Sept. 3, 1968 S. G. INJESKI 3,399,783

RETRACTIBLE CLOTHES RACK

Filed March 9, 1967 2 Sheets-Sheet 1

Fig. 1

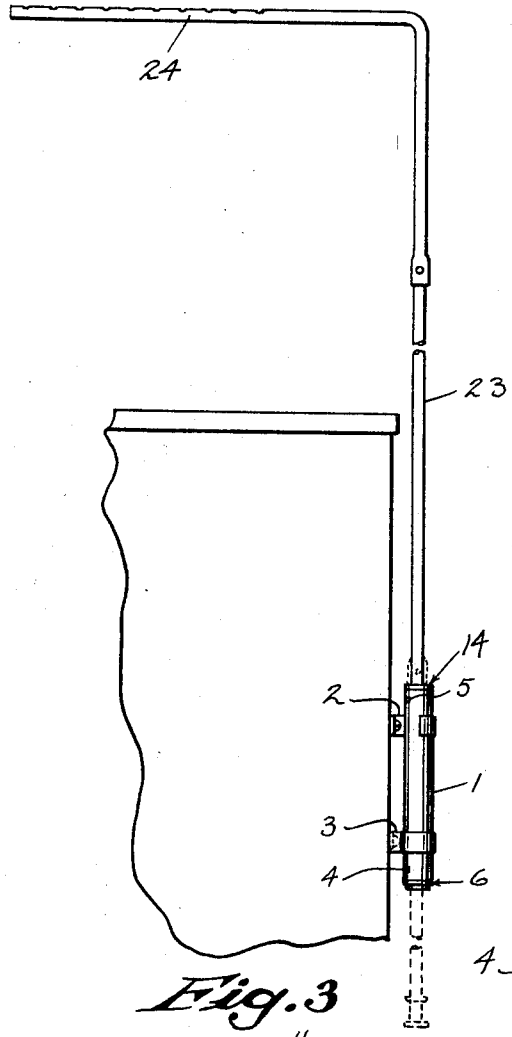


Fig. 2

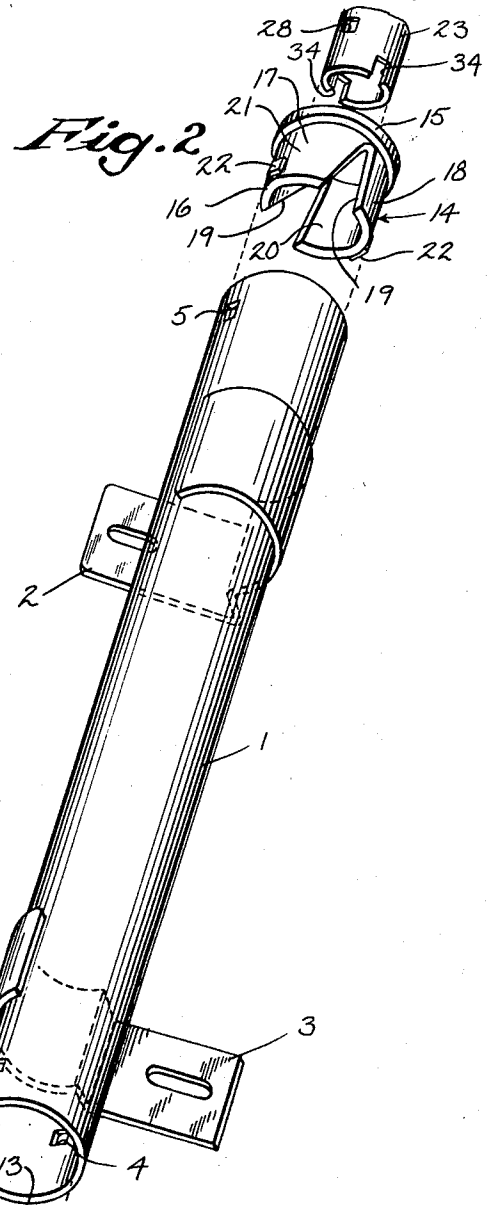
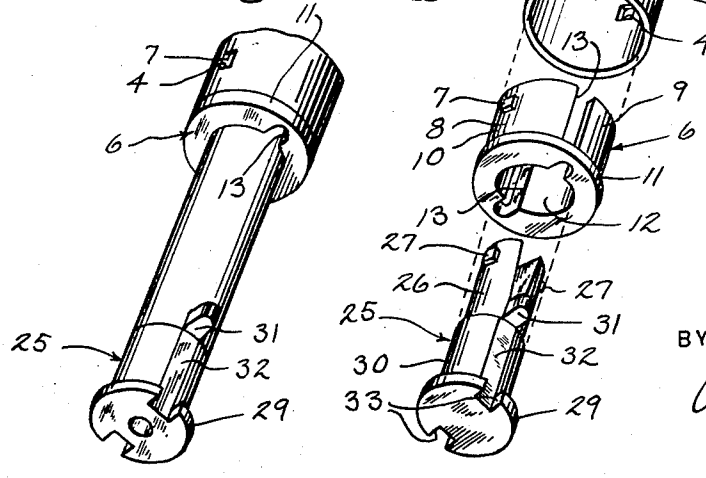


Fig. 3



INVENTOR
STANLEY G. INJESKI

BY Arthur H. Seidel

ATTORNEY

Sept. 3, 1968 S. G. INJESKI 3,399,783

RETRACTIBLE CLOTHES RACK

Filed March 9, 1967 2 Sheets-Sheet 2

Fig. 4

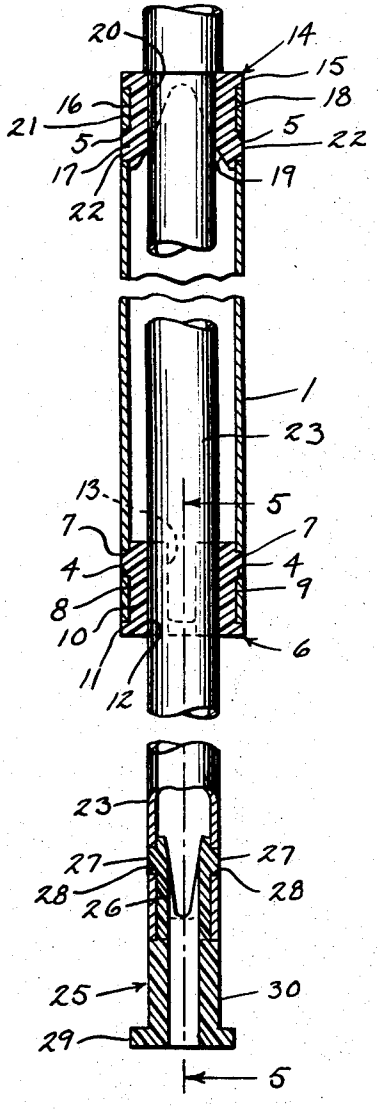


Fig. 5

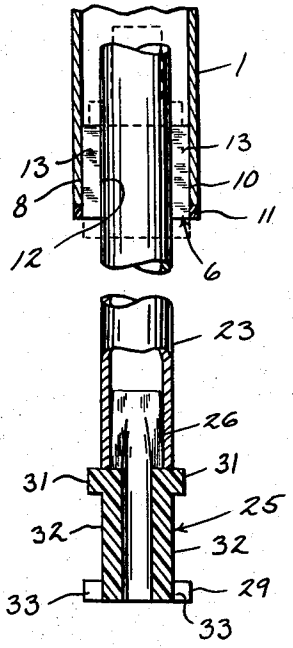


Fig. 6

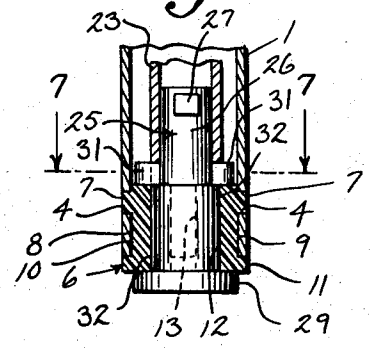


Fig. 7

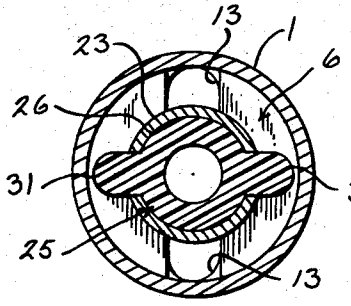
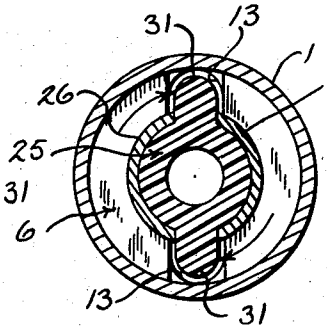


Fig. 8



INVENTOR
STANLEY G. INJESKI

BY Arthur H. Seidel

ATTORNEY

United States Patent Office 3,399,783 Patented Sept. 3, 1968

3,399,783

RETRACTIBLE CLOTHES RACK

Stanley G. Injeski, Milwaukee, Wis., assignor to Worlds-best Industries, Inc., Cudahy, Wis., a corporation of Wisconsin

Filed Mar. 9, 1967, Ser. No. 621,911
2 Claims. (Cl. 211—103)

ABSTRACT OF THE DISCLOSURE

There is disclosed herein a support tube with resilient bearing members insertable at each end of the tube for receiving a rod that is rotatable and vertically movable within the bearing members for positioning an arm serving as a clothes rack. The bearing members and a plug in the end of the rod are of particular configurations for facilitating assembly and retention of the rod in its raised position.

Background of the invention

The invention pertains to a rack for supporting clothes that can be mounted on a clothes dryer, a washing machine or similar device, or the invention may find use in other fields, for it pertains more particularly to a novel support for a rod that is to be raised and lowered for the purpose of selecting a position for the rod.

It has been the practice to provide clothes racks with telescoping rods that may be raised and lowered. The rods mount an arm from which clothes hangers may be hung, and the rod may be fully lowered to an inactive position for storage, or it may be elevated to a level from which clothes can be hung. The rod is usually held in position by a wedging action of a ball or roller that engages the side of the rod. To lower the rod the ball or roller must be held away from the rod. This requires ready access to the ball or roller. In the present invention a ball, or roller, is not employed and the mounting for the rod can be in a location behind an appliance, such as a dryer, that is not readily accessible. Hence, the invention provides an improved means of mounting a rod type clothes rack.

Summary of the invention

The invention more particularly resides in the provision of a hollow support tube, a bearing member of resilient material at one end of the tube having a sleeve portion insertable into the tube that is split lengthwise into at least two inwardly deflectible segments for facilitating assembly of the bearing member with the tube, a second bearing member also of resilient material at the opposite end of the tube having a sleeve portion insertable into the tube that is split lengthwise into at least two inwardly deflectible segments for purposes of assembly, a clothes rod extending through the tube that is in bearing engagement with the bearing members for both rotational and longitudinal translation of the rod, and a plug in the lower end of the rod having a radially extending tongue that is received by and slidable through a slot in one of the bearing members, such tongue overlaying the bearing member upon lifting the rod to pass the tongue upward through the slot and then turning the rod. When the tongue is in the upward position overlaying the associated bearing member the rod is held in a raised position for supporting clothes hangers, or the like.

It is a particular object of the invention to provide a support for the rod that can be readily assembled.

It is a further object to provide smooth bearing surfaces for the rod of the clothes rack.

Another important object is to provide a support for a rod that is comprised of parts that can be assembled

by simple manual insertion of some of the components into other components of the assembly.

Other objects and advantages of the invention will appear from the following description of the drawings and a preferred embodiment as illustrated therein.

Brief description of the drawings

FIG. 1 is a side view in elevation of a retractible clothes rack embodying the invention being shown as attached to the body of a dryer or similar appliance,

FIG. 2 is an exploded view in perspective of parts of the clothes rack shown in FIG. 1,

FIG. 3 is a fragmentary view in perspective of parts of the clothes rack assembled with one another,

FIG. 4 is a view in vertical cross section of parts of the clothes rack,

FIG. 5 is a fragmentary view in vertical cross section taken on the plane 5—5 represented in FIG. 4,

FIG. 6 is a fragmentary view in vertical cross section of parts of the clothes rack,

FIG. 7 is a view in horizontal cross section of the clothes rack taken on the plane 7—7 represented in FIG. 6, and

FIG. 8 is a view in horizontal cross section also taken through the plane 7—7 represented in FIG. 6, but with parts of the clothes rack oriented in a different position.

Description of the preferred embodiment

The retractible clothes rack of the invention has a support tube **1** with brackets **2** and **3** suitable for mounting of the tube **1** on the body of a dryer, washing machine or similar device, the manner of attachment being illustrated in FIG. 1. The support tube **1** has a set of retaining openings **4** puncturing its circular cylindrical body near its lower end and another set of retaining openings **5** near its upper end, such openings **4** and **5** being most clearly shown in FIG. 2.

Received in the lower end of the support tube **1** is a resilient bearing member **6**, which is most clearly shown in perspective in the exploded view of FIG. 2. The member **6** is normally assembled in the lower end of the support tube **1** in a fixed position, and for retaining the member **6** in such fixed position it is provided with a pair of rectangular bosses **7** that match the retaining openings **4**. The bosses **7** protrude from a sleeve portion **8** of the bearing member **6** that is split into two segments **9** and **10**. The number of segments is not critical, and they each integrally merge at one end with an annular collar portion **11** having an outer diameter that matches the diameter of the support tube **1**, so that upon insertion of the bearing member **6** into the support tube **1** the collar portion **11** will abut the end of the tube.

It is preferable to form the resilient bearing member **6** of a moldable material such as a synthetic that has naturally resilient properties. Then, each segment **9**, **10** of the sleeve portion **8** is resilient, so that it may be deflected radially inward as the bearing member **6** is inserted into the tube **1** to accommodate the bosses **7**. The bosses **7** will snap into engagement with the retaining openings **4** as the bearing member **6** is moved into its fully inserted position. The material selected for the bearing member **6** should also provide a smooth bearing surface for the inner face **12** of the segments **9** and **10** of the sleeve portion **8**. As is shown in the drawings, the outer face of the sleeve portion **8** snugly fits with and matches the inner surface of the support tube **1**, so that the resilient bearing member **6** will positively seat within the tube **1** with a minimal play between parts. The resilient bearing member **6** also has a par of slots **13** that run the full length of the member **6**, so as to pass through both the annular collar portion **11** and the sleeve portion **8**. The purpose of the slots **13** will be discussed more fully hereinafter.

A second resilient bearing member **14** is received in the upper end of the support tube **1**, and is shown in perspective in FIG. 2. The member **14** has an annular collar portion **15** that is of a diameter that presents a flange that abuts against the upper edge of the support tube **1** when the member **14** is in assembled position. Integral with the annular collar portion **15** is a sleeve portion **16** that is inserted in the tube **1** and which is split lengthwise into a pair of oppositely disposed segments **17** and **18** that are separated by V-shaped notches **19**. The inner face **20** of the member **14** provides a smooth bearing surface, and the outer face **21** mates with the surface of the tube **1** to have a firm fit. The second resilient bearing member **14** may be formed of the same material as the bearing member **6**, and similarly it is preferable to be of resilient nature so that the segments **17** and **18** can be deflected inwardly, whereby bosses **22** protruding from the outer faces of the segments **17** and **18** can snap into engagement with the retaining openings **5** in the upper end of the support tube **1**.

Extending through the support tube **1** and in bearing engagement with the inner faces **12** and **20** of the resilient bearing members **6** and **14** is a hollow rod **23**. As shown in FIG. 1, the upper end of the rod **23** turns to the horizontal to form an arm **24** that can support clothes hangers, or other devices. The rod **23** can be raised and lowered in the support tube **1**, and also rotated to lock the rod in its raised position.

For holding the rod **23** in raised position there is provided a plug **25**, shown in perspective in the lower part of FIG. 2, that is inserted in the lower end of the rod **23**. To hold the plug **25** in position it is provided with a forked upper end **26** having bosses **27** that fit within openings **28** in the rod **23**. It is desirable that the forked upper end **26** be of resilient material, so that the bosses **27** will engage with the rod **23** similarly as the bosses **7** and **22** of the bearing members **6** and **14** fit within the tube openings **4** and **5**. For this purpose the plug **25** is preferably formed of the same material as the bearing members **6** and **14**.

The lower end of the plug **25** presents a flange portion **29** that will strike the collor portion **11** of the resilient bearing member **6** to limit the upward travel of the rod **23**. Between the flange portion **29** and the forked upper portion **26** of the plug **25** is a center portion **30** that is of slightly larger diameter than the forked upper portion **26**. The upper edge of the center portion **30** abuts the lower end of the rod **23**. Immediately above the center portion **30** there protrudes from the forked upper portion **26** of the plug **25** a pair of diametrically opposite tongues **31** that are of a size and configuration to be received within the slots **13** of the bearing member **6**. Directly beneath the tongues **31** are flats **32** on the center portion **30**, and in alignment with the flats **32** and the tongues **31** are notches **33** in the flange portion **29**. The purpose of the notches **33** and the flats **32** is to facilitate the construction of the dies from which the plug **25** is made, whereby the upstanding tongues **31** can be formed without resort to necessarily complex die and die insert configurations.

Upon assembly of the plug **25** into the hollow rod **23** the tongues **31** fit into notches **34** in the lower end of the rod **23**. The finished appearance, as shown in FIG. 3, is that of the plug **25** forming a lower extension of the rod **23**, with the surface of the center portion **30** forming a smooth continuation of the outer surface of the rod **23**. From this smooth surface the tongues **31** protrude radially, so that upon an upward motion of the rod **23** the tongues **31** can enter the slots **13** of the resilient bearing member **6**. As the rod is fully raised the outer surface of the center portion **30** of the plug **25** will fit snugly within the resilient bearing member **6**, to have a fit between the parts that will minimize the play of the rod **23**.

The rod **23** is locked in its raised position by rotating the rod after it has been raised sufficiently to have the tongues **31** pass entirely through the slots **13**. Upon rotating the rod **23** the tongues **31** will overlay the sleeve portion **8** of the resilient bearing member **6**, and will rest upon the upper edge of the segments **9** and **10** to prohibit descent of the rod **23**. Preferably, the slots **13** and the tongues **31** are positioned so that the rod **23** must be turned into a position that the arm **24** clears the dryer body, to which the clothes rack is attached, before the tongues **31** can be lowered through the slots **13**.

The parts described in the foregoing paragraphs are shown assembled in FIG. 4, and in FIG. 4 the rod **23** is in a lower position, so that the plug **25** is well beneath the support tube **1**. FIG. 4 further shows that the plug **25** is hollow to facilitate the formation of the forked upper end **26**, which must be resilient in order to easily snap the bosses **27** into mating engagement with the openings **28** in the lower end of the rod **23**.

FIG. 5 also shows the rod **23** in a lower position, and in this figure the tongues **31** are in vertical alignment with the slots **13**, so that the rod **23** may be raised to its upper position. FIG. 6 is a fragmentary cross section view showing the rod **23** in its upper position and with the rod having been turned to bring the tongues **31** over the upper edge of the resilient bearing member **6**. The corresponding position as seen in a horizontal cross section view is shown in FIG. 7. FIG. 8 shows the relative position of the parts upon the rod **23** being rotated 90 degrees from that shown in FIG. 7, so as to align the tongues **31** with the slots **13** preliminarily to lowering the rod **23** to its lower position. The purpose of lowering the rod **23** is to lower the arm **24** so that it may be placed out of the way to the side of the dryer body.

What is claimed is:

1. In a rack the combination comprising:

a hollow support tube with retaining openings at its upper and lower ends;

attachment means on said support tube for mounting the rack;

a first bearing member of resilient material at one end of said support tube having:

an annular collar portion that abuts the end of the tube,

a sleeve portion insertable into the tube, such sleeve portion being split lengthwise into at least two segments that are inwardly deflectable, each such segment providing an inner bearing face and an outer face matching the wall of said tube, and

said first bearing member having at least one lengthwise slot running its full length;

at least one boss on the outer face of said sleeve portion of said first bearing member that fits within a retaining opening at the associated end of said support tube upon insertion of the first bearing member into said support tube;

a second bearing member of resilient material at the opposite end of said support tube providing an inner bearing face;

a rod extending through said support tube that is in bearing engagement with said first and second bearing members for both rotation and longitudinal translation of the rod; and

a plug of resilient material insertable in the lower end of said rod having:

a lower flange portion,

a center portion of a length slightly greater than the length of said first bearing member with an upper edge that is adjacent the end of the rod,

a radially extending tongue that is received by and slidable through said slot of said first bearing member, said tongue overlaying the segments of the sleeve portion of said first bearing member upon lifting said rod to pass the tongue through the slot and then rotating the rod, thereby maintaining the rod in raised position, and

a forked portion above the center portion that

presents resilient segments that are inwardly deflectable and which are inserted in said rod; and at least one boss on the forked portion of said plug that snaps into a mating opening of said rod upon insertion of the forked portion into the rod.

2. A rack as in claim 1, wherein said second bearing member has an annular collar portion that abuts the associated end of the tube and a sleeve portion insertable into the tube, such sleeve portion being split lengthwise into at least two segments that are inwardly deflectable, each such segment providing an inner bearing face and an outer face matching the wall of said tube; and wherein there is at least one boss on the outer face of said sleeve portion of said second bearing member that fits within a retaining opening at the associated end of said support tube upon insertion of the second bearing member into said support tube.

References Cited

UNITED STATES PATENTS

1,199,770	10/1916	Elphinstone	248—161 XR
1,873,326	8/1932	Ratigan	287—58
1,951,754	3/1934	Gilbert	287—58
2,455,213	11/1948	Bell	211—103
2,483,396	10/1949	Benson	287—58
2,947,556	8/1960	Wenger	248—161 XR

ROY D. FRAZIER, *Primary Examiner.*

A. FRANKEL, *Assistant Examiner.*