



(11) Publication number : **0 538 181 A1**

(12) **EUROPEAN PATENT APPLICATION**

(21) Application number : **92650006.7**

(51) Int. Cl.⁵ : **A47K 3/22**

(22) Date of filing : **14.10.92**

(30) Priority : **15.10.91 IE 3549/91**

(43) Date of publication of application :
21.04.93 Bulletin 93/16

(84) Designated Contracting States :
**AT BE CH DE DK ES FR GB GR IE IT LI LU MC
NL PT SE**

(71) Applicant : **M.I. FLAIR LIMITED**
Bailieborough, Co. Cavan (IE)

(72) Inventor : **Corrie, James Graham**
"Katima"
Bailieborough, Co. Cavan (IE)

(74) Representative : **Hanna, Peter William Derek et al**
Tomkins & Co., 5 Dartmouth Road
Dublin 6 (IE)

(54) **A sliding door arrangement for a shower or bath cubicle.**

(57) A sliding door arrangement comprises a door frame defining a first fixed side section (3) and a second open section (1) defining top and bottom tracks (13) which are slidable with respect to the first section so as to allow the width of the frame to be laterally extendable to fit different cubicle recess sizes. Two door leaf sections (5,6) are mounted for sliding engagement on the tracks, wherein the first sliding door leaf section (6) is mounted for relative sliding movement on the tracks (13) of the door frame, and wherein the second sliding door leaf section (5) is mounted for relative sliding movement both on the tracks (13) of the frame and on a rail (11) defined by the first sliding door leaf section (6). The two door leaves are therefore telescopic and both may overlap with a fixed side panel section (12), when present.

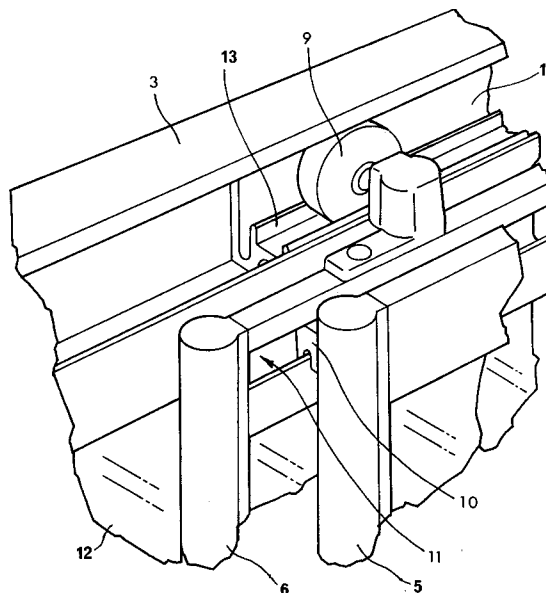


Fig.5

The present invention relates to a sliding entry door arrangement, suitable for glazed panels such as bath and shower screens adapted to fit differing bath or shower cubicle recess sizes.

According to the present invention, there is provided a sliding door arrangement for a shower or bath cubicle comprising a door frame defining a first fixed side section (3) and a second open section (1) defining top and bottom track means (13) being slidable with respect to the first section so as to allow the width of the frame to be laterally extendable to fit different cubicle recess sizes, and comprising at least two door leaf sections (5,6) mounted for sliding engagement on the track means, characterized in that a first sliding door leaf section (6) is mounted for relative sliding movement on the track means (13) of the door frame, and in that a second sliding door leaf section (5) is mounted for relative sliding movement both on the track means (13) of the frame and on rail means (11) defined by the first sliding door leaf section (6).

The advantage of this arrangement is that it allows for overlapping relative sliding movement of the two door leaves so as to telescope when opening the door. The door leaves preferably both overlap a fixed side panel in a preferred embodiment when the door is open for maximum space saving. Alternatively, the arrangement may simply comprise two overlapping door leaves in a width-adjustable frame, i.e. without a fixed side panel.

Preferably, the leading sliding door mounting is located so as not to run off the end of the track means even when the frame is fully extended.

As the two sides of the frame are capable of being moved apart for width-adjustability, the effective length of the top and bottom tracks is shortened when the frame is adjusted for full extension. However, the leading sliding door mounting is advantageously set so as to reach the end of the track but not run off the end even when the frame is fully extended.

Preferably, the track means comprises a channel section defining a single groove, and the door mountings comprise wheel bearings adapted to run in line in the groove.

The advantage of this arrangement is that a single extrusion of compact dimensions can be used as the track means instead of a wider channel defining side by side grooves for different door leaf mountings which have a greater tendency to derail.

Preferably, the rail means comprises an inwardly-facing groove defined by the second sliding door leaf section, and a mounting engaging the first sliding door leaf section therewith comprises a nylon saddle component.

The inwardly-facing groove on the second door leaf ensures that the two door leaves cannot come apart, and the compact nylon saddle component hooking over the edge of the groove provides easy

assembly of parts and does not affect the smooth gliding action of the wheel bearings in the tracks.

A preferred embodiment of a sliding door arrangement suitable for use as a bath or shower screen will now be described with reference to the accompanying drawings, in which,

Figure 1 is a plan view from above showing the door in an open condition with the frame compressed;

Figure 2 shows the door in an open position with the frame extended;

Figure 3 shows the door in a closed condition with the frame compressed;

Figure 4 shows the door in a closed condition with the frame extended, and

Figure 5 shows a detailed perspective view of the mounting of the two sliding door sections on the door frame.

A front entry sliding door arrangement for a bath or shower cubicle comprises a door frame having a top section 1, a side section 2, and a bottom section (obscured in plan view). The three sides of the frame support a sliding frame section 3 which preferably encloses a glazed panel 12, and which effectively makes the width of the frame extendable to fit different cubicle recesses or mounting locations.

A middle sliding door section 6 is hung on the top frame 1 in an inwardly-facing groove or track 13 by means of two glider wheel bearings 7 and 8. The leading sliding door section 5 is mounted to slide with respect to the frame 1 by means of a glider wheel bearing 9, and to slide with respect to the middle sliding door section 6 by means of a special slide bearing 10, suspended in a groove 11 formed on the middle sliding door section. The slide bearing 10 is preferably a nylon saddle component which hooks over the edge of groove 11.

It will be seen from Figures 1 to 4 that the sliding door arrangement described above provides a telescopic arrangement which may easily be adjusted to fit within openings allowing for an adjustment of up to, for example 100 mm, representing the maximum extension of the sliding frame section 3, which may be fixed in place if desired. It will be noted that glider wheel bearing 8 is set about 100 mm from the edge of the middle sliding door section 6, such that the wheel bearing remains on track in the frame 1 even when the door is fully open and the frame is fully extended (see Figure 2). Thus, the sliding doors 5, 6 remain fully functional regardless of the extension of the sliding frame section 3.

An identical arrangement is provided at the base of the frame, i.e. a mirror image of the plan views shown in Figures 1 to 4 could equally show the base of the frame when viewed from below. Thus the sliding door sections 5, 6 are not prone to derailment.

Claims

1. A sliding door arrangement for a shower or bath cubicle comprising a door frame defining a first fixed side section (3) and a second open section (1) defining top and bottom track means (13) being slidable with respect to the first section so as to allow the width of the frame to be laterally extendable to fit different cubicle recess sizes, and comprising at least two door leaf sections (5,6) mounted for sliding engagement on the track means, characterized in that a first sliding door leaf section (6) is mounted for relative sliding movement on the track means (13) of the door frame, and in that a second sliding door leaf section (5) is mounted for relative sliding movement both on the track means (13) of the frame and on rail means (11) defined by the first sliding door leaf section (6).

5
10
15
20
2. A sliding door arrangement as claimed in claim 1, characterized in that, in an open position, the door leaf sections (5,6) are adapted to overlap the fixed side section (12).

25
3. A sliding door arrangement as claimed in claim 1 or claim 2, characterized in that the leading sliding door mounting (8) is located so as not to run off the end of the track means (13) even when the frame is fully extended.

30
4. A sliding door arrangement as claimed in any of claims 1 to 3, characterized in that the track means (13) comprises a channel section defining a single groove and in that the door mountings comprise wheel bearings (9) adapted to run in line in the groove.

35
5. A sliding door arrangement as claimed in any of claims 1 to 4, characterized in that the rail means (11) comprises an inwardly-facing groove defined by the second sliding door leaf section (6), and in that a mounting engaging the first sliding door leaf section therewith comprises a nylon saddle component (10).

40
45

50

55

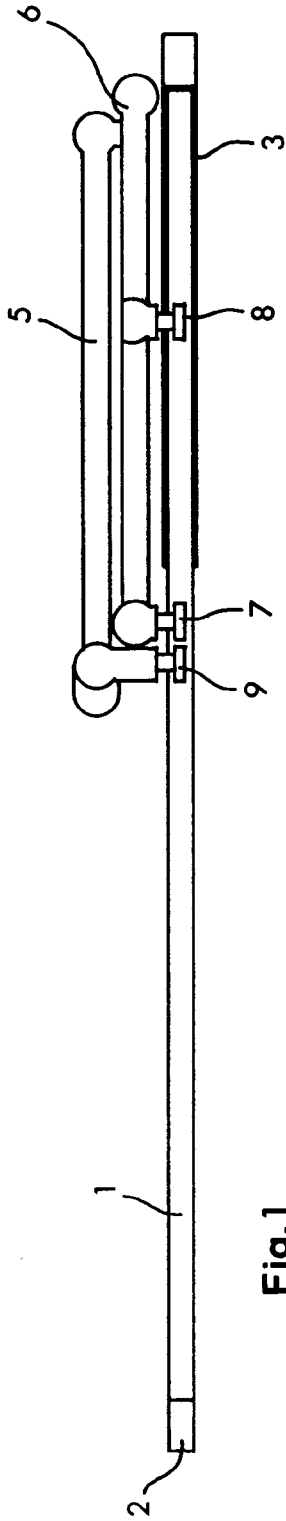


Fig. 1

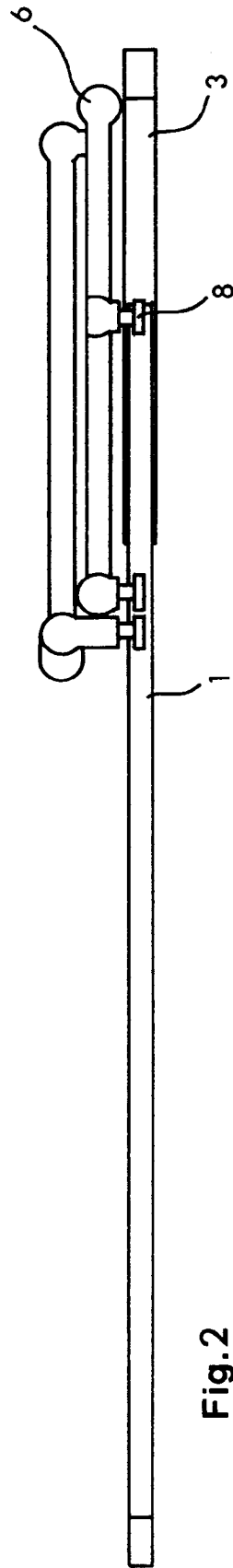


Fig. 2

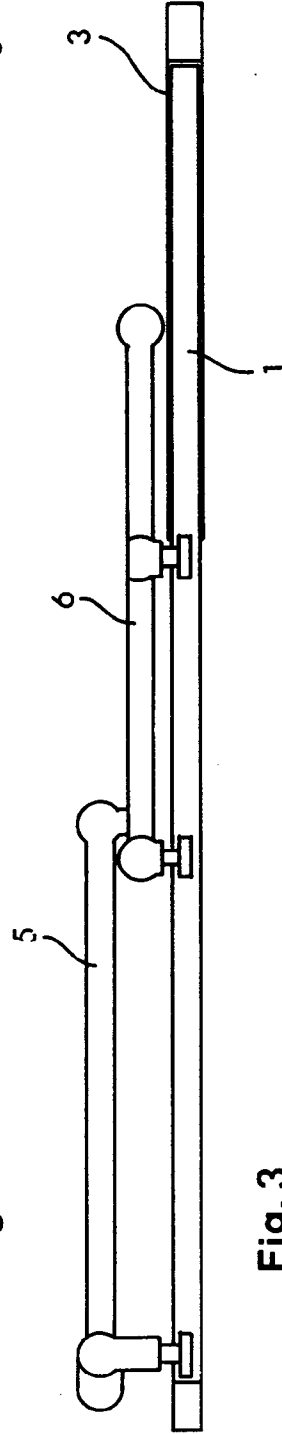


Fig. 3

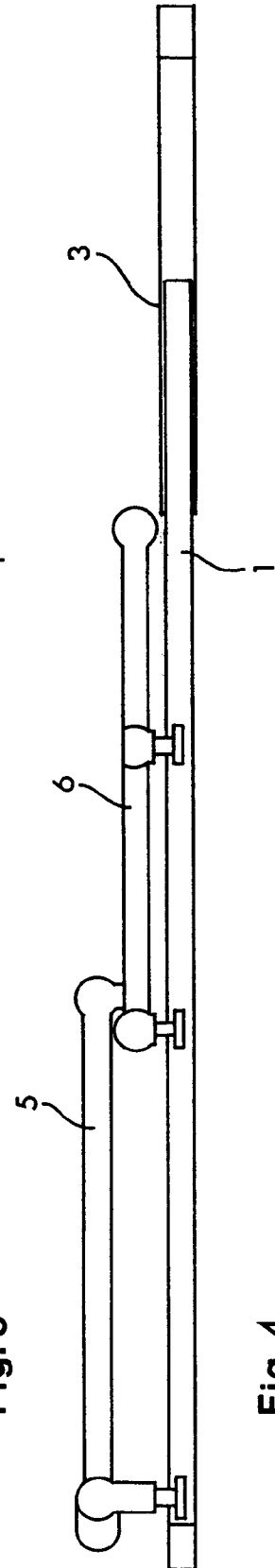


Fig. 4

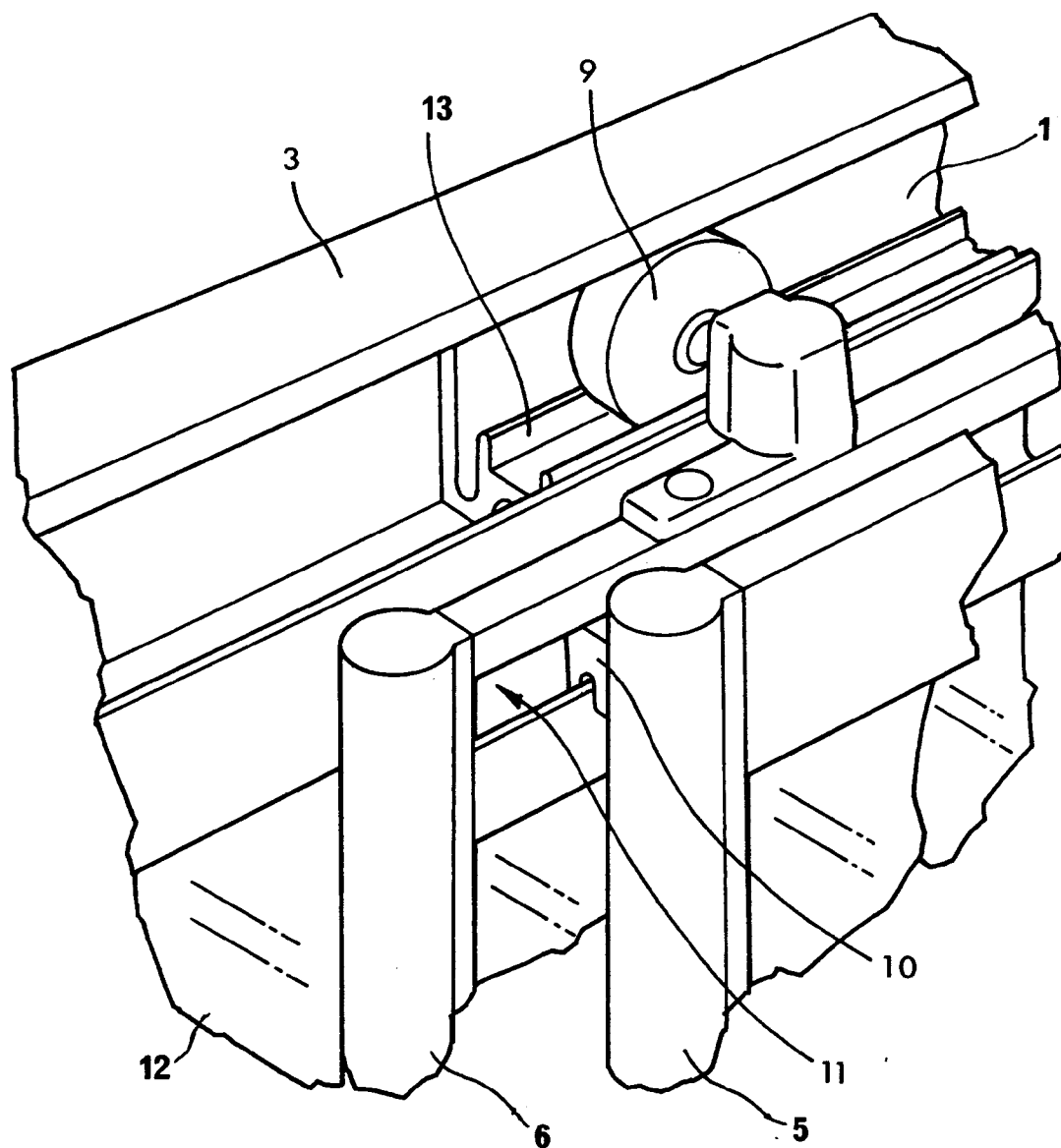


Fig.5



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number

EP 92 65 0006

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)
Y A	DE-U-8 509 994 (SCHULTE-DUSCHKABINENBAU) * page 2, line 25 - page 3, line 16 * * page 4, line 17 - page 6, line 33; figures * ---	1,2 4	A47K3/22
Y A	DE-A-3 427 911 (HÜPPE) * column 1, line 60 - column 2, line 1 * * column 2, line 49 - line 66 * * column 4, line 12 - line 46 * * column 5, line 25 - line 50; figures 1-3 * ---	1,2 4,5	
A	FR-A-2 334 331 (ONI-METALLWARENFABRIKEN GÜNTHER ET CO.) * page 1, line 26 - page 2, line 11 * * page 2, line 38 - page 3, line 16 * * page 3, line 35 - page 4, line 34; figures * ---	1,2,4	
A	DE-A-3 417 044 (LEHMANN) * page 5, line 1 - line 19; figures 1,2,5,6 * ---	1,2,4	TECHNICAL FIELDS SEARCHED (Int. Cl.5)
A	DE-U-8 915 301 (LIDO-DUSCHABTRENNUNGEN) * page 6, line 5 - line 12 * * page 7, line 25 - page 8, line 5; figure 3 * -----	1,5	A47K
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 29 DECEMBER 1992	Examiner HENKES R.
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 T : 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			

EPO FORM 1503 03.82 (P0401)