(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
26 May 2006 (26.05.2006)

PCT

(10) International Publication Number
WO 2006/054942 A1

(51) International Patent Classification:
E05D 11/10 (2006.01) *A47K 3/36* (2006.01)

(21) International Application Number:
PCT/SE2005/001711

(22) International Filing Date:
11 November 2005 (11.11.2005)

(25) Filing Language: Swedish

(26) Publication Language: English

(30) Priority Data:
0402888-2 18 November 2004 (18.11.2004) SE

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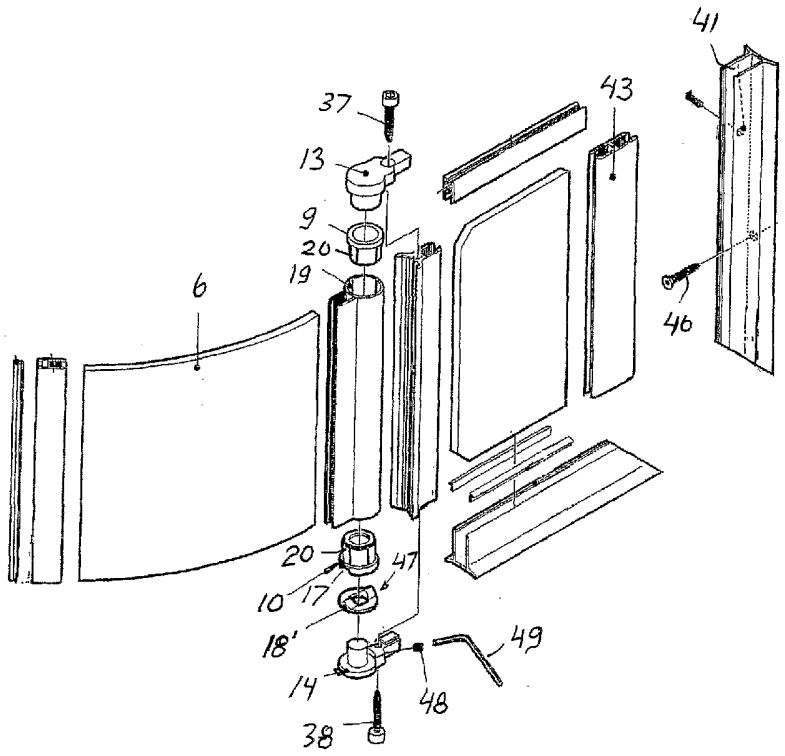
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

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(54) Title: IMPROVEMENTS IN OR RELATING TO A HINGE



(57) Abstract: The present invention refers to improvements in or relating to a hinge in the first place intended to be used together with a glass door (6) in the form of a shower splashing protection and comprising a fixed profile (21) attachable to a wall (23) and a pivotable profile (2) supporting the glass door (6), said profiles during the pivotening movement of the door (6) around upper and lower pivots (15, 16) provided on end fittings (13, 14) in a predetermined distance from the fixed profile (21), cooperate in a tightening manner along their whole length. Said pivotable profile consists of a tube (2) having along its mantle surface at least one fixing means (3) for supporting the glass door (6) and at least one bushing (9, 10), attached to each free end of the tube (2), having a centrally located opening (11, 12) for supporting and cooperating with the upper and lower pivot (15, 16) respectively, and at least one transverse recess (17), provided in at least the lower bushing (10), in order to cooperate with a correspondingly formed bulge (18') for position fixation of the pivotening angle position location of the glass door (6), said bulge (18') is formed on a position washer (47), which is lockable during its turning movement in a predetermined turning angle position of the glass door (6) in relation to the lower end fitting (14).

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Improvements in or relating to a hinge

The present invention refers to an improvement in or relating to a hinge in the first hand intended to be used in connection to a glass door in the form of a shower splasch protection and comprising a profile permanently fixable to a wall and a pivotable profile supporting the door, said profiles are tightening cooperating along the whole length of the same during the pivotening movement of the door around upper and lower pivots, provided on end fittings in a predetermined distance from the permanently fixed profile, said said pivotable profile consists of a tube having along its mantle surface at least one fixing means for supporting the glass door and at least one bushing, attached to each free end of the tube having a centrally located opening for supporting and cooperating with the upper and lower pivot respectively, and at least one transverse recess, provided in at least the lower bushing in order to cooperate with a correspondingly formed bulge for position fixation of the angle position location of the glass door.

Hinges used today on the market used in connection with doors of the type described comprise upper and lower pivots, around which the doors are pivotably supported. The pivots are provided in a predetermined distance from each other mainly corresponding to the high of the doors and special spring means are used so that the doors after having been opened shall be able to return to the closed position or original position. These solutions are relatively expensive to manufacture, their function is difficult to vary, their flexibility limited and their montage and demontage hard and time consuming to realize.

The object of the present invention is to achieve an improvement of a hinge of the kind described above, by which the drawbacks mentioned above and the prior art designs are afflicted with, have been eliminated. The characterizing features of the invention are described in the following claims.

Thanks to the invention an improvement of a hinge has been provided, which in a perfect way fullfils its purposes at the same time as it is also cheap and easy to manufacture. By that the hinge according to the present invention is built up by a tube, to which the door is supported and at least one bushing or sleeve fixed in each end of the tube with a centrally situated opening for accomodating and cooperating with the two pivots, said pivots in turn comprise transverse recesses cooperating with bulges provided on the end fittings supporting the pivots,

the advantage is obtained that a simple structure can make the door to automatically be fixed in its closed, tightening position without any special spring means. Over and above that the hing structure now will be very cheap to manufacture its functional characteristics can be varied in a very uncomplicated way. During mounting the function can be influenced of that the closing position can be varied at the same time as the position of the hinge can be adjusted by aid of the telescopic cooperation of the permanent profile with a special wall profile to adjacent wall.

The invention is described below by aid of a preferred embodiment example with reference to the enclosed drawing, in which

fig. 1 shows a schematic perspective view of a hinge according to the present invention when it shall be mounted together with a shower splashing protection in the form of a glass door and to a special wall profile including the lower bushing,

fig. 2 shows a cross section through the structure illustrated in fig. 1 mounted complete having a glass door supported by a tube comprising the hinge, which in turn supports the glass door here illustrated with another stop means and

fig. 3 shows a variant of the invention having a curved glass door.

According to the drawings a schematic illustration of a preferred embodiment example of a hinge in accordance with the present invention, is shown more in detail. Said hinge 1 comprises a pivotable profile in the form of a tube 2 having fastening means 3 in the form of flanges 4,5 extending along the tube 2 between which a glass door 6 can be mounted. The pivotable profile 2 cooperates with a fixed profile 21, which via a wall profile 22 is adjustably fixable by aid of screws 33,34 in a wall 23, said wall profile 22 is in turn fixable to the wall 23 by aid of screws 35,36. In each end 7,8 of the tube 2 a bushing 9,10 is insertable, said bushings 9,10 are provided with a centrally located opening 11,12, which cooperates with pivots 15,16 protruding from end fittings 13,14.

A transverse recess 17 is provided in the bushings 9,10 respectively and at least in the bushing 10, which is mounted in the lower part of the tube 2, said recess is intended to cooperate with

a corresponding projection 18 in the form of a bulge 18' on a position washer 47 pivotably provided on the pivot 16 of the lower end fitting 14, when the door 6 is in a desired, predetermined pivoting position and preferable in its closed position. The bushings 9,10 are in the illustrated example, fixed into the tube 2 by aid of in the same extending cams 19, said cams 19 are in turn intended to cooperate with corresponding grooves 20 in the bushings 9,10. In achieving of a desired opening position the position washer 47 is turnably adjustable around said pivot 16 over an angle range of 360°. When the washer 47 is positioned in its wanted position orientation the same is lockable in relation to the end fitting 14 by aid of e.g. a screw 48 with an inner gripping portion for a tool, said screw 48 extending transversely through a projection from the end fitting 14 and situated outside the washer 47 to abutting against the outer mantle surface or edge surface of the washer 47 by friction, said screw 48 can be screwed in by a key 49 in achieving the actual closing position of the door 6.

In the embodiment example illustrated the fixed profile 21 has a curved tightening surface 24 turned towards the tube 2 said surface is provided with a brush packing 25 fixed in a slot 27 and the pivots 15,16 are located on the end fittings 13,14 in a distance from the fixed profile 21, mainly corresponding to the half diameter of the bushings 9,10.

The end fittings 13,14 are fixable to the ends of the fixed profile 21 by an attaching screw 37,38 in a centrally positioned slot 26 in the profile 21 and said profile 21 is telescopically adjustable in a direction towards a wall 23 by aid of an intermediate wall profile 22, said both profiles 21,22 are provided with protruding flanges 29-32 directed towards each other and enclosing each other. A stop means 40.41 is provided on the free end edge 39 of the door 6, which is fixable to an adjacent wall by aid of screws 46 and said stop means is able to cooperate with the end edge 39 via an intermediate profile 42,43. An end profile 44 is insertable into a slot 45 of the profile 42.

Claims

1. Improvements in or relating to a hinge in the first place intended to be used together with a glass door (6) in the form of a shower splashing protection and comprising a fixed profile (21) attachable to a wall (23) and a pivotable profile (2) supporting the glass door (6), said profiles during the pivotening movement of the door (6) around upper and lower pivots (15,16) provided on end fittings (13,14) in a predetermined distance from the fixed profile (21), said pivotable profile consists of a tube (2) having along its mantle surface at least one fixing means (3) for supporting the glass door (6) and at least one bushing (9,10), attached to each free end of the tube (2), having a centrally located opening (11,12) for supporting and cooperating with the upper and lower pivot (15,16) respectively, and at least one transverse recess (17), provided in at least the lower bushing (10), in order to cooperate with a correspondingly formed bulge (18') for position fixation of the pivotening angle position location of the glass door (6), **characterized in** that the bulge (18') is formed on a position washer (47), which is pivotally provided around the pivot (16) of the lower end fitting (14) between the said end fitting (14) and the its adjacent bushing (10), said position washer (47) is lockable during its turning movement in a predetermined turning angle position of the glass door (6) in relation to the end fitting (14).

2. Improvement according to claim 1, **characterized in** that the position washer (47) is lockable in relation to the end fitting (14) by aid of a screw (48) which is to be screwed into the same for a lockable cooperation with said position washer (47).

3. Improvement according to claim 1, **charactrerized in** that the angle position of the glass door (6) is desirably pivotable over 360° and lockable via the position washer (47) in a desired position.

4. Improvement according to claim 1, **characterized in** that the bulge (18') is formed in at least the lower end fitting (14) and over which the lower bushing (10) with its groove (17) is sinkable downwards, when the glass door (6) for example is in its closed position.

5. Improvement according to claim 1, **characterized in** that the pivots (15,16) are centrally orientated on the end fittings (13,14) and in a distance from fixed profile (21) attached to the wall mainly corresponding to the half diameter of the bushings (9,10).

6. Improvement according to claim 1, **characterized in** that the end fittings (13,14) are attachable in a slot (26) centrally situated in the ends of the profile (21), which is fixable to the wall, by aid of at least one screw (37;38) at the same time as said profile (21) comprises two flanges (29,30) protruding in a predetermined distance from each other for telescopic cooperation with a wall profile (22) attached to a wall, said profile having covering flanges (31,32) provided to enclose the first mentioned flanges (29,30).

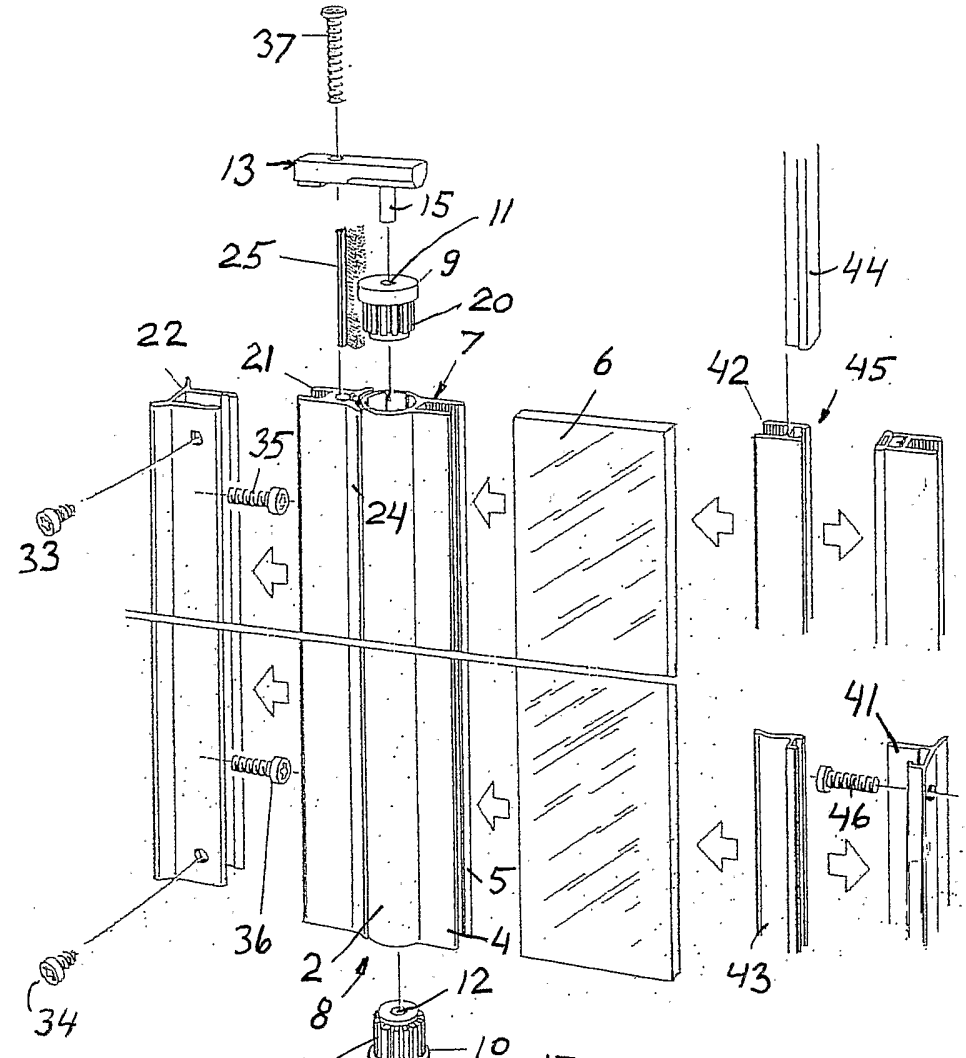

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Fig. 1

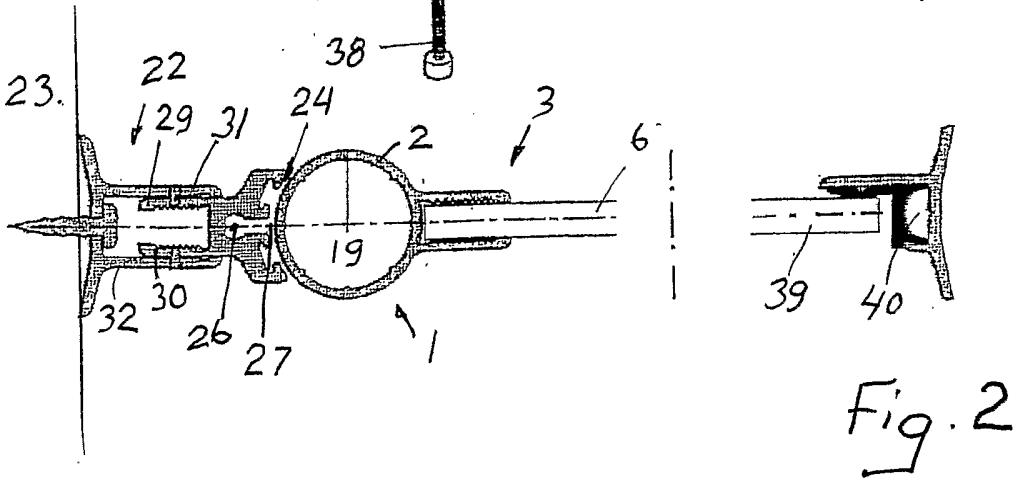

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Fig. 2

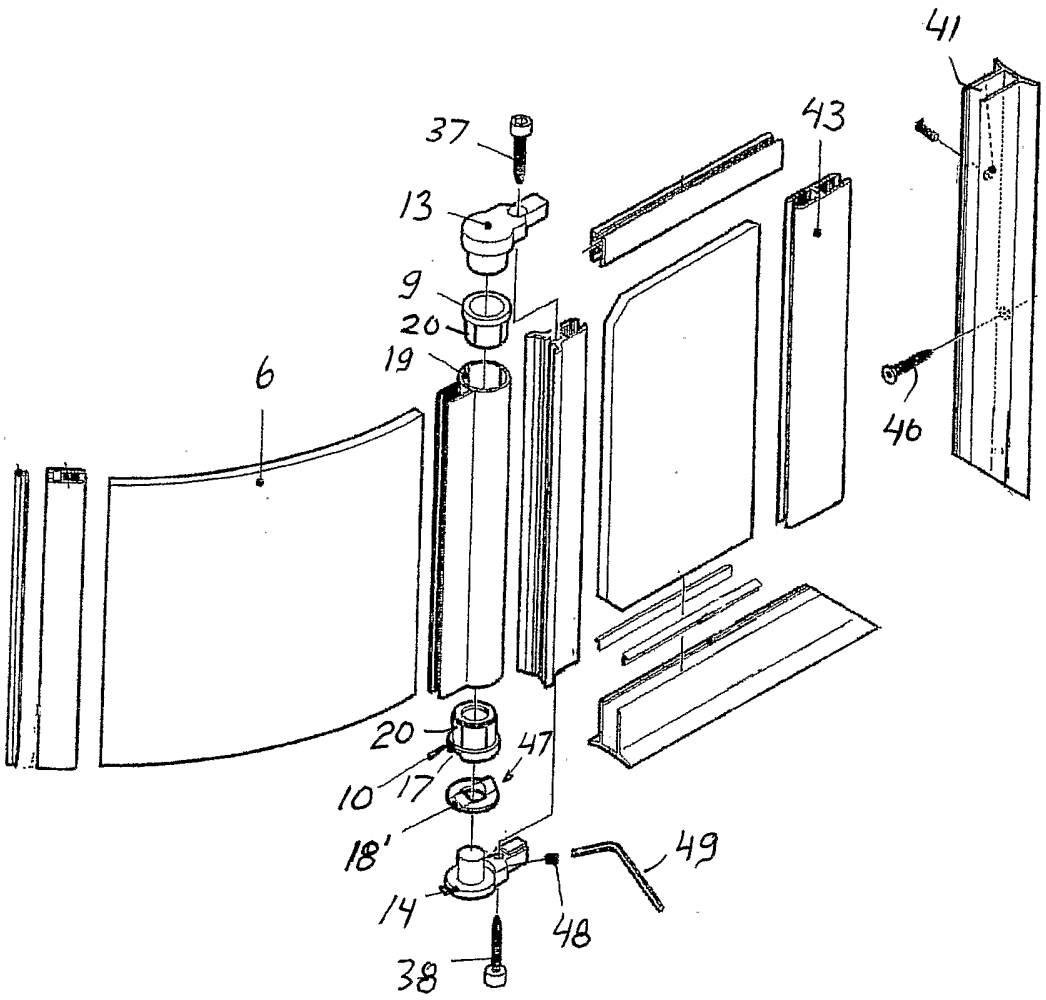


Fig. 3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/SE 2005/001711

A. CLASSIFICATION OF SUBJECT MATTER

IPC: see extra sheet
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC: E05D, A47K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	DE 20306803 U1 (LOGGEN, J.), 21 August 2003 (21.08.2003)	1-6
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Y	DE 4305977 A1 (W. SEMER GMBH & CO KG), 1 Sept 1994 (01.09.1994)	1-6
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A	DE 20002922 U1 (LIDO HOLDING GMBH), 5 April 2001 (05.04.2001)	
	--	
A	WO 02052117 A1 (GLASMÄSTERIBRENSCHENS SERVICE AB MABU), 4 July 2002 (04.07.2002)	
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[X] Further documents are listed in the continuation of Box C. [X] See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
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Date of the actual completion of the international search	Date of mailing of the international search report
26 January 2006	01-03-2006
Name and mailing address of the ISA/ Swedish Patent Office Box 5055, S-102 42 STOCKHOLM Facsimile No. +46 8 666 02 86	Authorized officer Christer Wendenius / MRo Telephone No. +46 8 782 25 00

Form PCT/ISA/210 (second sheet) (April 2005)

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