

PATENT SPECIFICATION (11)

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(54) MOVABLE CURTAIN PARTITION

(71) I, PETER RAYMOND UTTING, an Australian citizen, of 47 Wentworth Avenue, Sydney, New South Wales 2000, Australia, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The invention relates to movable curtain partitions and in particular to such partitions employing a moveable curtain rail suspended between parallel tracks, one or both of which tracks may itself be a suspended curtain rail.

Curtain partitions are widely used for various purposes, but one of the main applications is in hospitals where they are used to separate on a rather permanent basis certain sections of a hospital ward. Individual curtains on fixed rails have also been used for screening individual beds of a hospital ward.

There is, however, also a need in hospitals and other establishments for movable curtain partitions in which a curtain rail itself is suspended for movement between a pair of parallel tracks to allow for a changeable sub-division of part of a certain prescribed area. Difficulties have been experienced, however, in providing such facilities, as, it has been found that it is difficult to move the moveable rail in a direction parallel to the supporting tracks unless force is exerted on it exactly in the centre between the supporting tracks as otherwise the moveable rail will jam. This problem is particularly troublesome if one of the supporting tracks is itself a suspended curtain rail, as such rails are often flexible.

It is an object of this invention to devise an arrangement for such a movable curtain partition which permits movement of its moveable rail without jamming regardless of where (along its length) the effort is applied.

This object is achieved, according to the invention by a movable curtain partition extending between and normal to spaced apart substantially parallel tracks having guide surfaces thereon, said partition comprising a curtain rail; a curtain suspended therefrom; a respective bogie-type support

at each end of said curtain rail, each bogie including at least one horizontal and one vertical guide wheel at each end thereof; and respective linking means to connect each end of said curtain rail with its corresponding bogie-type support at a location about halfway between said guide wheels; said guide wheels being in engagement with corresponding guide surfaces of said spaced apart tracks for guidance of said curtain rail during movement along said tracks.

One embodiment of the invention will be described hereinafter in more detail in connection with the drawings in which:

Figs. 1 and 2 shown in plan view and in perspective a lay-out for a curtain arrangement incorporating a movable partition according to the invention;

Fig. 3 is a perspective view partly in section of the movable partition and its connection with one of its guiding tracks;

Fig. 4 is a cross-section through one of the guide tracks showing the rail support movable therein;

Fig. 5 shows a cross-section through the movable rail along line V with a retaining device for curtain hooks, and

Fig. 6 is a perspective view of a connector suitable for connecting two lengths of track together.

Fig. 1 shows a ward in a hospital having a centre passage 1 and beds 2, 3 and 4, 5 on each side thereof. Curtain rails 6 and 7 extend along the passage and one end of the ward, having curtains 8 and 9 slidable thereon. The curtain rails 6 and 7 are suspended from the ceiling by suspension rods 10 as can be clearly seen from Fig. 2 showing a perspective view of part of the ward.

The curtain rails 6 and 7 together with wall mounted tracks 11 and 12 form supporting tracks for movable partitions composed of the moveable rails 13 and 14 and the curtains 15 and 16 suspended thereon.

As these partitions have only to be moveable as far as the space between two beds, the tracks 11 and 12 extend only over one half of the ward walls.

In Fig. 1 the movable rail 13 is shown in its parked position, from where it can be

moved in the direction of the arrow to an operative position as shown by moveable rail 14 in Figs. 1 and 2.

The rails 13 and 14 are movably supported on the rails 6, 7 and tracks 11, 12 by bogie-type supports, one on each end as will be described hereinafter in connection with Figs. 3, 4 and 5 showing one end of the moveable rail 13 supported on one end by the suspended curtain rail 6 and on the other end (not shown) by the wall mounted track 11.

The rail 6 consists of an extruded hollow aluminium section having a rectangular cross-section, slotted at the bottom to form a path 15 for curtain hooks 16 supported by the two edges 17. A partition wall 18 forms one guide surface for the bogie-type moveable rail support 19, as will be described hereinafter.

The support 19 has two vertical wheels 20, 21 mounted for rotation between side plates 22, 23. These side plates are connected by a top plate 24 which supports two horizontal wheels 25, 26 rotatable thereon. The centre part of the support 19 is connected by a bolt 27 and nut 28 with a lug 29 extending from the end of the moveable rail 14 as can be seen from Figs. 3 and 5.

In order to cater for minor variations in the spacing between the track 11 and the curtain rail 6 the link between the moveable rail 13 and the bogie 19 can be made adjustable, for example by an elongated hole in the end of lug 29.

The rail 6 is also slotted at one side to form a passage 30 for the lug 29 after the bogie 19 has been pushed into the rail 6 from one open end thereof. The vertical and horizontal wheels 20, 21 and 25, 26 of the bogie 19 are so dimensioned that when they are in contact with a horizontal and vertical inner surface respectively of the curtain rail 6, there is only a very small clearance between the wheels and the opposite surfaces. Thus irrespective of any canting force applied to the moveable rail 14 during its movement along the rail 6 and track 11 the vertical and horizontal wheels of the support 19 will always remain in contact with one or the other of the inner surfaces of rail 6.

The tracks 11 and 12 have the same configuration as the curtain rails 6 and 7, but when mounted on the walls of a ward, do not require any curtain hook guides formed by the edges 17.

The moveable rail 13 carries a bogie at each end, one of them moving in the curtain rail 6 as shown in Figs. 3 and 4 and the other in the corresponding track 11.

The cross-section of the moveable rail 13 and 14 is similar to the cross-section of the curtain rails 6 and 7 providing a slot 30 (Fig. 3) to guide the curtain hooks 16 between edges 31.

To facilitate the insertion of the curtain hooks 16 into the slot 30 an opening 32 (Fig. 5) is provided in the edges 31, which is large enough to allow the top part 33 of the hooks 16 to pass therethrough. This opening is closed by a disc 34 mounted on a stud 35 slidable in a corresponding opening in the lug 29. The stud 35 carries a nut 36 so adjusted that the disc 34 is flush with the lower surface of the edges 31 when in its lowered position. To insert a curtain hook 6 the disc 34 is pushed upwards and the top part 33 of the hook is pushed along the slot 30. The disc 34 then returns under gravity to its original position closing the opening 32 and preventing any hook from falling out again.

An arrangement for quick connection of two lengths of moveable rail is shown in Fig. 6. This arrangement permits the connection to be made in situ without any special treatment of the moveable rail sections. The arrangement consists of a short section 37 of the same cross-section as the rail sections 38 and 39 which are to be connected. Two metal strips 40 and 41, which are spaced apart and joined by spacers 42 and 43, are so designed that they fit with a sliding fit into the upper rail sections 38 and 39. These metal strips pass through the opening in the short section 37 and are fixed therein by grub screws 44 passing through corresponding holes 45 in section 37 and being screwed into the strip 40 until they touch the inner surface of the strip 41. After the metal strips have been inserted into the track sections 38 and 39 so that the ends of these sections abut opposite sides of the short section 37, the grub screws 44 are tightened, thereby forcing the metal strips 40 and 41 apart. In this way the metal strips 40 and 41 are jammed tight in the respective sections 38 and 39, thereby providing a simple and effective joint between the sections and an uninterrupted path for the curtain hooks. Disassembly of the joint can be carried out by simply releasing the screw pressure on the metal strips.

The foregoing description refers to one embodiment of the invention employing a moveable rail support between a roof-suspended curtain rail and a wall-mounted track. It must be understood, however, that the invention can equally be applied to moveable rails extending between two suspended curtain rails or between two wall-mounted tracks.

WHAT I CLAIM IS:—

1. A movable curtain partition extending between and normal to spaced apart substantially parallel tracks having guide surfaces thereon, said partition comprising a curtain rail; a curtain suspended therefrom, a respective bogie-type support at each end of



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moved in the direction of the arrow to an operative position as shown by moveable rail 14 in Figs. 1 and 2.

5 The rails 13 and 14 are movably supported on the rails 6, 7 and tracks 11, 12 by bogie-type supports, one on each end as will be described hereinafter in connection with Figs. 3, 4 and 5 showing one end of the moveable rail 13 supported on one end by the suspended curtain rail 6 and on the other end (not shown) by the wall mounted track 11.

15 The rail 6 consists of an extruded hollow aluminium section having a rectangular cross-section, slotted at the bottom to form a path 15 for curtain hooks 16 supported by the two edges 17. A partition wall 18 forms one guide surface for the bogie-type moveable rail support 19, as will be described hereinafter.

20 The support 19 has two vertical wheels 20, 21 mounted for rotation between side plates 22, 23. These side plates are connected by a top plate 24 which supports two horizontal wheels 25, 26 rotatable thereon. The centre part of the support 19 is connected by a bolt 27 and nut 28 with a lug 29 extending from the end of the moveable rail 14 as can be seen from Figs. 3 and 5.

30 In order to cater for minor variations in the spacing between the track 11 and the curtain rail 6 the link between the moveable rail 13 and the bogie 19 can be made adjustable, for example by an elongated hole in the end of lug 29.

35 The rail 6 is also slotted at one side to form a passage 30 for the lug 29 after the bogie 19 has been pushed into the rail 6 from one open end thereof. The vertical and horizontal wheels 20, 21 and 25, 26 of the bogie 19 are so dimensioned that when they are in contact with a horizontal and vertical inner surface respectively of the curtain rail 6, there is only a very small clearance between the wheels and the opposite surfaces. Thus irrespective of any canting force applied to the moveable rail 14 during its movement along the rail 6 and track 11 the vertical and horizontal wheels of the support 19 will always remain in contact with one or the other of the inner surfaces of rail 6.

40 The tracks 11 and 12 have the same configuration as the curtain rails 6 and 7, but when mounted on the walls of a ward, do not require any curtain hook guides formed by the edges 17.

45 The moveable rail 13 carries a bogie at each end, one of them moving in the curtain rail 6 as shown in Figs. 3 and 4 and the other in the corresponding track 11.

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To facilitate the insertion of the curtain hooks 16 into the slot 30 an opening 32 (Fig. 5) is provided in the edges 31, which is large enough to allow the top part 33 of the hooks 16 to pass therethrough. This opening is closed by a disc 34 mounted on a stud 35 slidable in a corresponding opening in the lug 29. The stud 35 carries a nut 36 so adjusted that the disc 34 is flush with the lower surface of the edges 31 when in its lowered position. To insert a curtain hook 6 the disc 34 is pushed upwards and the top part 33 of the hook is pushed along the slot 30. The disc 34 then returns under gravity to its original position closing the opening 32 and preventing any hook from falling out again.

70 An arrangement for quick connection of two lengths of moveable rail is shown in Fig. 6. This arrangement permits the connection to be made in situ without any special treatment of the moveable rail sections. The arrangement consists of a short section 37 of the same cross-section as the rail sections 38 and 39 which are to be connected. Two metal strips 40 and 41, which are spaced apart and joined by spacers 42 and 43, are so designed that they fit with a sliding fit into the upper rail sections 38 and 39. These metal strips pass through the opening in the short section 37 and are fixed therein by grub screws 44 passing through corresponding holes 15 in section 37 and being screwed into the strip 40 until they touch the inner surface of the strip 41. After the metal strips have been inserted into the track sections 38 and 39 so that the ends of these sections abut opposite sides of the short section 37, the grub screws 44 are tightened, thereby forcing the metal strips 40 and 41 apart. In this way the metal strips 40 and 41 are jammed tight in the respective sections 38 and 39, thereby providing a simple and effective joint between the sections and an uninterrupted path for the curtain hooks. Disassembly of the joint can be carried out by simply releasing the screw pressure on the metal strips.

100 The foregoing description refers to one embodiment of the invention employing a moveable rail support between a roof-suspended curtain rail and a wall-mounted track. It must be understood, however, that the invention can equally be applied to moveable rails extending between two suspended curtain rails or between two wall-mounted tracks.

WHAT I CLAIM IS:—

1. A movable curtain partition extending between and normal to spaced apart substantially parallel tracks having guide surfaces thereon, said partition comprising a curtain rail; a curtain suspended therefrom, a respective bogie-type support at each end of

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5 said curtain rail, each bogie including at least one horizontal and one vertical guide wheel at each end thereof; and respective linking means to connect each end of said curtain rail with its corresponding bogie-type support at a location about halfway between said guide wheels, said guide wheels being in engagement with corresponding guide surfaces of said spaced apart tracks for guidance of said curtain rail during movement along said tracks.

10 2. A movable curtain partition extending between and normal to spaced apart substantially parallel tracks, said tracks being hollow and of rectangular cross-section and formed with two internal pairs of opposed guide surfaces, said partition comprising a curtain rail; a curtain movably suspended therefrom; and a respective bogie-type support at each end of said mono track; each bogie including a pair of guide wheels at each of its ends, the wheels of each pair having their centre axes arranged at right angles to each other, and each of said bogies being movable within a respective one of said tracks whereby said pairs of wheels contact one or the other of said pairs of guide surfaces, the diameters of said wheels being only marginally smaller than the spacing between corresponding opposed guide surfaces; a longitudinal slot being provided in each of said tracks for admitting linking means passing through said slots to connect the ends of said curtain with their respective

35 said bogie type supports halfway between said pairs of wheels.
40 3. A movable curtain partition according to claim 2, in which said linking means are adjustable longitudinally of the curtain rail to allow adjustment of the spacing between

the bogie-type supports at each end of the curtain rail.

4. A movable curtain partition according to claim 1 in which the curtain rail has a hollow rectangular cross-section and includes two oppositely inwardly bent lower edges which form rails for movably supporting curtain hooks having enlarged heads.

5. A movable curtain partition according to claim 4 in which at least at one end of the curtain rail the inwardly bent rails have a recess each, said recesses together forming an opening larger than the enlarged heads of said curtain hooks, a closure member in said opening, said closure member being guided for upward movement and returning to its position in said opening under gravity.

6. A movable curtain partition according to claim 4 in which the curtain rail is composed of at least two sections joined end to end by at least one joining member, said joining member consisting of a short section of the same cross-section as the curtain rail, and two parallel and spaced apart metal strips inserted into said section and protruding at each side thereof, said strips being joined at their ends by spacers to fit with a sliding fit into the ends of the curtain rail sections to be joined, and screws passing via holes in said short section, and screwed into one of said metal strips and pressing against the other of said metal strips.

7. A movable curtain partition substantially as described with reference to Figs. 3 to 5 of the drawings.

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