

Curtain Rod Slider

Field of Invention

[001] The present invention relates to curtain rod sliders. These curtain rod sliders allow improved, smoother drawing of a curtain on a curtain rod. The curtain rod slider is also useful when used with a telescopic curtain rod.

Background

[002] Curtains are often draped over a window, both for some functional or decorative purposes. In addition, some curtains may be used in room to reduce glare from sunlight, in a shower room to minimise wetting of a bathroom floor, or in a clinical environment to provide temporary privacy. Some known ways of hanging curtains are given below:

[003] US Patent No. 9,730,541, issued to Thorpe, describes a window treatment closure device, as shown in FIG. 1. The closure device includes a main body (30), a secondary body, an elongate rod (31) engageable into both the main body and the secondary body, and a grommet (32) disposed over a hollow, slotted curtain rod (10).

[004] US Patent No. 4,750,243, issued to Waterware Inc., describes a shower curtain holder. As shown in FIG. 2, the shower curtain holder is a split, hollow and spherical holder (40) with a through aperture (41) and a lower recess (42). A pair of projecting pin and hole at the split face hold the split, spherical halves together. The projection pin and hole interlock to form a projection member (43) across the lower recess (42). When each split holder (40) is assembled, its through aperture (41) is slidable on a curtain rod, whilst the projection member (43) is used to suspend (45) a curtain.

[005] US Patent No. 5,228,149, issued to Phinn, describes a curtain (20) being suspended from a curtain rod (12) by hooks or rings (15). As shown in FIG. 3, the hooks or rings (15) engage with grommets holes formed along an upper edge of the curtain (20).

[006] US Patent No. 9,456,711, issued to Peking Handicraft, Inc., describes a curtain panel (20) formed with pleats (21,25). As shown in FIG. 4, the pleats (25) are arranged along an

upper, back edge of the curtain panel (20) and a grommet (26) is engaged with each fabric pleat (25), so that the grommets are slidable on a curtain rod (12).

[007] US patent publication no. 2020121111, by Decolin Inc., describes split grommets (50) for curtains. As shown in FIG. 5, the split grommets (50) allow easy installation on a curtain rod (12). Each grommet (50) is made up of a front split ring and a rear split ring, forming a split at the top that is aligned with a split line in the curtain (20). A lower part of each grommet (50) has a hook (52) to engage with a ring that supports a lining curtain (22).

[008] US patent publication no. 2022039582, by Lund, describes a grommet spacer. As shown in FIG. 6, a curtain (20) is suspended with grommet rings (27) arranged along an upper edge of a curtain. Grommet spacers (60), each made of a hollow tube having a longitudinal slit (62), help maintain consistent spacing of the grommet rings (27). The longitudinal slit (62) allows the split edges of the hollow, tubular grommet spacers (60) to be temporary pulled for the grommet spacers to fit over the curtain rod (12).

[009] Despite the above known art, there is still a need to provide a curtain rod slider to allow easy drawing of curtains on an associated curtain rod, especially over a joint of a telescopic curtain rod.

Summary

[0010] The following presents a simplified summary to provide a basic understanding of the present invention. This summary is not an extensive overview of the present invention, and is not intended to identify key features of the invention. Rather, it is to present some of the inventive concepts of this invention in a generalised form as a prelude to the detailed description that is to follow.

[0011] The present invention seeks to provide curtain rod sliders to allow improved and smoother drawing of curtains on a curtain rod. The scope of use of these curtain rod sliders is wide as they can be used together with most existing curtain accessories.

[0012] In one embodiment, the present invention provides a curtain rod slider comprising: a tubular body or sleeve with a longitudinal axis; and each of two ends of the tubular body

are radially formed into an end flange; wherein a material of the tubular body between each end and the associated end flange is radiused to provide a smooth transition thereof and, when in use with a curtain rod and a plurality of the curtain rod sliders for suspending a curtain, the curtain rod sliders allow smooth drawing of the curtain.

[0013] Preferably, each of the end flange is further formed into an end coaxial ring.

[0014] Preferably, the curtain rod slider further comprises a lug being located near a centre of the tubular body and is orientated in a substantially radial manner. The lug is equipped with a hole for attaching a curtain accessory, such as, a hook, a ring, a clip and so on.

[0015] Preferably, the curtain rod slider further comprises a longitudinal split slot being formed and aligned with the longitudinal axis of the curtain rod slider.

[0016] In another embodiment, the present invention provides kits of parts for using these curtain rod sliders. Preferably, the kit comprises a plurality of curtain rod sliders; a plurality of curtain accessory for suspending a curtain on the curtain rod sliders. Preferably, the kit is supplied with a curtain rod of a matching or suitable diameter.

[0017] In yet another embodiment, the present invention provides a method for flexibly increasing or decreasing a number of pleats or folding pattern of a curtain, the method comprises: disposing a plurality of rod sliders on a curtain rod; forming a number of pleats or folds along a top edge of a curtain; and hanging one or more tabs, hooks, rings, grommets or eyelet associated with each of the pleats or folds over an associated tubular member of the curtain rod slider above, wherein a density of the pleats or folds is adjusted according to a need.

Brief Description of the Drawings

[0018] This invention will be described by way of non-limiting embodiments of the present invention, with reference to the accompanying drawings, in which:

[0019] FIGs. 1-6 illustrate various known mechanisms for hanging and drawing of curtains;

[0020] FIGs. 7-8 illustrate a curtain rod slider according to an embodiment of the present invention;

[0021] FIG. 9 illustrates a curtain rod slider according to another embodiment;

[0022] FIG. 10 illustrates a curtain rod slider according to another embodiment;

[0023] FIG. 11 illustrates a curtain rod slider according to yet another embodiment; and

[0024] FIGs. 12-13 illustrate two ways of hanging curtains using the curtain rod sliders of the present invention.

Detailed Description

[0025] One or more specific and alternative embodiments of the present invention will now be described with reference to the attached drawings. It shall be apparent to one skilled in the art, however, that this invention may be practised without such specific details. Some of the details may not be described at length so as not to obscure the invention. For ease of reference, common reference numerals or series of numerals will be used throughout the figures when referring to the same or similar features common to the figures.

[0026] FIGs. 7 and 8 show a curtain rod slider 100 according to an embodiment of the present invention. As shown in FIGs. 7 and 8, the curtain rod slider 100 is made up of a plastic tubular or sleeve body 110 that is molded, with each of two end members being formed radially outward and backward to form a substantially end coaxial ring 120; each of the end coaxial ring 120 thus formed extends a longitudinal distance of $L1$ substantially parallel to a longitudinal axis of the curtain rod slider 100, whilst the curtain rod slider 100 is of a length L . As seen from FIG. 8, the curtain rod slider 100 has a hollow interior diameter $D1$ and an outside diameter D . At the interior diameter $D1$, the material of the end coaxial ring 120 connected to the tubular or sleeve body 110 is radiused, so that an entrance 122 at the interior diameter $D1$ have a gradual and smooth transition. The curtain rod slider 100 can be used with a curtain rod 12 which diameter d ranges typically about 20 – 25 mm, but the diameter d is not so restrictive. In one embodiment of the curtain rod slider 100, the interior diameter $D1$ is about 25-30mm, the outside diameter D is about 30-

35 mm and the length L is about 30 mm, or more. In another embodiment, the curtain rod slider 100 can be made from nylon, polypropylene, polycarbonate, polyethylene, or similar engineering plastic. It is also possible that the curtain rod sliders 100 are also supplied with larger dimensions to give users wider choices to select from.

[0027] Also, as seen from FIGs. 7 and 8, near the centre of the curtain rod slider 100 and on the tubular or sleeve body 110, a lug 130 is provided; preferably, the lug 130 is located radially on the tubular or sleeve body 110 and is provided with a hole 132, through which known curtain rings, hooks, clips and other curtain accessories can be attached thereto to suspend a curtain, as illustrated in FIG. 12.

[0028] FIG. 9 shows a curtain rod slider 100a according to another embodiment of the present invention. As shown in FIG. 9, the curtain rod slider 100a is similar to the above rod slider 100, except that the end members are formed to extend radially from the sleeve body 110 to form end flanges 125. As like the above embodiment, the rod slider 100a is similarly dimensioned, and is provided with the lug 130 and associated hole 132.

[0029] FIG. 10 shows a curtain rod slider 100b according to another embodiment of the present invention. As shown in FIG. 10, the curtain rod slider 100b is similarly shaped and dimensioned as the above rod sliders 100a, except that there is no lug 130 provided. The curtain rod slider 100b can also be similarly shaped and dimensioned like the above rod slider 100. Without the lug 130, curtain tabs or hoops may be slung directly over the sleeve body 110 portions to suspend a curtain 20, as illustrated in FIG. 13.

[0030] FIG. 11 shows a sectional view of a curtain rod slider 100c according to yet another embodiment of the present invention. As shown in FIG. 11, the curtain rod 100c is similar in shape and dimensions to the above rod sliders 100,100a,100b, except that the rod slider 100c has a longitudinal split slot 140. The longitudinal split slot 140 allows the split edges of the rod slider 100c to be pulled out and the inside dimensions to temporary open up, for example, to fit over the curtain rod 12 or any end fitting that may be connected at the ends of the curtain rod without using any tool.

[0031] As described above, the curtain rod sliders 100,100a-100c of the present invention are provided with radiused entrances 122 to the interior diameter D1 at both ends of the curtain rod sliders; the radiused entrances 122 are smooth and thus allow the curtain rod

sliders 100,100a-100c to be slide smoothly on the curtain rods; as a result, drawing of curtains suspended on the curtain rod sliders 100,1001-100c is smooth and requires little effort.

[0032] FIG. 12 illustrates a use of the above curtain rod slider 100,100a-100c with a curtain clip 70, hook, ring, chain or any known curtain accessories that is attachable through the hole 132 on the lug 130 or over the tubular body 110. Additionally or alternatively, curtains 20 with tabs 74 or hoops provided along the top edges can also be suspended directly over the tubular or sleeve bodies 110 of the rod sliders 100,100a-100c, as illustrated in FIG. 13. Further, the curtain rod sliders 100,100a-100c can also support grommet rings or eyelets provided along the top edges of curtains; for example, by locating the grommet rings or eyelets over the sleeve bodies 110, with the end members 120 or end flanges 125 keeping the grommet rings or eyelets in place; even, two or more grommet rings or eyelets can be located on one rod slider 100,100a-100c, so as to create “pleats” and decorative folding patterns on a curtain; such “pleats” or folding patterns can be flexibly increased or decreased in density, for example, according to a use, amount of sunlight to let into a room or amount of glare to cut in a room, etc. by adjusting the numbers of pleats or folds associated with one curtain rod slider 100,100a-100c.

[0033] In another embodiment, a kit of parts is provided for sale. The kit of parts may comprise: a plurality of curtain rod sliders 100,100a-100c and a plurality of curtain hooks, clips, rings or other curtain accessories; it is possible that each kit of parts be supplied with a curtain rod of a matching or suitable diameter.

[0034] As shown and as described above, the curtain rod sliders 100,100a-100c being made of an engineering plastic material can be manufactured by moulding, for example, by injection molding. It is also possible to manufacture the curtain rod sliders 100,100a-100c with hybrid plastic forming technologies.

[0035] While specific embodiments have been described and illustrated, it is understood that many changes, modifications, variations and combinations of variations disclosed in the text description and drawings thereof could be made to the present invention without departing from the scope of the present invention. For example, the curtain rod sliders of the present invention can be used with a curtain rod of a suitable diameter; in addition, the

curtain rod may be suspended from a ceiling or a wall, and the curtain rod may be joined up into a 2D structure, for example, to drape a curtain in the bathroom or around part of a bed. Some curtain rods may be straight, and others may be telescopically extendable; the curtain rod sliders 100,100a-100c is advantageously useful to provide smooth sliding across a telescopic joint of a curtain rod.

CLAIMS:

1. A curtain rod slider comprising:
a tubular body or sleeve with a longitudinal axis; and
each of two ends of the tubular body are formed radially into an end flange;
wherein a material of the tubular body joining to each of the end flange is radiused to provide a smooth transition thereof, and when in use with a curtain rod and a plurality of the curtain rod sliders for suspending a curtain, the curtain rod sliders allow smooth drawing of the curtain.
2. The curtain rod slider according to claim 1, wherein each of the end flange is further formed into an end coaxial ring.
3. The curtain rod slider according to claim 1 or 2, further comprising a lug being located near a centre of the tubular body with the lug being orientated in a substantially radial manner with respect to the tubular body, with the lug having a hole, through which a curtain accessory may engage with.
4. The curtain rod slider according to any one of claims 1-3, further comprising a longitudinal split slot being formed and aligned with the longitudinal axis.
5. The curtain rod slider according to any one of claims 1-4, wherein the curtain rod slider is formed from an engineering plastic material, comprising: nylon, polypropylene, polycarbonate or polyethylene.
6. A kit of parts comprising:
a plurality of curtain rod sliders according to any one of claims 1-5; and
a plurality of curtain accessory for suspending a curtain on the curtain rod sliders.
7. The kit of parts according to claim 6, further comprising:
a curtain rod;
wherein the curtain rod sliders pair with the curtain rod of a matching or suitable diameter.

8. A method for flexibly increasing or decreasing a number of pleats or folding pattern of a curtain, the method comprising:

disposing a plurality of curtain rod sliders on a curtain rod;

forming a number of pleats or folds along a top edge of a curtain; and

hanging one or more tabs, hooks, rings, grommets or eyelet associated with each of the pleats or folds over an associated tubular member of the curtain rod slider according to any one of claims 1-5, wherein a density of the pleats or folds is adjusted according to a need.