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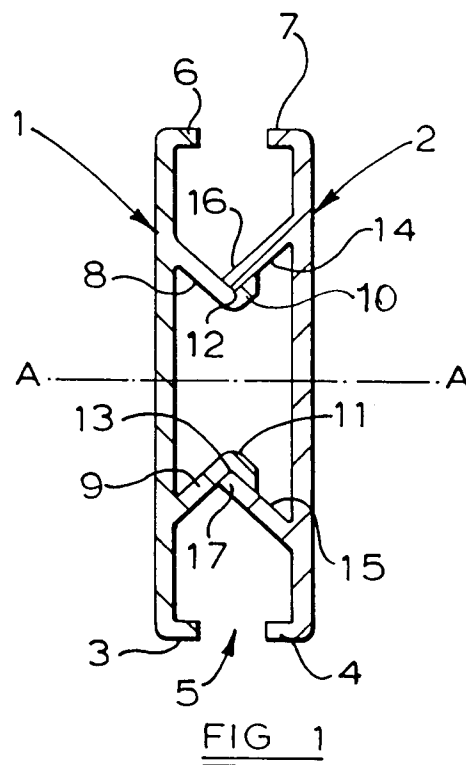
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(54) **Curtain rails.**

(57) A shower curtain rail comprises two opposed longitudinally extending flexible members 1 and 2 defining a hollow interior, the lower edges 3 and 4 of which define a glider track 5. Each of the members 1 and 2 includes two inwardly directed ribs 8,9 and 14,15, corresponding ones of which slidably engage each other whereby the members 1 and 2 are retained in a fixed spatial relationship, at least one of the members 1 and 2 being capable of retaining its shape after deformation (Fig. 1).



The present invention relates to curtain rails and especially to shower curtain rails.

Current forms of flexible curtain rails, generally manufactured from plastics materials, are used in straight runs or in relatively gentle curved runs such as are found in bay windows. The curved portions of such rails are generally held in shape through brackets fixed to the ceiling or wall areas.

Particular problems are, however, encountered in respect of curtain rails for use around shower cubicles since the rails require bending at a sharp angle which frequently leads to undue distortion of the curtain glider track; further the rails are required to retain their shape after bending without application of external means such as brackets.

One proposal for a suitable type of track is described in GB 2046082. In this proposal a track is provided having a flexible core carrying two parallel opposed side members which between them define a glider track, the side members being capable of relative longitudinal sliding movement in respect of the core when the track is bent into a desired shape, the side members, which may be of aluminium, causing the rail to retain its shape after bending.

According to the present invention there is provided a curtain rail comprising two opposed longitudinally extending thin section flexible members defining a hollow interior, the lower edge of at least one of said members being formed to provide a curtain glider track, wherein each said member includes two inwardly directed elements extending the full length of the respective member and having end portions that co-operatively slidably engage with the end portions of corresponding elements of the other member, whereby the members are retained in a fixed spatial arrangement with respect to each other, at least one of the said members being capable of retaining its shape after deformation.

It may be arranged that the lower edge portions of both said members are bent inwardly through 90° to define a gap therebetween to provide the curtain glider track, and the upper edges of one or both of said members may be formed to receive a means for mounting the rail onto a support.

In a preferred arrangement according to the invention it may be arranged that the inwardly directed elements of one member are in the form of ribs located either side of the transverse axis of the rail and angled in opposite directions relative to the longitudinal axis of the rail, said ribs having their free edge portions angled in the opposite direction to provide V-portions parallel to the said longitudinal axis, the elements of the opposed member being in the form of inwardly directed ribs angled in opposite directions and positioned such that the end portions of said ribs slidably engage in the V-portion of the said first pair of ribs to locate the two members in a fixed spatial relationship relative to each other.

In one arrangement it may be arranged that the inwardly directed ribs of said one member are angled towards each other, the free edge portions being angled away from each other to afford said V-portions, the inwardly directed ribs of the opposed member being angled towards each other.

In another arrangement it may be arranged that the inwardly directed ribs of said one member are angled towards each other, the free edge portions being angled away from each other to afford said V-portions, and the inwardly directed ribs of the opposed member are angled away from each other, the inwardly directed ribs of the opposed member having their free edge portions angled towards each other to provide further V-portions parallel to the said longitudinal axis, the V-portions of said one member slidably engaging the further V-portions of said opposed member to locate said members in said fixed spatial relationship.

In an especially preferred arrangement, a central, longitudinally extending support member will be provided disposed between said members and between said ribs and adapted to support said ribs.

Advantageously, said support member comprises a central portion and opposed V-shaped portions which engage corresponding V-portions of said ribs.

In carrying out the invention, one or both of said members may be extruded, and one of said members may be a plastics material e.g. UPVC and the other of said members is a metal e.g. aluminium.

The invention is particularly applicable to shower curtain rails.

Some exemplary embodiments of the invention will now be described with reference to the accompanying drawings, in which:

Fig. 1 is a cross-sectional view of a curtain rail in accordance with the present invention;

Fig. 2 is a cross-sectional view of a modified form of the curtain rail of Fig. 1;

Fig. 3 is a cross-sectional view of an improved form of the curtain rail of Fig. 2;

Fig. 4 is a cross-sectional view of another improved form of the curtain rail of Fig. 2; and

Fig. 5 is a perspective view of the curtain rail of Fig. 4.

Referring to Fig. 1 of the drawings, the shower curtain rail shown comprises two elongate members 1 and 2 having lower edge portions 3 and 4 turned inwardly to provide a curtain glider track 5 and upper edge portions 6 and 7 turned inwardly to provide means on to which a mounting bracket (not shown) can be attached for securing the rail to a support such as a ceiling.

Member 1, which is typically formed by an extrusion of UPVC, includes two longitudinally extending ribs 8 and 9 equispaced from the transverse axis A-A of the rail and angled inwardly of the curtain rail and

towards each other. The edge portions 10 and 11 of ribs 8 and 9 are angled in the opposite direction to that of the ribs 8 and 9 to provide V-portions 12 and 13 respectively which extend the length of the ribs. Member 2, which is typically formed by an extrusion of aluminium, includes two longitudinally extending flat ribs 14 and 15 which are equispaced from the transverse axis A-A of the rail and are angled inwardly of the curtain rail and towards each other. Ribs 14 and 15 are positioned such that their edges 16 and 17 respectively slidably engage in the V-portions 12 and 13 respectively of member 2 to lock members 1 and 2 together in a fixed spatial relationship to constitute a curtain rail.

In use the rail may be bent by hand through a sharp angle and because the ribs 14 and 15 are in sliding engagement with the V-portions 12 and 13 the respective members 1 and 2 are capable of relative longitudinal movement thereby avoiding any substantial deformation in the shape and dimensions of the glider track 5 and enabling a curtain to be drawn around the bend so formed without jamming the gliders.

The ribs 8 and 9 including the V-portions 12 and 13 of member 1 may, of course, be formed in the aluminium member 2 and the flat ribs 14 and 15 of member 2 may be formed on the UPVC member 1. Alternatively each member may include one of each type of rib provided that opposite pairs are enabled to co-operate to lock the members 1 and 2 together.

A further advantage of the rail described with reference to Fig. 1, is that two lengths of rail may be joined together simply by sliding one member longitudinally of the other to expose an end portion of one member which may then be engaged with a corresponding end portion of the opposed member in a second rail portion.

In Fig. 2 of the drawings there is shown a modified form of the curtain rail of Fig. 1. Whereas in the curtain rail of Fig. 1, the ribs 14 and 15 are flat and are angled inwardly and towards each other, in the curtain rail of Fig. 2, the ribs 14 and 15 are angled inwardly but away from each other, the edges 16 and 17 of the ribs 14 and 15 respectively being angled in the opposite direction to their respective ribs 14 and 15 to provide further V-portions 18 and 19. The V-portions 12 and 13 on the ribs 8 and 9 of member 1, slidably engage the further V-portions 18 and 19 of the ribs 14 and 15 of member 2 to maintain the members 1 and 2 in fixed spatial relationship. It has been found that the provision of the further V-portions 18 and 19 on the ribs 14 and 15 provides improved interlocking between the members 1 and 2 and helps to maintain the relative spacing between the members 1 and 2 and therefore minimises any distortion or deformation of the glider track 5 when the rail is bent.

Although the curtains rails of Figs. 1 and 2 have been found to operate reasonably well in practice, it

has been found that some distortion or deformation of the glider track can occur, especially when the rail is bent in a relatively sharp curve.

In Fig. 3 of the drawings, there is shown a modification of the curtain rail of Fig. 1 which enables this distortion and deformation to be reduced. In the curtain rail of Fig. 3 the member 2 is provided with two further shaped longitudinal ribs 20 and 21 which are disposed between the ribs 14 and 15 and extend inwardly and towards each other so that the V-portions 12 and 13 of the ribs 8 and 9 on member 1 are sandwiched between the ribs 14 and 20 and the ribs 15 and 21 of member 2. In this way the V-portions 12 and 13 of the UPVC member 1 are maintained in better interlocking relationship with the V-portions 18 and 19 of aluminium member 2 and further minimises the distortion and deformation of the glider track 5 when the curtain rail is bent.

In Fig. 4 of the drawings there is shown an alternative method of minimising the distortion and deformation of the glider track 5 of the curtain rail of Fig. 2. In the curtain rail of Fig. 4, the members 1 and 2 are as in the curtain rail of Fig. 2, but a central longitudinally extending support member 22 is provided between the members 1 and 2. The support member 22 which is typically extruded in aluminium, comprises a central portion 23 and two opposed V-shaped portions 24 and 25 which engage the corresponding V-portions 18 and 19 of the UPVC member 1 and effectively clamp the V-portions 18 and 19 between it and the V-portions 18 and 19 of the aluminium member 2. It has been found that the amount of distortion or deformation of the glider track of the curtain rail of Fig. 4 is acceptably small, even when the rail is bent in a relatively sharp curve.

It should be appreciated that the support member 22 of Fig. 4 could equally well be used in the curtain rail of Fig. 1.

In Fig. 5 of the drawings, there is depicted a perspective view of the curtain rail of Fig. 4 with the members 1 and 2 and the support member 22 longitudinally displaced to show their relative interlocking relationships.

The curtain rails which have been described are especially suitable for use as shower curtain rails, but it will be appreciated that they may have wider application.

Claims

1. A curtain rail comprising two opposed longitudinally extending thin section flexible members defining a hollow interior, the lower edge of at least one of said members being formed to provide a curtain glider track, wherein each said member includes two inwardly directed elements extending the full length of the respective mem-

ber and having end portions that co-operatively slidably engage with the end portions of corresponding elements of the other member, whereby the members are retained in a fixed spatial arrangement with respect to each other, at least one of said members being capable of retaining its shape after deformation.

2. A curtain rail as claimed in claim 1, wherein the lower edge portions of both said members are bent inwardly through 90° to define a gap therebetween to provide the curtain glider track.

3. A curtain rail as claimed in claim 1 or claim 2, wherein the upper edges of one or both of said members may be formed to receive a means for mounting the rail onto a support.

4. A curtain rail as claimed in any preceding claim, wherein the inwardly directed elements of one member are in the form of ribs located either side of the transverse axis of the rail and angled in opposite directions relative to the longitudinal axis of the rail, said ribs having their free edge portions angled in the opposite direction to provide V-portions parallel to the said longitudinal axis, the elements of the opposed member being in the form of inwardly directed ribs angled in opposite directions and positioned such that the end portions of said ribs slidably engage in the V-portion of the said first pair of ribs to locate the two members in a fixed spatial relationship relative to each other.

5. A curtain rail as claimed in claim 4, in which the inwardly directed ribs of said one member are angled towards each other, the free edge portions being angled away from each other to afford said V-portions, and in which the inwardly directed ribs of the opposed member are angled towards each other.

6. A curtain rail as claimed in claim 4, in which the inwardly directed ribs of said one member are angled towards each other, the free edge portions being angled away from each other to afford said V-portions, and in which the inwardly directed ribs of the opposed member are angled away from each other, the inwardly directed ribs of the opposed member having their free edge portions angled towards each other to provide further V-portions parallel to the said longitudinal axis, the V-portions of said one member slidably engaging the further V-portions of said opposed member to locate said members in said fixed spatial relationship.

7. A curtain rail as claimed in any of claims 4-6, com-

prising a central, longitudinally extending support member disposed between said members and between said ribs and adapted to support said ribs.

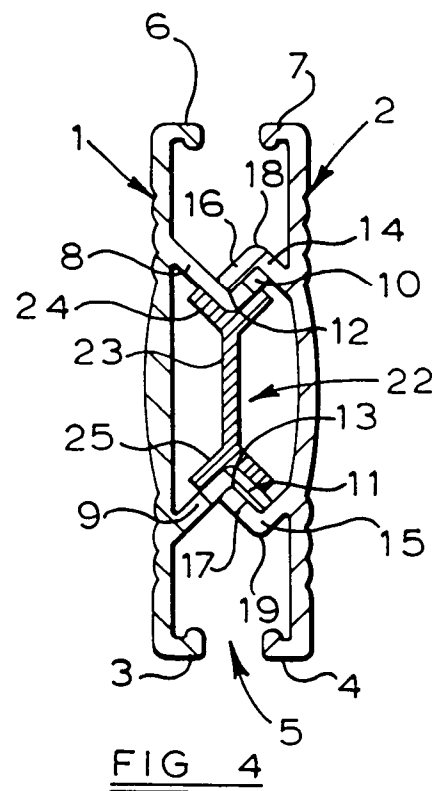
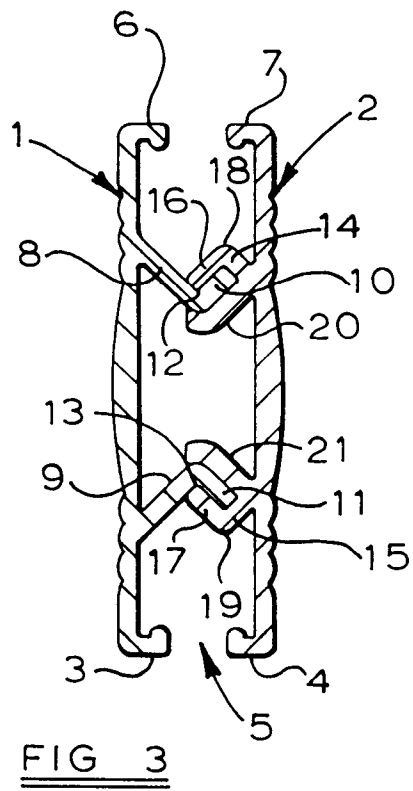
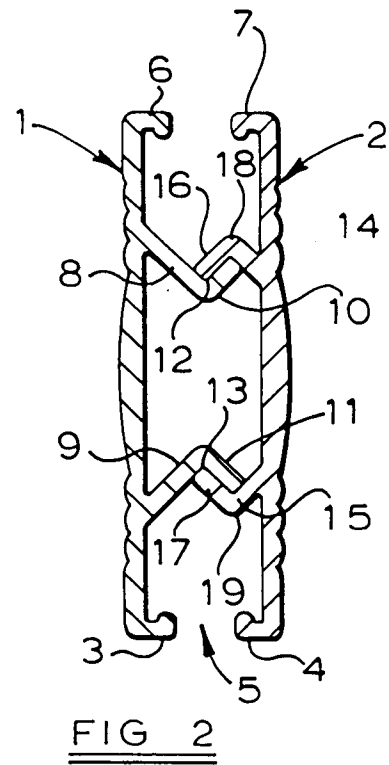
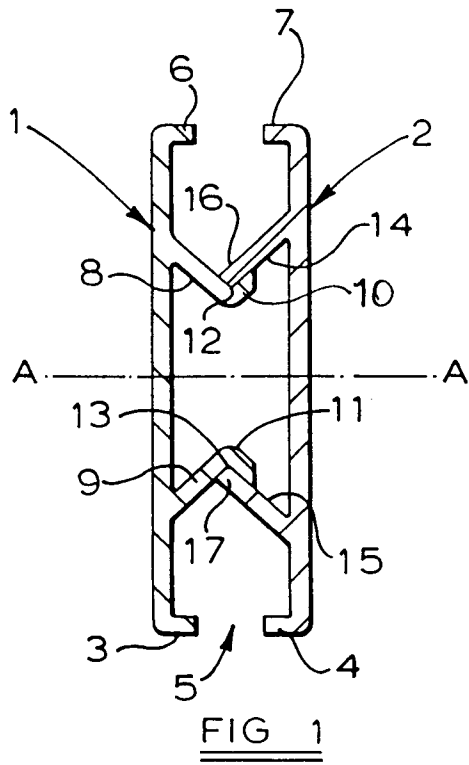
8. A curtain rail as claimed in claim 7, in which said support member comprises a central portion and opposed V-shaped portions which engage corresponding V-portions of said ribs.

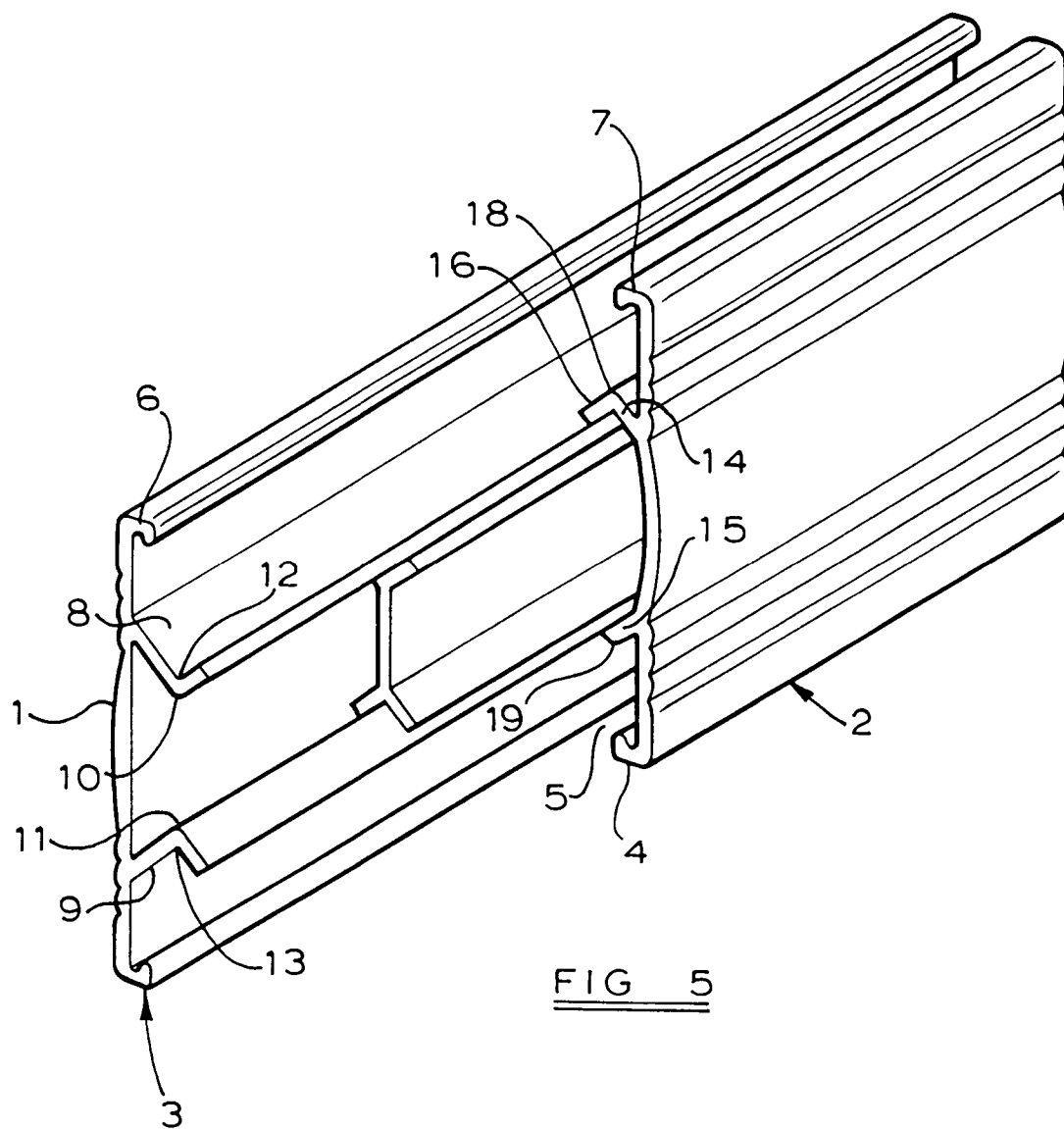
9. A curtain rail as claimed in any preceding claim, in which one or both of said members are extruded.

10. A curtain rail as claimed in any preceding claim, wherein one of the said members is a plastics material and the other of said members is metal.

11. A curtain rail as claimed in claim 10, wherein the plastics material is UPVC and the metal is aluminium.

12. A curtain rail as claimed in any preceding claim in the form of a shower curtain rail.







European Patent
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EUROPEAN SEARCH REPORT

Application Number

EP 92 30 0023

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
D,Y	GB-A-2 046 082 (HERBERT-JACKSON)	1-3, 10, 11	A47H1/06
A	* page 1, line 19 - line 101; figures * ---	7	
Y	US-A-4 833 756 (TERLECKE ET AL)	1-3, 10, 11	
A	* column 3, line 3 - line 45 * * column 5, line 36 - column 8, line 18; figures * ---	4	
A	DE-A-1 404 600 (FROHLER) * the whole document * ---	1, 2, 9, 10	
A	DE-A-2 851 210 (UHLIG) * page 5 - page 7; figure * ---	1, 3, 4, 10	
A	DE-C-747 108 (BERGFELD) * page 2, line 31 - line 88; figures * ---	1, 2	
A	NL-A-6 714 249 (HUNTER DOUGLAS) * page 4, line 17 - line 24; figure 3 * ---	4, 5	
A	GB-A-2 142 816 (HARRISON OF BIRMINGHAM LTD (UK)) * page 1, line 117 - page 2, line 14; figure 1 * -----	8	TECHNICAL FIELDS SEARCHED (Int. Cl.5) A47H A47K E06B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 01 APRIL 1992	Examiner FORDHAM A.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document I : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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