



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11)

EP 1 342 442 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
10.09.2003 Bulletin 2003/37

(51) Int Cl.7: **A47K 3/36, E05D 15/26**

(21) Application number: **02425118.3**

(22) Date of filing: **04.03.2002**

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE TR**
Designated Extension States:
AL LT LV MK RO SI

(72) Inventor: **Vismara, Giuseppe**
22066 Mariano Comense CO (IT)

(74) Representative: **Perani, Aurelio et al**
Perani Mezzanotte & Partners
Piazza San Babila 5
20122 Milano (IT)

(71) Applicant: **Vismaravetro S.r.l.**
22066 Mariano Comense - Como (IT)

(54) Shower cubicle with outward opening door in case of emergency

(57) Shower cubicle comprising at least one wall in which the passage (5) for the user to enter and exit is formed, said passage (5) being defined by vertical side stanchions (6, 7) and by at least one horizontal rectilinear cross-rod (8) connecting the upper ends of the stanchions, said cross-rod (8) being equipped with a longitudinal guide (9) facing towards said passage (5), a door (11), for closing and opening said passage (5) said door (11) comprising a series of foldable panels (12, 13) coupled swivel together along respective adjacent vertical sides, the first panel (12) of the series of panels being

connected so as to be able to rotate about a vertical axis (X-X) arranged in correspondence with one (6) of said side stanchions defining said passage (5), whereas the last panel (13) of the series of panels, in correspondence with the upper end of its free end (19), is equipped with a device (20) for sliding engagement with said longitudinal guide (9). The first panel (12) of the door (11) is connected to said vertical axis (X-X) free to make angular displacements in both clockwise and anticlockwise directions and said device (20) comprises mobile means (26, 27, 34) for engaging with said longitudinal guide (9) and for disengaging from it.

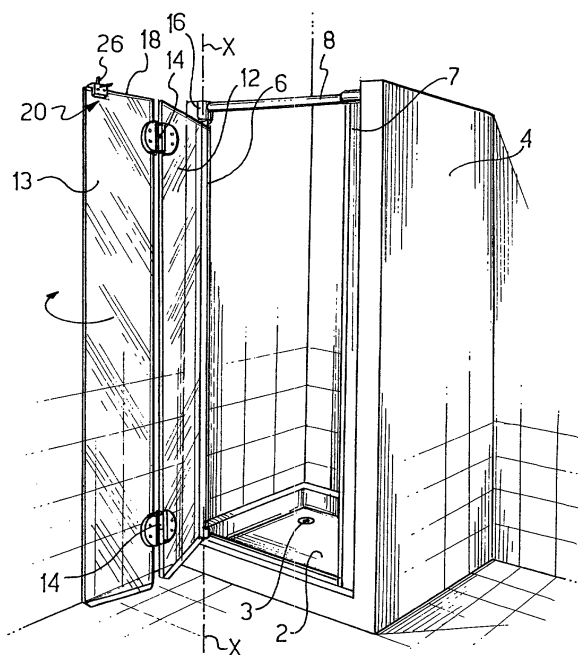


FIG. 3

EP 1 342 442 A1

Description

[0001] The present invention regards a shower cubicle comprising at least one wall in which the passage for the user to enter and exit is formed, said passage being defined by vertical side stanchions and by at least one horizontal rectilinear cross-rod connecting the upper ends of the stanchions, said cross-rod being equipped with a longitudinal guide facing towards said passage, a door, for closing and opening said passage, said door comprising a series of foldable panels coupled swivel together along respective adjacent vertical sides, the first panel of the series of panels also being connected so as to be able to rotate about a vertical axis arranged in correspondence with one of said side stanchions defining said passage, whereas the last panel of the series of panels, in correspondence with the upper edge of its free end, is equipped with a device for sliding engagement with said longitudinal guide.

[0002] Shower cubicles with an entry and exit passage equipped with a foldable door, of the type mentioned above, are known in the prior art of the field since they offer the advantage of avoiding the dripping of the walls of the door outside the space of the cubicle.

[0003] Indeed, panels, both during opening movement and when they are folded against one another, face entirely towards the inside of the shower cubicle and the dripping is gathered on the shower platform without therefore wetting the outside floor.

[0004] Nevertheless, such foldable doors still require, for their opening and closing movement, the availability of a certain amount of free space inside the cubicle.

[0005] Accordingly, in the case of the user feeling faint and of his prostration inside the cubicle with the door in the closed position, its opening shall be difficult if not impossible by a rescuer who has to operate outside of the cubicle.

[0006] Indeed, the movement of the panels which make up the door shall be blocked by the body of the user, who may be unconscious inside the cubicle, with the consequence that the passage cannot be opened or can only be partly opened, in any case not enough to let the rescuer and to remove the body of the unconscious user.

[0007] The lesser the space inside the shower cubicle, the greater the drawback.

[0008] To get rid of the danger of not being able to come to the aid of the user of the shower, who possibly could be unconscious and trapped inside the cubicle, a good method is that of mounting the doors, of the type heretofore specified, in a way that they only open towards the outside.

[0009] These doors, however, have the drawback that, in their open position, after somebody has taken a shower, drip onto the floor outside the cubicle soaking it and deteriorating it, especially if it is coated with wood or with valuable materials with a delicate surface.

[0010] The purpose of the present invention is that of

realising a shower cubicle equipped with a door, of the type heretofore specified, which, during normal use moves remaining inside the cubicle, thus avoiding the drawback of dripping on the floor outside of the shower platform, but which is equipped with a device through which, in the case of an emergency, it can be opened with a movement towards the outside of the cubicle.

[0011] The purpose is achieved with a shower cubicle of the type indicated in the preamble which is characterised in accordance with claim 1 hereinafter exposed.

[0012] The invention shall now be described in greater detail with reference to an embodiment, given only for indicating and not limiting purposes, illustrated in the attached drawings in which:

Figure 1 shows a perspective view of a shower cubicle equipped with the device according to the present invention, with the door in closed position; Figure 2 shows a shower cubicle like in Figure 1 but with a modified side wall, with the door in the open position achieved through the normal movement of the panels in the inner area of the cubicle;

Figure 3 shows the shower cubicle of the previous Figure in which the door is in the emergency open position achieved through the movement of the complex of panels outside of the cubicle;

Figure 4 is an enlarged partial section front view of the device for engagement and sliding in the transversal guide, of the last panel of the series of panels constituting the door of the cubicle;

Figure 5 shows the device of Figure 4 in a cross section view made along the line V-V of Figure 4 itself;

Figure 6 shows the device of Figures 4 and 5 in an enlarged perspective partial section view.

[0013] With reference to the aforementioned Figures, with 1 on the whole a conventional shower cubicle has been indicated which comprises a base platform 2 with a plughole 3 and vertical side walls 4 which can all be realised in masonry or else all with conventional frames carrying panes of glass or sheets of plastic material, transparent or not, according to the requirements and the wishes of the user.

[0014] The vertical side walls 4 of the cubicle can be flat, as in the case illustrated in the drawings, or else they can also be curved.

[0015] A pair of them defines a passage, indicated with 5, through which the user gains access to the inside of the cubicle.

[0016] For the sake of simplicity, since they are not necessary for the understanding of the invention, the conventional devices of a shower cubicle such as the taps, the mixer of hot and cold water, and the shower-head itself for releasing the jet of water have been omitted from the drawings.

[0017] The passage 5 is equipped with two vertical side stanchions 6 and 7 and with a horizontal rectilinear

cross-rod 8 which connects the upper ends of the vertical stanchions.

[0018] A guide is associated with the cross-rod 8 said guide, in the illustrated example, consisting of a groove 9 which extends longitudinally in the cross-rod and which faces, with its opening 10, towards the passage 5.

[0019] The door for closing the passage 5 is wholly indicated with 11. It consists of a series of panels, opaque or transparent, hinged one to the other and capable of folding along the adjacent sides.

[0020] In the case illustrated the series of panels consists of a first panel 12 and of a second panel 13, this latter being connected to the first through hinges 14 the vertical axis of which extends parallel to the stanchions 6 and 7.

[0021] The first panel 12, of the series of panels, is connected, in correspondence with its vertical side 15, to the stanchion 6, for example through pins, not illustrated, which engage in respective supports 16 and 17 arranged at the upper and lower ends of the stanchion 6 and which allow the panel 12 to be capable of making angular movements in both clockwise and anticlockwise directions of rotation about the vertical axis X-X.

[0022] The panel 13, which, for the illustrated example, constitutes the last of the series of panels of the door, on its upper edge 18, facing towards the cross-rod 8, and in correspondence with its vertical free side 19, is equipped with a device, wholly indicated with 20, for the sliding engagement with the groove 9.

[0023] Such a device comprises a substantially parallelepiped body 21 equipped with a groove 22 of a width slightly greater than the thickness of the sheet which constitutes the panel 13.

[0024] Through said groove the body 21 is enclosed for a distance on the edge 18 of the panel 13 and is locked in position through a pair of threaded dowels 23 which engage in threaded through-holes which lead into the groove 22 and which act against the underlying surfaces of the panel 13.

[0025] The body 21 also comprises a housing 25 which opens towards the guide 9 of the cross-rod 8. A rod-shaped element 26 is inserted into the housing 25, a part of which protrudes from the housing and slidably engages with the end 27 in said guide 9.

[0026] The housing 25 and the relative element 26 are arranged as close as possible to the vertical free side 19 of the panel 13 so as to guarantee that the movement of all of the panels constituting the door 11 takes place inside the cubicle.

[0027] Alternatively, with respect to that which is illustrated in the drawings, the body 21 can extend cantilevered with respect to the vertical side 19 of the panel 13 so that the housing 25, and with it the axis of movement of the element 26, are outside of said side 19.

[0028] The element 26 is capable of sliding in the housing 25 and is pushed towards the outside of it by a spring 28 which is arranged between the base 29 and the rear end 30 of the element 26.

[0029] To manoeuvre the element 26, as shall be described hereinafter, and to prevent the element itself 26 is expelled by the spring 28 out of the housing 25, the body 21 is equipped with at least one side slot 31, opened both towards the outside of the body 21 itself and towards the housing 25.

[0030] Such a slot 31 has an upper closed end 32 facing towards the cross-rod 8 and a closed lower end 33 facing towards the edge 18 of the panel 13.

[0031] Through the side slot 31 a rod 34 is mounted which engages with its threaded portion 35, in a corresponding threaded hole 36 formed radially in the element 26 and which protrudes out from the body 21 for a distance sufficient to be grasped with the fingers of a hand.

[0032] In the illustrated embodiment the body 21 is equipped with two slots 31 which are faced by the same number of respective rods 34.

[0033] In the possible case of a single slot 31 is provided in the body 21, it should be the one facing towards the outside of the cubicle 1.

[0034] From what is shown in the drawings and as heretofore described it shall be clear that, during normal operation, the door 11 can be opened and closed with the conventional folding movement allowed by the sliding of the end 27 of the element 26 in the groove 9 which constitutes its rectilinear guide.

[0035] The panels 12 and 13 of the door, during their movement and when they are folded against one another, remain inside the cubicle space. Therefore, when they are wet, they drip onto the shower platform 2.

[0036] In a possible emergency situation, when the movement of the door to the inside of the space of the cubicle is obstructed for whatever reason, acting from outside of the cubicle on the rod 32, the element 26 is shifted axially overcoming the elastic force of the spring 28. In such a way the end 27 is disengaged from the groove 9 and the door 11 can thus be quickly opened with a rotational movement from outside of the cubicle about the axis X-X defined by the supports 16 and 17.

[0037] The element 26, with its end 27, thus behaves substantially like a latch suitable for taking up two positions which are spaced from each other. In one position, the end 27 is engaged with the guide groove 9 whereas in the other position it is set back and outside of said groove.

[0038] Although in the illustrated example the displacement of the element 26 takes place against the action of the spring 28 which pushes it in the opposite direction, it is clear that the spring is not strictly necessary and that the two operating positions of the element 26 can alternatively be determined by respective conventional stop members.

[0039] Moreover, although the rectilinear guide associated with the cross-rod 8 has been indicated, in the preferential example which has been given, in the form of a groove 9 and the device for sliding engagement with this, in the form of a rod-shaped element 26, it is to be

understood that the same result can be achieved with alternative but totally equivalent embodiments such as a rail for the guide and a runner which can be released from the rail, for the sliding engagement element.

Claims

1. Shower cubicle comprising at least one wall in which the passage (5) for the user to enter and exit is formed, said passage (5) being defined by vertical side stanchions (6, 7) and by at least one horizontal rectilinear cross-rod (8) connecting the upper ends of the stanchions, said cross-rod (8) being equipped with a longitudinal guide (9) facing towards said passage (5), a door (11), for closing and opening said passage (5), said door (11) comprising a series of foldable panels (12, 13) coupled swivel together along respective adjacent vertical sides, the first panel (12) of the series of panels being connected so as to be able to rotate about a vertical axis (X-X) arranged in correspondence with one (6) of said side stanchions defining said passage (5), whereas the last panel (13) of the series of panels, in correspondence with the upper end of its free end (19), is equipped with a device (20) for sliding engagement with said longitudinal guide (9), **characterised in that** said first panel (12) of the door (11) is connected to said vertical axis (X-X) free to make angular displacements in both clockwise and anticlockwise directions and said device (20) comprises mobile means (26, 27, 34) for engaging with said longitudinal guide (9) and for disengaging from it.
2. Shower cubicle according to claim 1, **characterised in that** said mobile means (26, 27, 34) are actuated manually.
3. Shower cubicle according to claims 1 and 2, **characterised in that** said device (20) comprises a body (21) equipped with means (22, 23, 24) for fixing it to the edge (18) of the last panel (13) of the series of panels constituting the door (11), facing towards said guide (9), with latch means (26, 27) slidably mounted on it suitable for taking up two separated positions in one of which said latch means (26, 27) are slidably engaged in said longitudinal guide (9) whereas in the second they are set back outside of said guide (9), as well as means (28, 32) for actuating said latch means.
4. Shower cubicle according to claim 3, **characterised in that** said means for fixing said body (21) to the edge (18) of the panel (13) of the door (11), comprising a groove (22) formed in the body (21) in which a portion of said panel (13) is inserted as well as a plurality of screw members, which can be actuated from outside of the body (21), penetrating in

said groove (22) and engaged with the underlying surface of the panel (13).

5. Shower cubicle according to claim 3, **characterised in that** said latch means comprises a rod-shaped element (26) slidably mounted in a housing (25) formed in the body (21) of the device (20) and equipped with an end (27) which can be inserted in said guide groove (9) and which can be extracted from it, said rod-shaped element (26) being able to take up the extracted position through manual control means (34) which can be accessed from outside of the cubicle (1) and the inserted position upon a pushing action applied by an elastic member (28).
6. Shower cubicle according to claim 5, **characterised in that** said control means which can be accessed at least from outside of the cubicle consist of at least on rod (34) connected radially to said rod-shaped element (26) and protruding out from said body (21) through a slot (31) formed in it.

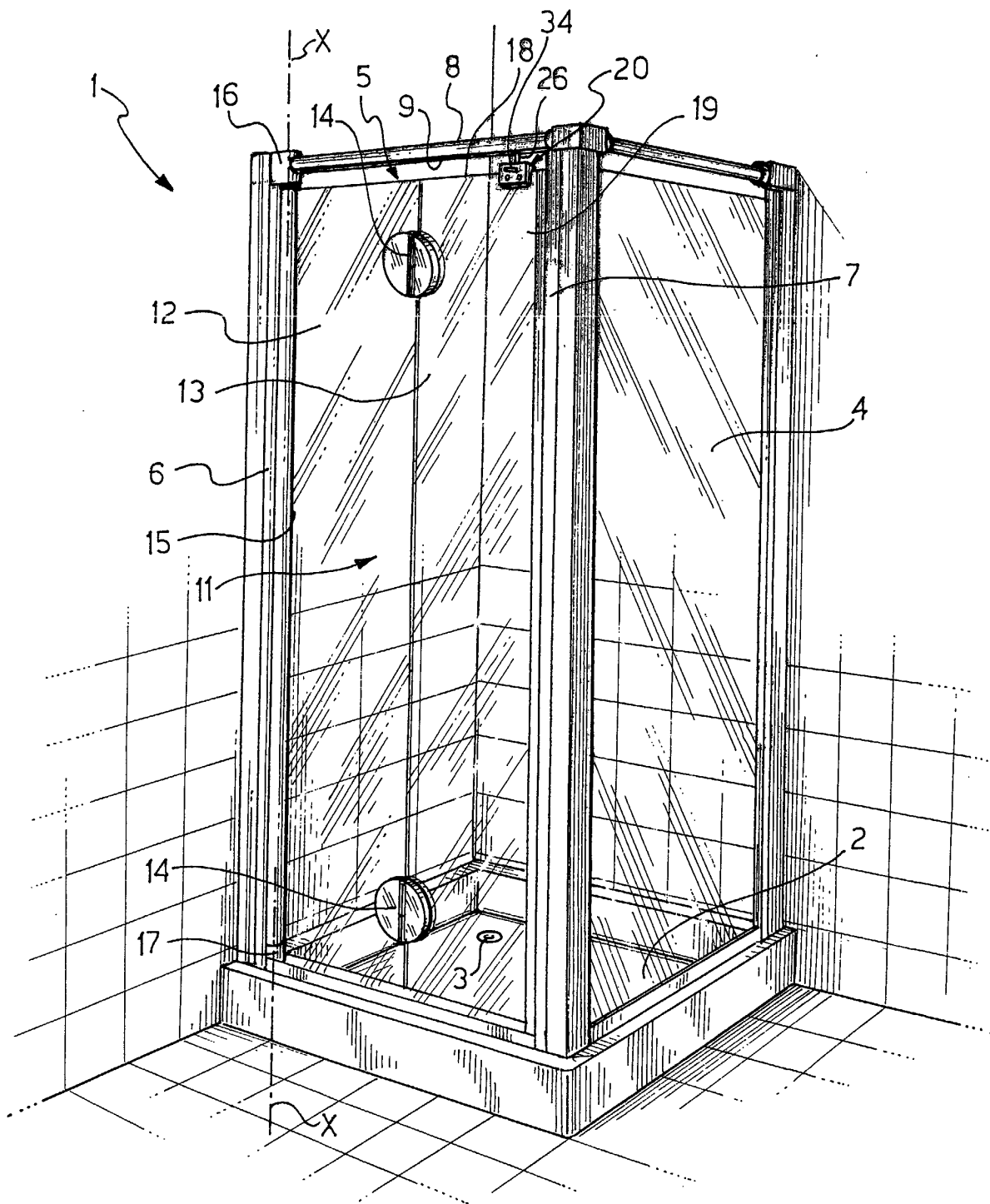


FIG.1

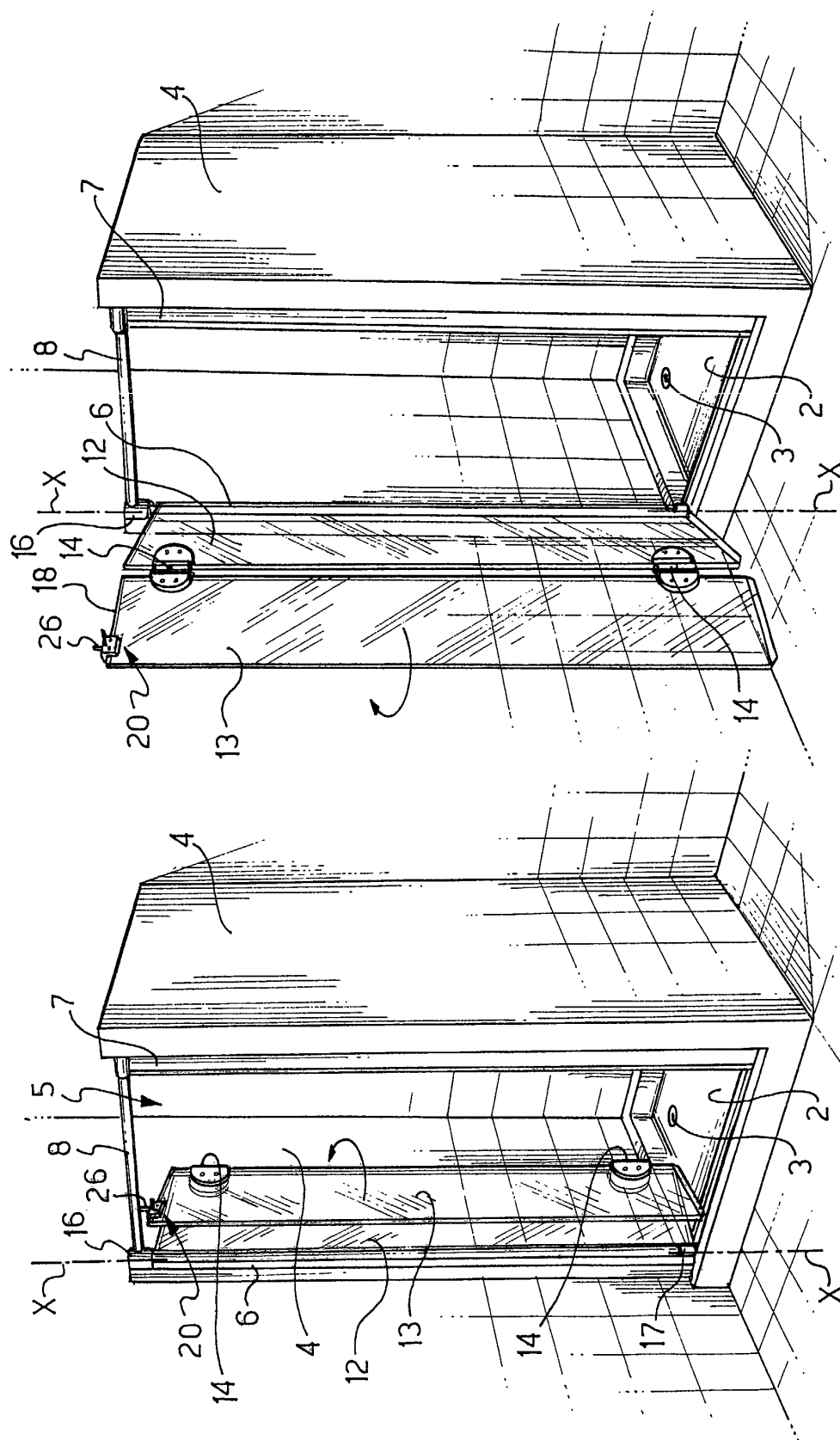
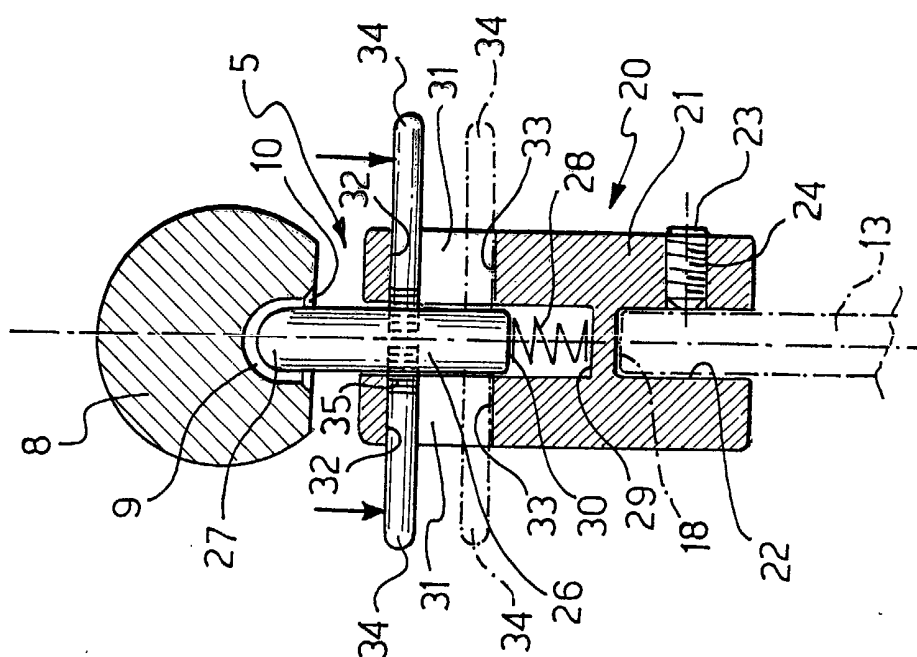
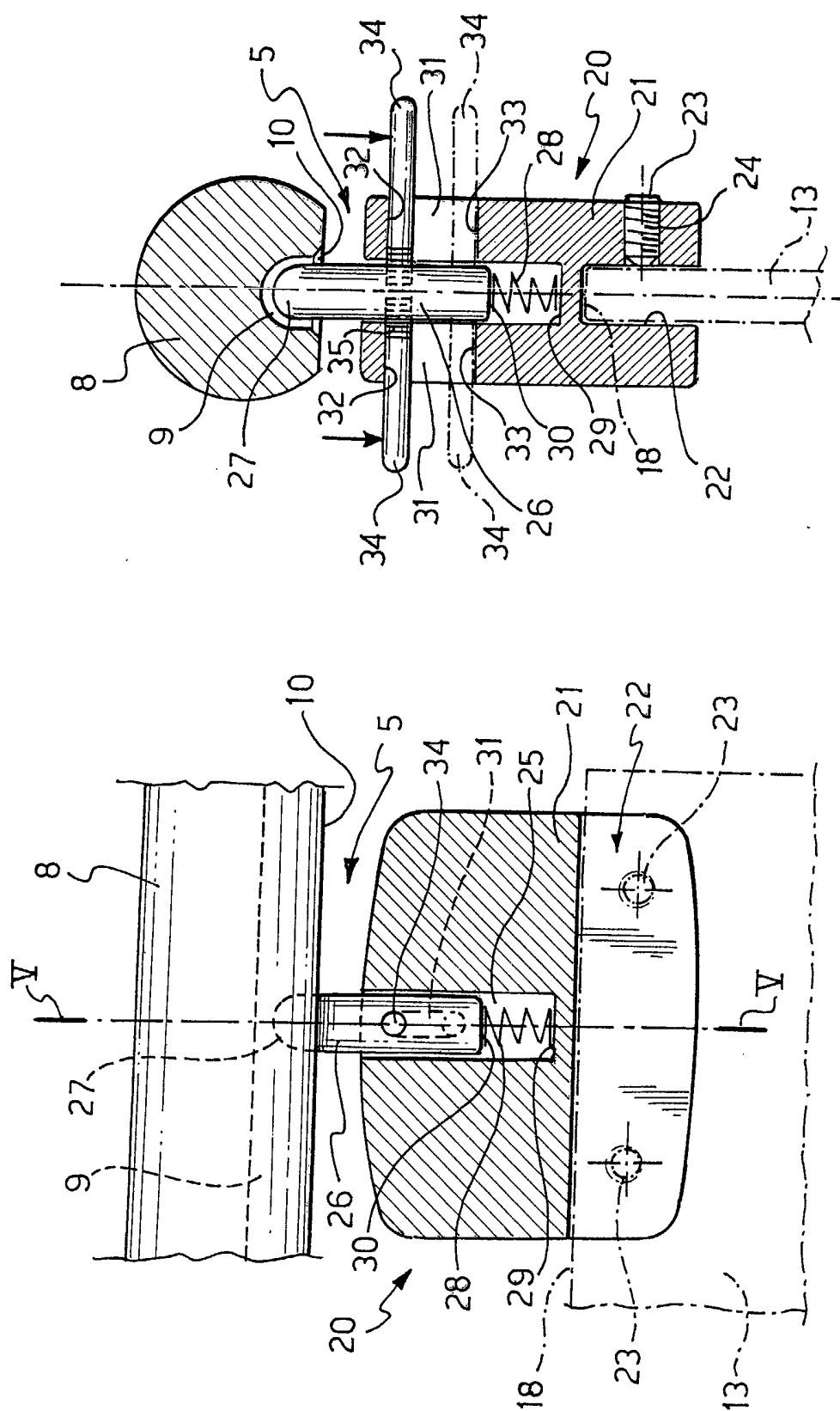
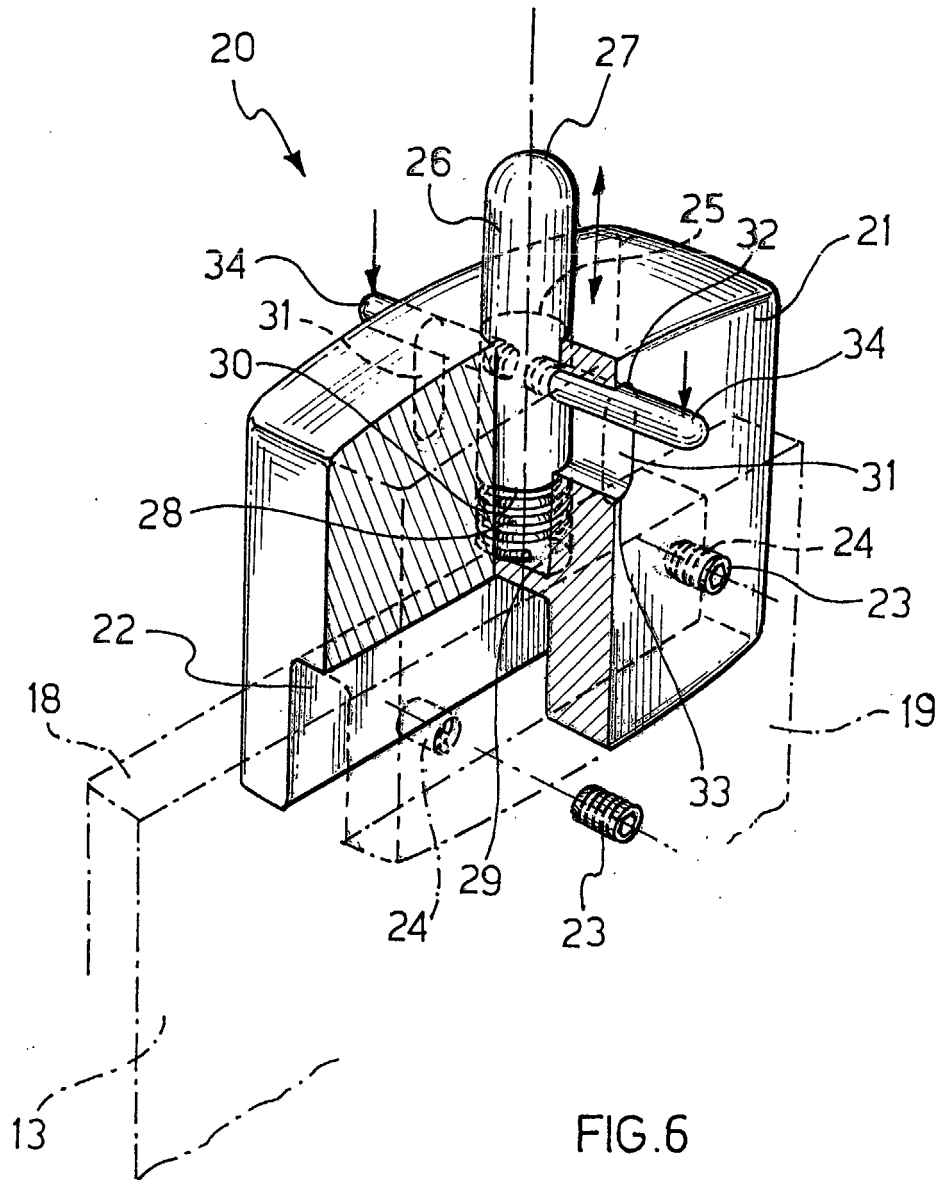


FIG.3

FIG.2







European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 02 42 5118

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.7)
Y	US 3 757 384 A (RUSCH R) 11 September 1973 (1973-09-11) * column 1, line 58 - column 2, line 53 * * column 3, line 17 - line 45; figures 1-5 *	1,2	A47K3/36 E05D15/26
Y	DE 35 09 105 C (HÜPPE GMBH, 2900 OLDENBURG, DE) 2 October 1986 (1986-10-02) * column 4, line 15 - line 55; figures 1,2 *	1,2	
A	FR 2 383 298 A (CORSO LAURENT) 6 October 1978 (1978-10-06) * page 1, line 28 - page 2, line 25; figures 1-3 *	1,3	
A	EP 0 270 739 A (MUNCH PAUL JEAN) 15 June 1988 (1988-06-15) * column 8, line 51 - column 9, line 38; figures 1,2 *	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			A47K E05D
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 24 July 2002	Examiner Zuurveld, G
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 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 02 42 5118

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

24-07-2002

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 3757384	A	11-09-1973	NONE		
DE 3509105	C	02-10-1986	DE	3509105 C1	02-10-1986
FR 2383298	A	06-10-1978	FR	2383298 A1	06-10-1978
EP 0270739	A	15-06-1988	DE	3639990 A1	26-05-1988
			AT	65174 T	15-08-1991
			DE	3771458 D1	22-08-1991
			EP	0270739 A1	15-06-1988