United States Patent

Fenwick

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[54] HANGROD ASSEMBLY

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[52] **U.S. Cl.** **211/105.1**
[51] **Int. Cl.** **A47h 1/02**
[58] **Field of Search** 211/105.1; 248/251, 254

[56] **References Cited**

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[57] **ABSTRACT**

A hangrod assembly which comprises an adapter which may be readily secured to a conventional support bracket and a longitudinally split tubular hangrod which is attachable to the adapter without the use of tools or fastening devices. The adapter and hangrod have mutual engaging and cooperable ridges and grooves which allows the hangrod to be snapped into place by pressing the hangrod from an open unconfined state to a closed, confined state.

6 Claims, 4 Drawing Figures

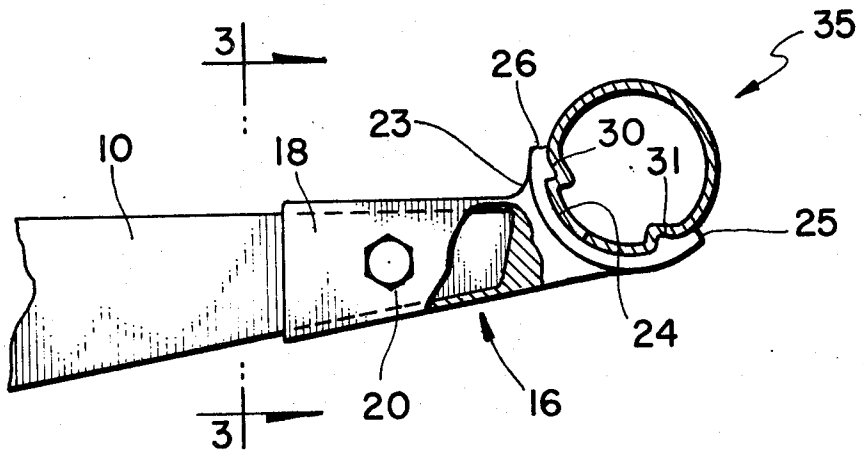


FIG 1

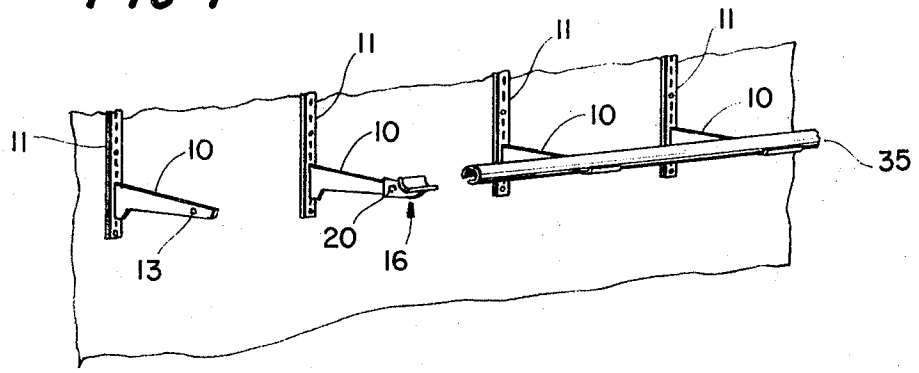


FIG 2

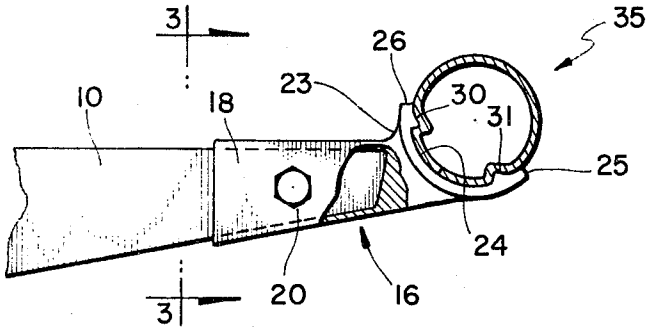


FIG 3

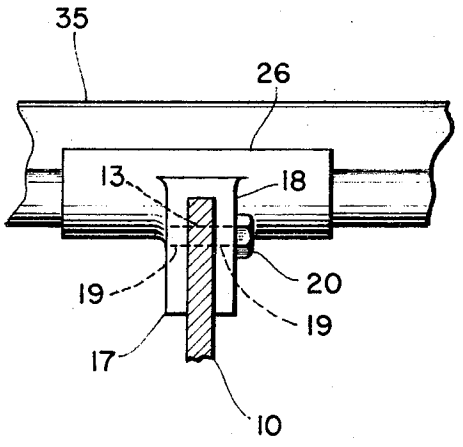
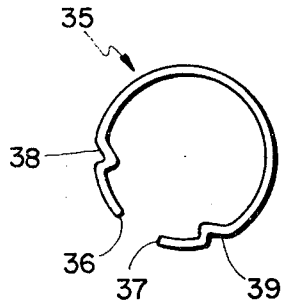


FIG 4



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HANGROD ASSEMBLY

The invention relates to a new and improved hangrod assembly which comprises an adapter, which may be readily secured to a conventional support bracket, and a longitudinally split tubular hangrod which is attachable to the adapter without the use of tools or fastening devices such as nuts and bolts. The adapter and hangrod have mutually engaging and cooperable ridges and grooves which allows the hangrod to be snapped into place by pressing the hangrod from an open, unconfined state to a closed, confined state.

A main object of the invention is to provide a new and improved hangrod assembly of the type described herein. Other objects and advantages of the invention will become apparent from the following specification, drawing and appended claims.

In the drawings:

FIG. **1** is a fragmentary perspective view showing different stages in the installation of a hangrod assembly embodying the invention;

FIG. **2** is a side elevational view, partly in section, of the hangrod assembly;

FIG. **3** is a front elevational view, with portions broken away, of the hangrod assembly; and

FIG. **4** is a sectional view of the hangrod member in its open, unconfined state.

Referring to the drawings, a plurality of support brackets **10** are mounted on pilaster strips **11** secured in upright positions to the front surface of a wall or partition **12**. The support brackets **10** are of uniform length with the outer ends thereof in transverse alignment. Each support bracket **10** comprises a flat metal strip, tapered towards its outer end, and is provided with a hole **13** near its outer end.

Adapter members **16** are provided which are mountable at the end of each bracket **10**. The adapter is a casting of a metal such as aluminum and has a slotted body portion with two walls **17** and **18** which allows the adapter member to fit over the end of a bracket in the manner of a sheath. Walls **17** and **18** have aligned holes **19** which are alignable with the bracket hole **13**. One of the holes **19** is tapped to threadedly receive a mounting screw **20**.

Adapter member **16** includes a transversely extending hangrod support portion **23** having a cylindrically concave surface portion **24** which is somewhat larger than a quadrant and has longitudinally extending edges **25** and **26**. In closely spaced relation to the edges **25** and **26** are a pair of parallel, longitudinally extending ridges **30** and **31**. The ridges are generally semicircular in section but are asymmetric in that they lean somewhat towards each other.

The word "lean" or "leaning" as used herein means that the apex of a ridge or groove is offset relative to a line which bisects the base of the ridge or groove.

Hangrod member **35** comprises a longitudinally split tubular member having free edges or ends **36** and **37**. Hangrod member **35** is made of a resilient material such as steel or plastic and has a closed, confined state as shown in FIG. **2** and an open, unconfined state as shown in FIG. **4**. When in the closed state the hangrod section is circular and the radius of the section is equal to the radius of the concave surface portion **24** of the adapter support **23**.

Hangrod member **35** has two parallel, longitudinally extending grooves **38** and **39** on opposite sides of the free edges **36** and **37**. Grooves **38** and **39** have complementary sections relative to the adapter ridges **30** and **31** and accordingly they lean towards each other in the same manner as do the adapter ridges **30** and **31**. When the hangrod is in its closed state, the grooves have the same circumferential spacing as the ridges, as may be noted in FIG. **2**.

The hangrod member **35** is attached to the adapter **16** by radially compressing it and snapping it into place with adapter ridges **30** and **31** disposed in the hangrod grooves **38** and **39**. This provides a snap lock effect and the leaning of the grooves towards each other gives substantial stability to the system which prevents dislodging of the hangrod in the absence of substantial radial compressive forces being applied to the hangrod. As may be noted from FIG. **2**, the angular spacing of the adapter ridges **30** and **31** is between 90° and 180° and is specifically illustrated as being about 115°. The angular spacing of the hangrod grooves **38** and **39** is the same when the hangrod is in its confined state as shown in FIG. **2**. It is this angular spacing and the "leaning" of the ridges and grooves towards each other as described that contribute to or are responsible for a strong, snap action locking effect which is achieved without the use of screws or similar fastening means for attaching the hangrod to the adapter **16**.

I claim:

1. A hangrod assembly comprising a bracket, an adapter member mounted on said bracket, a longitudinally split tubular hangrod member detachably mounted on said adapter member, said hangrod member defining two free edges, said hangrod member having a closed confined state and an open unconfined state, one of said members having two parallel longitudinally extending grooves and the other of said members having two parallel longitudinally extending ridges, said ridges being disposed in said grooves when said hangrod member is in said closed state, said free edges being between said grooves when said hangrod member is in said closed confined state.

2. A hangrod assembly according to claim **1** wherein said hangrod member has a circular section.

3. A hangrod assembly according to claim **1** wherein said grooves are in said hangrod member.

4. A hangrod assembly according to claim **3** wherein said grooves have an included angle between 90° and 180° when said hangrod member is in said closed state.

5. A hangrod assembly according to claim **4** wherein said included angle is approximately 115°.

6. A hangrod assembly according to claim **1** wherein said ridges are formed to lean towards each other and said grooves are formed to lean towards each other.

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