May 17, 1938. G. F. FRENCH 2,117,606

CURTAIN SUSPENSION AND CURTAIN REEVING APPLIANCE

Filed Oct. 22, 1936

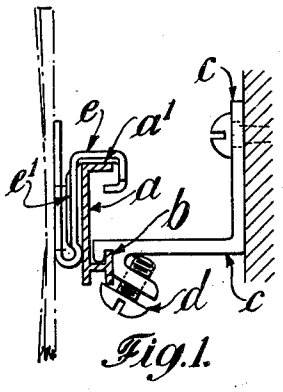


Fig.1.

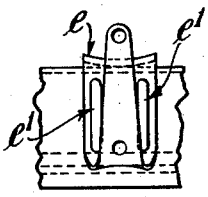


Fig.2.

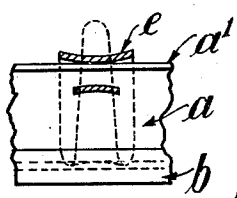


Fig.3.

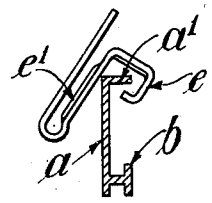


Fig.4.

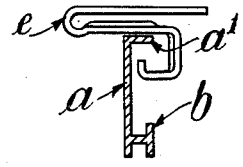


Fig.5.

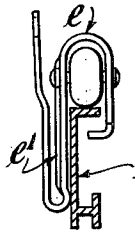


Fig.6.

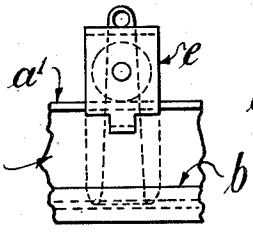


Fig.7.

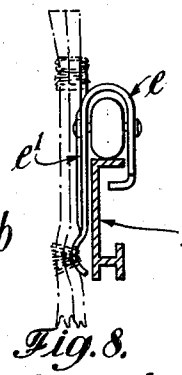


Fig.8.

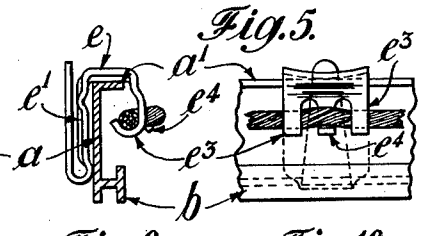


Fig.9.

Fig.10.

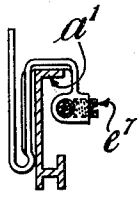


Fig.11.

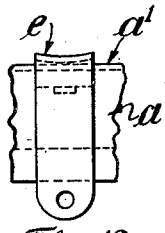


Fig.12.

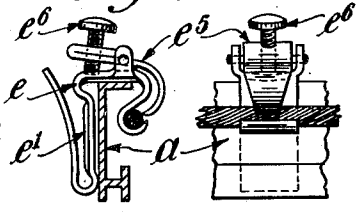


Fig.13.

Fig.13a.

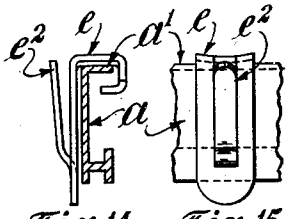


Fig.14.

Fig.15.

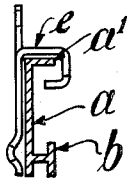


Fig.16.

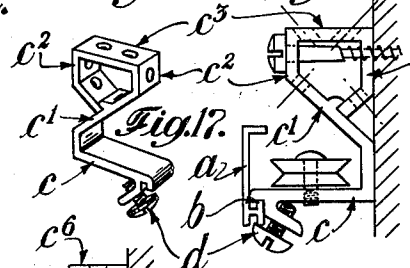


Fig.17.

Fig.18.

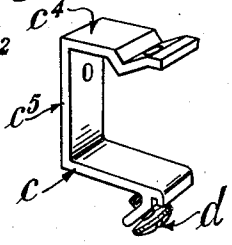


Fig.19.

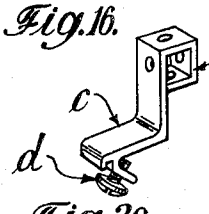


Fig.20

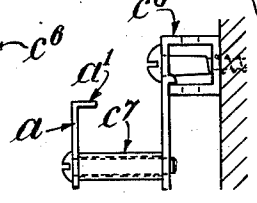


Fig.21.

Inventor:-
Geo. F. French.
By his Attorney:- Walter Gwinn.

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UNITED STATES PATENT OFFICE

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CURTAIN SUSPENSION AND CURTAIN REEVING APPLIANCE

George Frederick French, Manchester, England

Application October 22, 1936, Serial No. 107,069
In Great Britain October 26, 1935

5 Claims. (Cl. 156—20)

This invention relates to curtain suspension and curtain reeving appliances of the kind adapted to allow of the to and fro lengths of a reeving cord lying between the rail and the adjacent wall and above the rail-supporting brackets. It also refers to curtain rails and to runners or gliders therefor of the kind which allow of the runners or gliders being applied transversely of the rail, and which when applied engage only the top edge of the rail and in a manner which renders them incapable of leaving the rail until raised to the horizontal, or until drawn endwise off the rail, the lower parts of the runners or gliders, from which the curtain is suspended, being free to swing outwards under the angular pull of the curtain.

The main object of the invention is a construction of rail and a construction of runners or gliders of the said kind, which afford advantages not present with the known constructions, and particularly in regard to the reduction of friction and wear and tear between the rail and runners or gliders.

According to the invention, the rail used is of flat web section and has a flange along its top edge, which, when the rail is in use, extends horizontally towards the adjacent wall. Such flange is flat or only slightly arched on its top face. The rail is supported along its lower part by brackets, parts of which extend horizontally from the rail to the adjacent wall, and such brackets are preferably of the kind which allows of being fixed to the wall (or ceiling) prior to fixing the rail.

The runner or glider frames are made of sheet metal and where they fit over the top flange of the rail are of flat rectangular hook shape, and on the wall side of the rail extend part way under the rail flange, the fit being such as to anchor the runner or glider to the rail, while allowing it to tilt up on the side of the rail furthest from the wall. In one example, the runner frame is adapted to hook on to and off the rail after being tilted to the horizontal or nearly so, while in another example, it is only adapted to engage the rail flange from the end of the rail, although free to tilt sideways when fully on the rail. The upper horizontal part of each runner or glider frame, where it contacts with the rail flange, is made curved in a direction parallel with the longitudinal axis of the rail, the convex side of the curve contacting with the rail flange, so that, in addition to being free to tilt transversely of the rail, the runner or glider is free to oscillate longitudinally of the rail. That part of each runner or glider frame which extends below the rail flange on the wall side is also downwardly curved (arched) in a direction parallel to the axis of the rail, and the corners of such part are cut away leaving only a central part or nib, thus further helping to allow of free movement of the runner or glider in relation to the rail.

Instead of the hook part of the runner frame contacting directly with the rail flange, it may engage the top face of the rail flange through the medium of a round-edged roller, which will allow of the said angular movements. In such construction, the frame part of the runner is slightly wider than the diameter of the roller, and thereby acts as a buffer on meeting other and like runners.

In both makes of runners or gliders, the front vertical part of same is formed to provide a prong or spur from which the curtain may be directly suspended, or its front part is merely formed with a hole or holes by which it may be attached to the curtain by sewing.

When the curtain requires to be drawn or "reeved" by a cord, the cord is arranged between the rail and wall, and with the operative length near to the rear face of the rail web. In the case of the "master" runner or glider, that part of its frame extending beneath the rail flange is directly connected to the said operative length of cord, which lying close to the rail prevents any undue twist on the runner or glider.

In one example of "master" runner or glider, its rear part is formed with claws or spurs with which the reeving cord may be interlaced for the purpose of adjustably connecting the runner or glider to the cord. In another example, its rear part is formed with a through hole, and also with a grub screw for connecting it to the cord. In a further example, the top part of the runner has a pivoted lever, which, on being adjusted by a screw, is caused to nip the cord and thus connect it to the runner.

The rail brackets may be of any suitable kind, but preferably of the type having a hollow boss at its upper end with through holes for fixing to a wall or ceiling.

The invention will now be described with the aid of the accompanying drawing, wherein:—

Fig. 1 is a cross section of the improved curtain rail, a side or edge view of one example of the improved runner or glider, and a side or edge view of one of the brackets by which the rail may be supported.

Fig. 2 is a front view of a portion of the rail, and of the runner or glider shown in Fig. 1.

Fig. 3 is a further side view of a portion of the rail and a cross section of the runner or glider shown in Figs. 1 and 2.

Figs. 4 and 5 are cross sections respectively of the rail, and side or edge views of the runner or glider in two of the positions it is capable of taking up when being applied to, or removed transversely from the rail.

Figs. 6 and 7 are edge and face views respectively of another example of the improved runner or glider, applied to the same section of rail.

Fig. 8 is a side or edge view of a "sew on" runner or glider.

Fig. 9 is a side view of a "master" runner or glider, and a cross section of rail.

Fig. 10 is a rear face view of the "master" runner or glider and rail shown in Fig. 9.

Fig. 11 is a side or edge view of another example of the "master" runner or glider.

Fig. 12 is a front or face view of the improved runner or glider adapted to support the curtain through the medium of a hook engaging a hole in its lower front part.

Fig. 13 is a side or edge view, and

Fig. 13*a* a rear face view of another example of "master" runner or glider, and a cross section or side view of rail.

Figs. 14 and 15 are side or edge views and face views respectively of another example of the improved runner or glider, each view also showing a portion of the rail.

Fig. 16 is a side or edge view of another example of sew-on runner or glider.

Figs. 17 to 21 show various examples of the rail-supporting brackets.

Referring to Figs. 1 to 5, the rail *a* is of flat web section and has along its top edge a flat flange a^1. Such rail is supported at intervals along its lower part by brackets, which are preferably of the kind which are capable of being fixed to an adjacent wall (or ceiling) prior to the rail being fixed thereto. In the example shown, the rail has a vertical flange *b* which fits an open slot in the front end of each bracket *c*, and is held therein by the head of a screw *d*. The runner or glider *e* shown is other than a "master", and by its upper part hooks over the flange a^1 of the rail. The said upper hook-like part is flat-sided transversely, and when in the position shown in Fig. 1, cannot leave the rail under any upward thrust, or with any violent jerking of the curtain, although free to allow its front lower end to swing outwards under the pull of the curtain at an angle. Whilst the flange a^1 of the rail will be flat, or only slightly arched transversely, that part of the runner lying thereon is curved in the direction of the longitudinal axis of the rail, see Fig. 2, so that, under the endwise pull of the curtain, it is free to rock or tilt and take up a position suited to the pull of the curtain, the contact being what may be termed "line" contact only.

The forward part of the runner extends down in front of the rail *a* to a point near its lower edge, and then extends upwards to a point near to the top of the rail, such turned-up part forming a hook from which the curtain may be suspended. The curtain may be connected to the hook by sewing, but usually it will be preferred to use the hook to engage a hook-tube of the curtain heading tape, and in such connection, the runner may be formed with embossings e^1 which will serve to nip the front wall of the hook-tube between themselves and the upturned hook part.

When it is required to apply the runner to the rail it is first held in the position shown in Fig. 5, and then angled to the position shown in Fig. 4, after which it is readily caused to assume the position shown in Fig. 1, in which position it becomes locked against accidental lifting off the rail. Whilst preferring the improved runner to be applied transversely of the rail, it may be applied (threaded on) from either end of the rail.

As shown in Figs. 6, 7 and 8, the improved runners may embody a round-edged roller which will afford the desired minimum of contact with the top face of the flange a^1, and allow of the runner tilting transversely and longitudinally. In such views it will also be seen that, in place of the turned-up hook part of Fig. 1, the front of the runner may be simply vertical and have a hole or holes for sewing it to the curtain.

That part of the frame in which the said round-edged roller is housed is wider than the diameter of the roller and acts as a buffer on two like runners meeting.

To avoid or reduce the possibility of that part of each runner or glider which extends below the rail flange a^1 contacting with the flange when tilted in a direction longitudinally of the rail, the said part is curved away from the flange, and cut away at each corner or side of its free end, see Figs. 3, 7 and 12.

In Fig. 16 the improved sew-on runner is shown without the roller.

Instead of the front lower part of the runner being turned up to form the hook, the downwardly extending part may have a spur e^2 cut out of it to form the hook, see Figs. 14 and 15.

By suspending the curtain by means of the runner hooks or spurs, the top part of the curtain hides the rail and runners, see Figs. 1 and 8.

As shown in Fig. 12, the runner may have a hole by which the curtain may be suspended therefrom by a hook.

In the case of a "master" runner, its rear part may be formed with claws or spurs e^3, e^4, see Figs. 9 and 10, by threading (lacing) the reeving cord under and in front of which the runner becomes secured to the operative length of the cord, and with the runner easily removed from the rail this operation can be readily and quickly effected.

In the example of "master" runner shown in Fig. 11, the rear part of the runner frame lying below the rail flange a^1 is formed with a hole through which the reeving cord passes, and is provided with a grub screw e^7 by which the runner is adjustably secured to the cord.

In the alternative form of "master" runner shown in Figs. 13 and 13*a*, the runner is provided with a pivoted lever e^5, one end of which, under the action of a screw e^6, nips the cord between itself and a hook-like part of the runner.

In the example of rail bracket shown in Figs. 17 and 18, the upper part of the bracket is formed by the inclined member c^1, the two vertical members c^2 and the horizontal member c^3, each of which has a hole or holes in it through which a screw may pass, either to fix the bracket to a wall, or to a ceiling. This form of bracket, as compared with the brackets shown in Figs. 20 and 21, saves room as between the rail and the wall.

As shown in Fig. 18, the horizontal lower part of the bracket may carry a cord guide pulley. This also applies to the brackets shown in Figs. 1, 17 and 19.

In Fig. 19, the bracket has a horizontal part

c^4 extending from the upper end of its vertical part c^5, and such horizontal part has a dip in it, one side of which has a hole through which a screw may pass at an angle and fix the bracket to a ceiling, or other overhead support. When requiring to fix the same bracket to a wall, the screw passes through a hole in the vertical part c^5.

In Figs. 20 and 21, the brackets comprise a hollow box-like part c^6 through the opposite walls of which a screw may pass to fix the bracket to a wall or ceiling.

What I claim is:—

1. In curtain suspension and curtain reeving appliances of the kind referred to, a rail of flat web section and having a flat or substantially flat flange along its top edge extending when in use towards the adjacent wall, and runners or gliders shaped to engage the said flange of the rail, and each also shaped to extend down in front of the rail, and embodying means for connecting a curtain thereto, that part of each runner or glider engaging the rail flange being formed to the shape of a flat-sided hook and to a size which, in conjunction with the rail flange, serve to allow the runner or glider to be applied to the rail transversely, or endwise, and when on the rail prevent direct upward detachment, while allowing the front part of the runner or glider to which the curtain is connected to swing outwards relatively to the rail, that part of each runner or glider contacting with the said flange being curved in the direction of the longitudinal axis of the rail, as herein set forth.

2. Runners or gliders as claimed in claim 1, wherein the front vertical portion of the runner or glider frame extends down and terminates at a point near to the lower edge of the rail and wherein such front part has holes whereby the curtain may be sewn to the runner or glider frame, or whereby the curtain may be suspended therefrom by an ordinary hook, as herein set forth.

3. In curtain suspension and curtain reeving appliances as claimed in claim 1, runners or gliders each composed of sheet metal and at their upper part shaped to pass transversely over the rail flange, then downwards, and then below the rail flange, and in the part above the rail flange having a small round-edged roller through which the runner engages the rail flange, said lower part of the runner beneath the rail flange being upwardly arched in longitudinal cross section and cut away at each corner of its free end, and that part of each runner in which the roller is housed being wider than the diameter of the roller, as herein set forth.

4. In curtain suspension and curtain reeving appliances as claimed in claim 1, runners or gliders having vertical embossings in the part extending down in front of the rail, and also having a vertical tongue extending upwards from the lower end of said downwardly extending part of the runner or glider, whereby, on a curtain engaging same, the curtain material is gripped between the embossings and tongue, as herein set forth.

5. Runners or gliders as claimed in claim 1, having incorporated with the rear portion of the rail-flange-engaging part, means for adjustably connecting the runner or glider to a reeving cord, as herein set forth.

GEORGE FREDERICK FRENCH.