receiving a light cord **106** which connects to light fixtures **107**. A support **108** for a lampshaded **109** may be received between the adjacent ends of segment **100**, as shown in FIG. 10. A laterally-extending table **110** may be provided with a central opening **111** through which extends the spring **105** between the adjacent ends of segments **102** and **103**. It will be understood that the unit may be installed as previously described with respect to the pole assembly P between the ceiling C and the floor F.

In FIG. 11, another lamp assembly is illustrated. The pole segments **200** and **201** are provided with central bores **202** and **203**. The adjacent end portions of the bores include threaded portions **204** and **205** and enlarged portions **206** and **207**. A spring connector **208** unites the adjacent ends of the segments **200** and **201** in the manner previously described. A light cord **209** ex-

tends through bores **202** and **203** and through the spring connector **204** to connect with a laterally-extending light fixture **210** which is mounted on the side of the segment **200**. It will be understood that other pole segments will be provided for a floor-to-ceiling installation similar to the one described with reference to FIG. 10.

In FIG. 12, there is shown a modified connector **300** which may be substituted for the spring connectors **13**. Connector **300** is molded from a solid piece of flexible resilient material such as natural or synthetic rubber. External threads **301** are formed in the outer surface of the connector, and are dimensioned to be received within the threaded portions of the recesses of the segments, such as the segments **10** of the embodiment of FIGS. 1 and 2. The connectors **300** will have an overall length substantially the same as the spring **13**, and the central portions of the connectors **300** will provide for the flexing of the joints J between the adjacent ends of the segments **10**.

While in the foregoing specification this inevntion has been described in relation to certain specific embodiments thereof, it will be apparent to those skilled in the art that the invention is susceptible to other embodiments, and that many of the details described herein can be varied considerably without departing from the basic principles of the invention.

We claim:

1. A decorative pole assembly adapted for installation between two facing surfaces such as the floor and ceiling of a room, comprising:

(a) a plurality of ornamental pole segments arranged in end-to-end alignment to form a multi-jointed pole, the adjacent joint-providing ends of said segments including axially aligned cylindrical recesses with walls having internal screw threads; and

(b) cylindrical connectors having opposite outer end portions received within adjacent pairs of said recesses,

said connector outer end portions providing external screw threads adjustably engaging the corresponding threads of said recess walls,

at least one of said connectors consisting of a metal coil spring providing outer end portions having turns spaced and dimensioned for adjustably engaging the threads of said recess walls,

adjacent outer end portions of the recesses engaged by said spring being enlarged and the walls provided by said spring-engaged recess outer end portions being spaced from said spring central portion;

whereby said spring may be flexed to facilitate the installation or removal of the assembled pole.

2. The decorative pole assembly of claim **1** wherein the central portion of said spring provides more closely spaced turns than the thread-engaging turns of its outer end portions.

3. The decorative pole assembly of claim **1** wherein the turns of said spring are of generally rectangular cross-section, but have rounded external side portions for engaging the threads of said recess walls.

4. The decorative pole assembly of claim **1** wherein a portion of a member having a lateral extent is interposed between the ends of at least two of adjacent pole segments said member portion providing an opening therethrough receiving and enclosing at least part of the central portion of the connector which extends between and unite said two pole segments, said opening having a smaller diameter than said pole segment ends so that said member is clamped between said pole segment ends when said pole segments are tightened onto the said connector.

5. The decorative pole assembly of claim **1** wherein most of said pole segments are wood turnings, wherein one of said segments at one end of said pole assembly is a wood base block which can be cut to adjust the overall length of said assembly, and wherein the other end one of said segments has a recess in the outer end thereof for receiving a positioning member.

6. The combination of claim **4** wherein said member is a bookshelf.

7. The combination of claim **4** wherein said member is a table.

8. In a pole assembly, the combination of:

(a) a series of axially aligned, generally cylindrical wooden spools having adjacent facing ends providing internally-extending axial bores, the walls of said bores having internal screw threads extending inwardly from the mouths thereof, the adjacent mouth portions of some of said spools being enlarged to a diameter greater than that of said bores and the threads thereof beginning at a distance from said facing ends, and

(b) cylindrical connectors having opposite end portions received within the threaded portions of said bores to connect and disconnect said spools, at least one of said connectors consisting of a metal coil spring providing outer end portions having turns spaced and dimensioned for adjustably engaging the threads of said bores, each of said spring having a flexing central portion extending through said spool mouth portion.

9. The combination of claim **8** wherein the said spring central portion provides more closely spaced turns than the thread engaging turns of its outer end portions.

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U.S. Cl. X.R.

52—726; 211—86; 248—356; 287—86