Aug. 18, 1953 G. F. FRENCH ET AL 2,648,869

SLIDING SHOE CURTAIN SUPPORT

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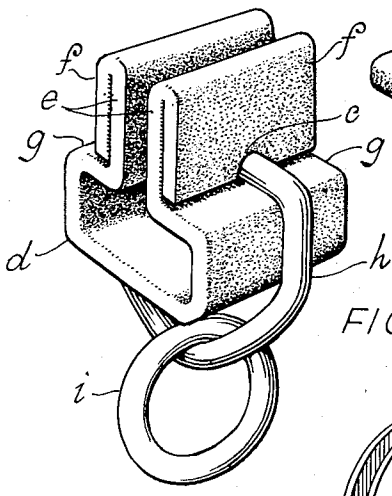


FIG. 1

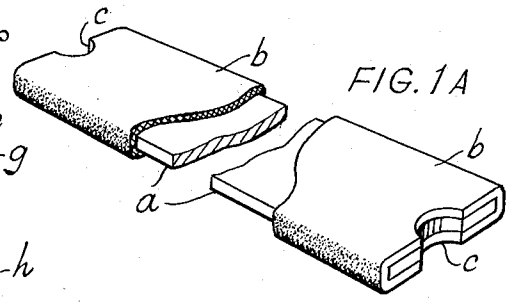


FIG. 1A

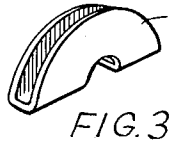


FIG. 3

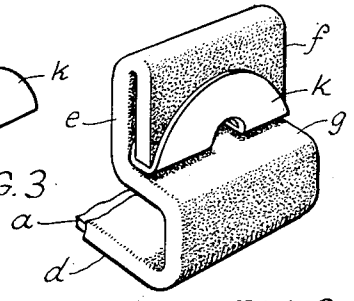


FIG. 2

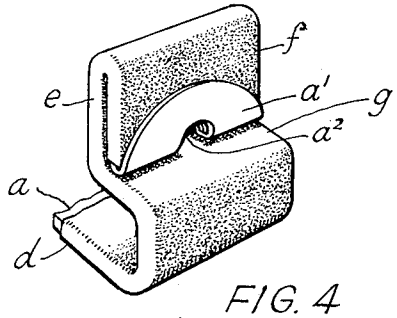


FIG. 4

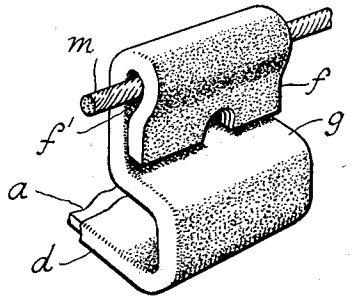


FIG. 5

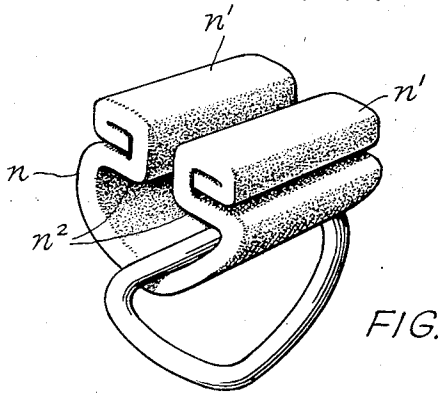


FIG. 6

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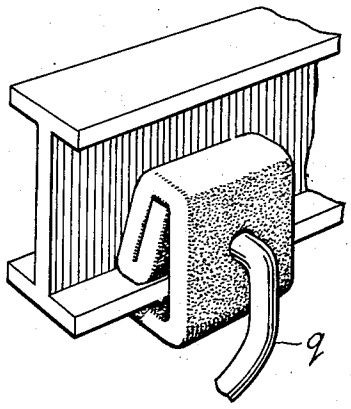


FIG. 7

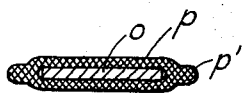


FIG. 10

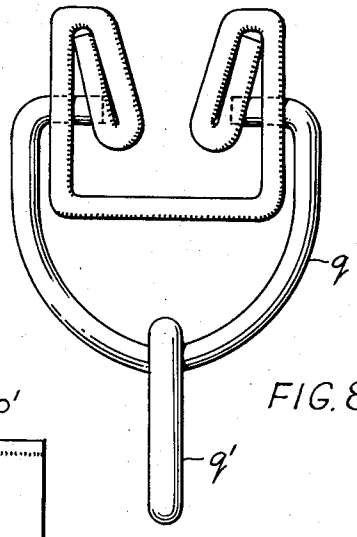


FIG. 8

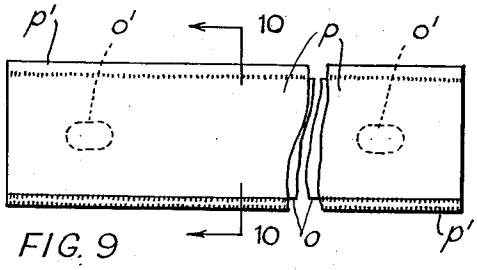


FIG. 9

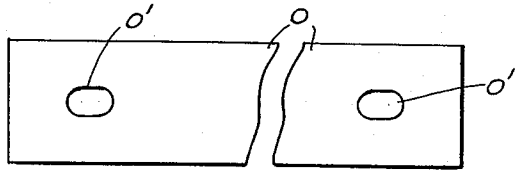


FIG. 11

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Patented Aug. 18, 1953

2,648,869

UNITED STATES PATENT OFFICE

2,648,869

SLIDING SHOE CURTAIN SUPPORT

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Application October 31, 1950, Serial No. 193,056
In Great Britain November 4, 1949

13 Claims. (Cl. 16—93)

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This invention relates to curtain suspension devices of the kind comprising a rail and runners movable thereon from which latter the curtain is suspended by means of hooks or rings.

A known objection with such kind of suspension device is the noise caused by the movement of the runners on the rail, and the object of the present invention is to reduce such noise, which, though relatively small, may in some instances, for example in a hospital ward, be both objectionable and undesirable. The expression runner is used above to include those known as gliders constructed to slide on the rail flange, as well as the more common type having a roller or rollers adapted to roll on such flange and in practice, from the point of view of the aforesaid objection there seems to be little to choose between the roller or the glider and whether made of metal or of plastic material as a moulding.

The invention comprises a curtain rail glider having a rail-engaging surface of textile fibrous material.

In a preferred embodiment of the invention all parts of the glider capable of making contact with the rail are of such material.

In the accompanying drawing:

Fig. 1 is a perspective view showing one example of a curtain rail glider made in accordance with the invention;

Fig. 1A shows a strip from which the glider of Fig. 1 has been made;

Fig. 2 is a fragmentary view showing a modification of the example of Fig. 1;

Fig. 3 shows the protector of Fig. 2;

Figs. 4 and 5 show further modifications of the example of Fig. 1;

Fig. 6 shows a still further modification;

Fig. 7 and Fig. 8 are perspective view and end elevation showing a preferred example of glider according to the invention;

Fig. 9 shows a covered strip from which the glider of Figs. 7 and 8 has been made;

Fig. 10 is a cross section on line 10—10 of Fig. 9, and

Fig. 11 shows in plan view the metal core of Figs. 9 and 10.

In the first example of the invention, as shown in Figs. 1 and 1A, the glider is made from a flat strip *a* of metal enclosed in a woven cotton sleeve *b* and formed with a notch *c* at each end. Such strip is then bent to form a lower box-like portion *d* adapted to embrace the lower flanges of a rail of I cross-section with the ends *e* upstanding beside the web of the rail. Such ends are made of double thickness by bending down an end portion at *f* to lie on the outside, with their extreme ends of the latter resting on the upper shoulders *g* of the box-like portion. The notches *c* in such extreme ends locate the ends of the usual stirrup wire *h*, which wire may carry a ring *i* to receive the curtain hook.

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In use, the glider moves silently along the rail with little resistance to movement. The shoulders *g* aforesaid engage the top of the bottom rail flange to take the weight of the curtain and during movement any contact of the bottom of the box-like portion *d* of the glider with the underside of the rail, or of the upstanding ends *e* with the faces of the rail web, are cushioned by the woven covering. Also the engagement of one glider with another as the curtains are drawn back, is substantially silent, the fabric covering eliminating the series of clicks which occur with other runners as they come together.

In a modification of the example above described, in order to protect the ends of the fabric sleeve from unravelling, a small metal sheath *k* is fitted (see Figs. 2 and 3), or in a further modification (see Fig. 4) the metal strip *a* is made slightly longer at *a'* so as to protrude from the woven sleeve, such end *a'* being bent upwards to lie against the outer face of the fabric and the lower bend being notched at a^2 to receive the ends of the stirrup.

In a further modification (see Fig. 5) of the first example above described, the outer part forming the double thickness is spaced away at *f'* to form a tube-like passage for a reeving cord *m* to pass through. In this construction also the two modifications above described for protecting the ends of the fabric sleeve from unravelling may be embodied, i. e. by fitting a sheath such as *k* or extending and bending up the end of the metal strip itself. The adoption of these modifications is so obvious as not to require illustration.

In all the examples above described the ends of the stirrup bear direct on the shoulder and as such are in an ideal position (i. e. as near as possible to the sliding surfaces) for easy movement of the runner. The end of the wire stirrup is however prevented by the upstanding ends *e* from engaging the web of the rail.

In an alternative construction (see Fig. 6) a flat metal strip, covered with a woven fabric sleeve, is bent to form a glider *n* having a shape similar to a usual D-ring with ends *n'* doubled over twice and inwardly directed to form shoulders n^2 adapted to run on the rail flange. The ends of the metal strip being first bent over on

itself and then such doubled portion bent over again as shown in form rail-engaging shoulders of treble thickness.

As shown in Figs. 7 to 11 the glider is made from a thin metal strip *o* (Fig. 11) having elongated ends holes *o'*. Such strip is covered by an equal length of woven tubular fabric *p*, having edge portions *p'* where the warps have been shed so as to form a thickened edge (see Figs. 9 and 10) the function of which is to act as a means of holding the tube while inserting the strip and which also acts as a cushion relative to the next glider. The strip is folded to form a U with the ends doubly bent over inwardly with a residual inward inclination, as can be seen in Figs. 7 and 8 to form rail-flange engaging members. After bending holes are drilled through the outer wall of the U to register with the holes *o'* but not so as to go through the inner thickness. A D-stirrup *q*, with ring *q'* is then fitted, the inturned ends of the stirrup being prevented, by the inner thickness aforesaid, from any possibility of touching the rail flange.

Obviously there are many constructional modifications, other than those above described, which can be made without departing from the scope of the invention.

For example, the textile fabric need not be woven, as it may be knitted, or braided, or felted, nor need it be tubular so as to enclose completely the metal so long as it covers the essential parts, and also such fabric might be built up as a surface by applying as by spraying textile fibres and an adhesive to secure them, an already well known method of producing a suede or felt-like finish. Also the fabric may be impregnated with graphite, or wax or other suitable lubricant or rot-resisting preparation, or may be impregnated with a stiffening or adhesive preparation such as a synthetic resin and such treatment might even be extended to give the fabric sufficient strength to enable the metal insert to be dispensed with, without losing the silent cushioning effect of the textile fabric, so long as the impregnant is not so used in a manner to destroy the natural resilience of the fibres at the operative surface.

While the examples above described relate to gliders for use on girder section rails with a bottom flange, the invention is obviously not limited to rails of such cross section, as gliders having a rail-engaging surface of textile fibrous material could be made to suit rails of any other cross sectional shape, as for example round, or tubular with longitudinal slit for the gliders to run inside.

What we claim is:

1. A curtain rail glider comprising a strip of stiff, deformable material and a sleeve of textile fibrous material surrounding and encasing said strip, said strip being bent so that it is substantially U-shaped in form with its arms having inwardly extending portions located outwardly from its base, inwardly extending shoulders formed on said inwardly extending portions and adapted to embrace and form running surfaces complementary to a flange of a curtain rail, the terminal ends of said arms being so positioned that when the glider is mounted on a curtain rail, said terminal ends are separated from the shank of the rail by the inner portions of said arms.

2. A curtain rail glider comprising a strip of stiff, deformable material and a sleeve of textile fibrous material surrounding and encasing said strip, said strip being bent so that it is substantially U-shaped in form with its arms having inwardly extending portions located outwardly from its base, inwardly extending shoulders formed on said inwardly extending portions and adapted to embrace and form running surfaces complementary to a flange of a curtain rail, the terminal ends of said arms being so arranged that they are spaced a substantial distance from said rail flange when said glider is mounted on said rail, and the inwardly directed shoulders being formed by inwardly turned doubled-over end portions.

3. A curtain rail glider comprising a strip of stiff, deformable material and a sleeve of textile fibrous material surrounding and encasing said strip, said strip being bent so that it is substantially U-shaped in form with its arms having inwardly extending portions located outwardly from its base, inwardly extending shoulders formed on said inwardly extending portions and adapted to embrace and form running surfaces complementary to a flange of a curtain rail, the terminal ends of said arms being so arranged that they are spaced a substantial distance from said rail flange when said glider is mounted on said rail, and protective means at the terminal ends of the glider body to prevent unravelling of the ends of the textile sleeve.

4. A curtain rail glider comprising a strip of stiff, deformable material and a sleeve of textile fibrous material surrounding and encasing said strip, said strip being bent so that it is substantially U-shaped in form with its arms having inwardly extending portions located outwardly from its base, inwardly extending shoulders formed on said inwardly extending portions and adapted to embrace and form running surfaces complementary to a flange of a curtain rail, the terminal ends of said arms being so arranged that they are spaced a substantial distance from said rail flange when said glider is mounted on said rail, and the sleeve having thickened edge portions.

5. A curtain rail glider comprising a strip of stiff, deformable material and a sleeve of textile fibrous material surrounding and encasing said strip, said strip being bent so that it is substantially U-shaped in form with its arms having inwardly extending portions located outwardly from its base, inwardly extending shoulders formed on said inwardly extending portions and adapted to embrace and form running surfaces complementary to a flange of a curtain rail, the terminal ends of said arms being so arranged that they are spaced a substantial distance from said rail flange when said glider is mounted on said rail, and the terminal ends of the strip extending out of the terminal ends of the sleeve and being bent back over the terminal ends of the sleeve.

6. A curtain rail glider comprising a strip of stiff, deformable material and a sleeve of textile fibrous material surrounding and encasing said strip, said strip being bent so that it is substantially U-shaped in form with its arms having inwardly extending portions located outwardly from its base, inwardly extending shoulders formed on said inwardly extending portions and adapted to embrace and form running surfaces complementary to a flange of a curtain rail, the terminal ends of said arms being so arranged that they are spaced a substantial distance from said rail flange when said glider is mounted on said rail, and a protective cap mounted on the terminal ends of the glider and overlapping the terminal ends of the sleeve.

7. A curtain rail glider comprising a strip of stiff, deformable material and a sleeve of tubular shape surrounding and encasing said strip, said strip being bent so that it is substantially U-shaped in form, each of the arms of the U-shaped form having successive integral portions, the first portion extending substantially at right angles to the base, the second portion extending inwardly substantially at right angles to the first portion, the third portion extending at an angle to said second portion inwardly and downwardly toward the base, and the fourth portion extending substantially parallel to the third portion in a reverse bend and lying between said third and said first portion, the shoulder formed between the said third and fourth portions being adapted to engage the flange of a curtain rail when said glider is mounted thereon.

8. A curtain rail glider comprising a strip of stiff, deformable material and a sleeve of tubular fabric surrounding and encasing said strip, said strip being bent so that it is substantially U-shaped in form, each of the arms of the U-shaped form having successive integral portions, the first portion extending substantially at right angles to the base, the second portion extending inwardly substantially at right angles to said first portion, the third portion extending substantially at right angles to said second portion and away from said base, and the fourth portion extending substantially parallel to the third portion in a reverse bend toward the second portion and the base.

9. A curtain rail glider according to claim 8 in which the terminal ends of the arms of the U-shaped form are located closely adjacent the faces of said second portions of said arms remote from the base of the U-shaped form and are provided with semi-circular notches centrally therein which cooperate with said second portions to form apertures for receiving the ends of a substantially D-shaped stirrup.

10. A curtain rail glider according to claim 8 in which each arm of the U-shaped form has a fifth portion integral with the arm and extending from the distal end of the fourth portion in a reverse bend back along said fourth portion, said fifth portion having no fabric covering.

11. A curtain rail glider according to claim 8 which includes a pair of protective end caps, each of said caps fitting over the free end of an arm of the U-shaped form to prevent unravelling of the fabric covering.

12. A curtain rail glider according to claim 8 in which portions of the third and fourth portions of the arms of the U-shaped form adjacent the common end of said third and fourth portions are spaced apart to provide openings for the passage therebetween of reeving cords.

13. A curtain rail glider comprising a strip of stiff, deformable material and a sleeve of tubular fabric surrounding and encasing said strip, said strip being bent so that it is substantially U-shaped in form, the base of said U-shaped form being concave and each of the arms of the U-shaped portion having successive integral portions, the first portion extending inwardly along the bounding cord of the base, the second portion extending substantially at right angles to said first portion and away from said base, the third portion extending outwardly substantially at right angles to the second portion and overlying said first portion, and the fourth portion extending inwardly in a reverse bend between said first and third portions.

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