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(54) **Hinge for a glass door**

Scharnier für eine Glastür

Charnière pour porte de vitre

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(73) Proprietor: **GSAB Glasmästeribranschens
Service AB
142 21 Skogås (SE)**

(72) Inventor: **FELLMAN, Bernt
S-116 63 (SE)**

(74) Representative: **Bjelkстам, Peter
Radjursvägen 11
131 42 Nacka (SE)**

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Description

[0001] The present invention refers to a hinge in the first hand intended to be used in connection to a glass door in the form of a shower splash 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 pivoting movement of the door around upper and lower pivots, provided on end fittings in a predetermined distance from the permanently fixed profile, 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.

[0002] 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 means are used so that the doors after having been opened shall be able to return to their closed or original position or be lowered in a lowered position especially when the doors are closed. These solutions are relatively expensive to manufacture, their function is difficult to vary, their flexibility limited and their assembly and disassembly hard and time consuming to realize. Examples of prior art hinges having similar structures are illustrated in DE 201 05 282 U1, DE 297 04 719 U1 and WO 02/052117 A1.

[0003] 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.

[0004] Thanks to the invention an improvement of a hinge has been provided, which in a perfect way fulfills 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 accommodating 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 means. Over and above that the hinge 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.

[0005] 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.

[0006] 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 in the form of said tube 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.

[0007] 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 pivotally 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 pivotally 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.

[0008] 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.

[0009] 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. A hinge intended to be used together with a glass door (6) in the form of a shower splashing protection, said hinge comprising a fixed profile (21) attachable to a wall (23) and a pivotable profile supporting the glass door (6), said pivotable profile pivoting, during the pivoting movement of the door (6), around upper and lower pivots (15,16) provided on end fittings (13,14) of the hinge in a predetermined distance from the fixed profile (21), said pivotable profile consisting 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 the lower bushing (10) in order to cooperate with a correspondingly formed bulge (18') for position fixation of the pivoting angle position location of the glass door (6), whereby said 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 its adjacent bushing (10) at the same time as the position washer (47) is pivotally adjustable around said pivot (16) over an angle range of 360° into a desired position **characterized in that** said position washer (47) is lockable in relation to the end fitting (14) by aid of 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 out-

side the washer (47) and abutting against the outer mantle surface of the washer (47) by friction, said screw (48) can be screwed into said projection by a key (49) in achieving the actual closing position of the door (6), that the bushings (9,10) are fixed into the tube (2) by aid of cams (19) extending in the tube, which are in turn cooperating with corresponding grooves (20) in the bushings (9,10), and that the end fittings

(13,14) are attachable in a slot (26) centrally situated in the ends of the profile (21), by aid of at least one second 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 wall profile (22) having covering flanges (31,32) provided to enclose the first mentioned flanges (29,30).

Patentansprüche

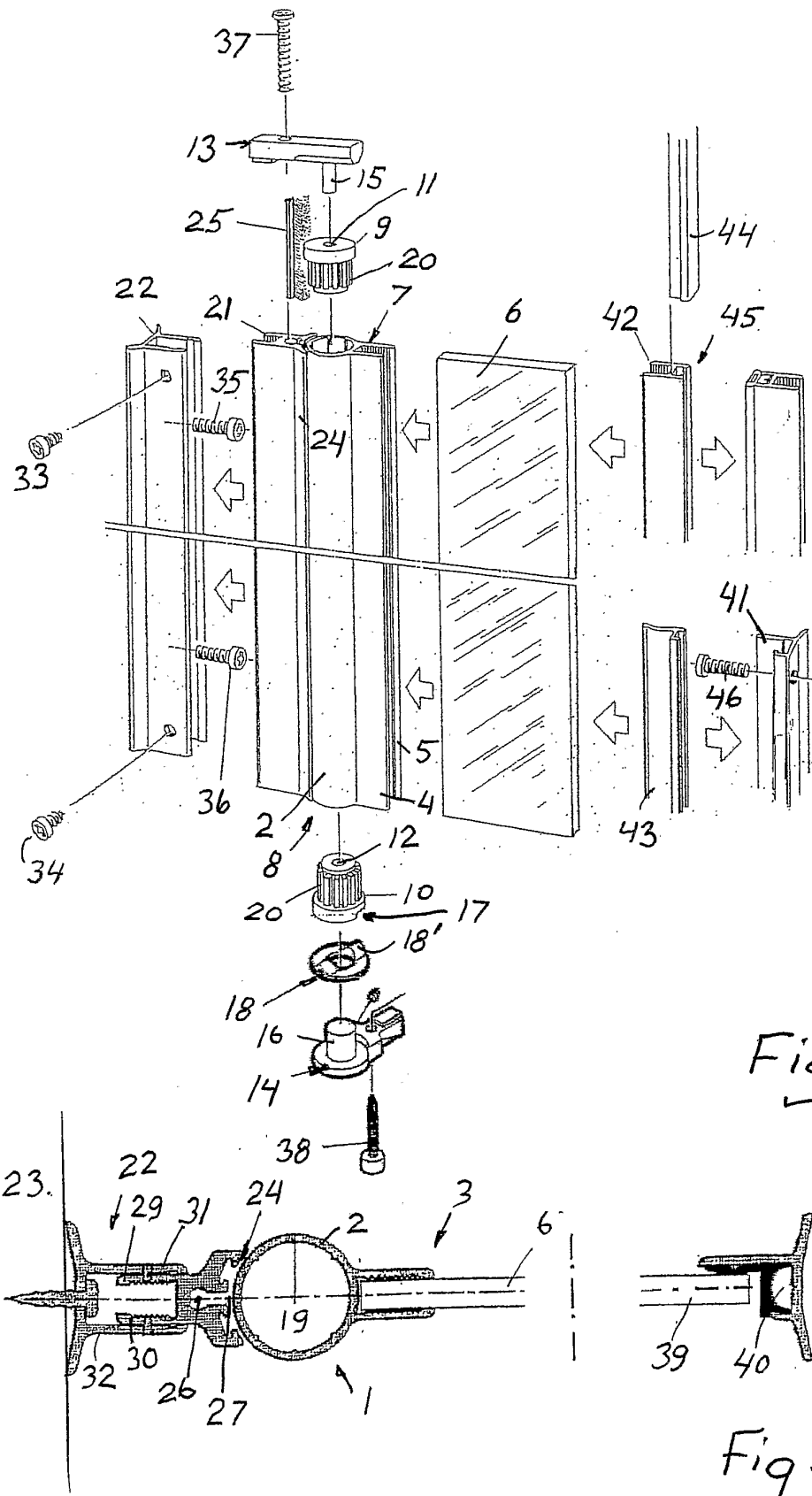
1. Scharnier, das zur gemeinsamen Verwendung mit einer Glastür (6) in der Form eines Dusch-Spritzschutzes bestimmt ist, wobei das Scharnier ein festes Profil (21), das an einer Wand (23) angebracht werden kann, und ein schwenkbares Profil, das die Glastür (6) trägt, umfasst, wobei das schwenkbare Profil während der Schwenkbewegung der Tür (6) in einem vorherbestimmten Abstand von dem festen Profil (21) um einen oberen und einen unteren Drehzapfen (15, 16), die an Endstücke (13, 14) des Scharniers bereitgestellt sind, schwenkt, wobei das schwenkbare Profil aus einer Röhre (2) besteht, die entlang ihrer Mantelfläche zumindest ein Fixiermittel (3) zum Tragen der Glastür (6) und zumindest eine Buchse (9, 10) aufweist, die an jedem freien Ende der Röhre (2) angebracht ist und eine mittig angeordnete Öffnung (11, 12) aufweist, um jeweils den oberen und den unteren Drehzapfen (15, 16) zu stützen und damit zusammenzuwirken, und in der unteren Buchse (10) zumindest eine quer verlaufende Aussparung (17) bereitgestellt ist, um mit einer entsprechend geformten Ausbuchtung (18') zur Positionsfixierung der Schwenkwinkelpositionsstelle der Glastür (6) zusammenzuwirken, wobei die Ausbuchtung (18') an einer Positions-Unterlegscheibe (47) gebildet ist, die zwischen dem Endstück (14) und seiner angrenzenden Buchse (10) um den Drehzapfen (16) des unteren Endstücks (14) schwenkbar bereitgestellt ist, wobei die Positions-Unterlegscheibe (47) zugleich um den Drehzapfen (16) über einen Windelbereich von 360 ° schwenkbar in eine gewünschte Position einstellbar ist, **dadurch gekennzeichnet, dass** die Positions-Unterlegscheibe (47) mit Hilfe einer Schraube (48) mit einem inneren Eingreifabschnitt für ein Werkzeug in Bezug auf das Endstück (14) arretiert werden kann, wobei sich die

Schraube (48) quer durch einen Vorsprung von dem Endstück (14) erstreckt und außerhalb der Unterlegscheibe (47) gelegen ist und durch Reibung an der äußeren Mantelfläche der Unterlegscheibe (47) anliegt, wobei die Schraube (48) beim Erlangen der tatsächlichen Schließposition der Tür (6) durch einen Schlüssel (49) in den Vorsprung geschraubt werden kann, dass die Buchsen (9, 10) mit Hilfe von Nocken (19), die sich in die Röhre erstrecken und wiederum mit entsprechenden Nuten (20) in den Buchsen (9, 10) zusammenwirken, in der Röhre (2) fixiert werden, und dass die Endstücke (13, 14) mit Hilfe zumindest einer zweiten Schraube (37; 38) in einem Schlitz (26), der mittig in den Enden des Profils (21) gelegen ist, angebracht werden können, und das Profil (21) zugleich zwei Flansche (29, 30) umfasst, die in einem vorherbestimmten Abstand voneinander vorspringen, um teleskopisch mit einem Wandprofil (22), das an einer Wand angebracht ist, zusammenzuwirken, wobei das Wandprofil (22) abdeckende Flansche (31, 32) aufweist, die bereitgestellt sind, um die erstgenannten Flansche (29, 30) zu umschließen.

Revendications

1. Charnière destinée à être utilisée ensemble avec une porte (6) en verre sous la forme d'une protection aux éclaboussures dans une douche, la charnière comprenant un profilé (21) fixe pouvant être fixé à une paroi (23) et un profilé pivotant supportant la porte (6) en verre, le profilé pivotant pivotant pendant le pivotement de la porte (6) autour de pivots (15, 16) supérieur et inférieur prévus sur des ferrures (13, 14) d'extrémité de la charnière à une distance déterminée à l'avance du profilé (21) fixe, le profilé pivotant consistant en un tube (2) ayant le long de sa surface d'enveloppe au moins un moyen (3) de fixation pour supporter la porte (6) en verre et au moins une douille (9, 10) fixée à chaque extrémité libre du tube (2), ayant une ouverture (11, 12) placée de manière centrale pour supporter respectivement les pivots (15, 16) supérieur et inférieur et coopérer avec eux et au moins un chambrage (17) transversal prévu dans la douille (10) intérieure afin de coopérer avec un bourrage (18') formé de manière correspondante pour fixer en position l'emplacement de la position angulaire de pivotement de la porte (6) en verre, le bourrage (18') étant formé sur une rondelle (47) de mise en position, qui est prévue pivotante autour du pivot (16) de la ferrure (14) d'extrémité inférieure, entre cette ferrure (14) d'extrémité et sa douille (10) voisine, en même temps que la rondelle (47) de mise en position peut être ajusté à pivotement autour du pivot (16) sur une plage angulaire de 360° en une position souhaitée, **caractérisé en ce que** la rondelle (47)

de mise en position peut être verrouillée par rapport à la ferrure (14) d'extrémité à l'aide d'une vis (48) par une partie de serrage intérieure pour un outil, la vis (48) s'étendant transversalement dans une saillie de la ferrure (14) d'extrémité et placée à l'extérieur de la rondelle (47) et butant sur la surface d'enveloppe extérieure de la rondelle (47) par friction, la vis (48) pouvant être vissée dans la saillie par une clé (49) pour obtenir la position de fermeture réelle de la porte (6), **en ce que** les douilles (9, 10) sont fixées dans le tube (2) à l'aide de cames (19) s'étendant dans le tube qui, à leur tour, coopèrent avec des rainures (20) correspondantes des douilles (9, 10), et **en ce que** les ferrures (13, 14) d'extrémité peuvent être fixées dans une fente (26) placée de manière centrale dans les extrémités du profilé (21) à l'aide d'au moins une deuxième vis (37, 38) en même temps que le profilé (21) comprend deux ailes (29, 30) faisant saillie à une distance déterminée à l'avance l'une de l'autre pour une coopération télescopique avec un profilé (22) de paroi, fixé à une paroi, le profilé (22) de paroi ayant des ailes (31, 32) de couverture prévues pour enfermer les premières ailes (29, 30) mentionnées.



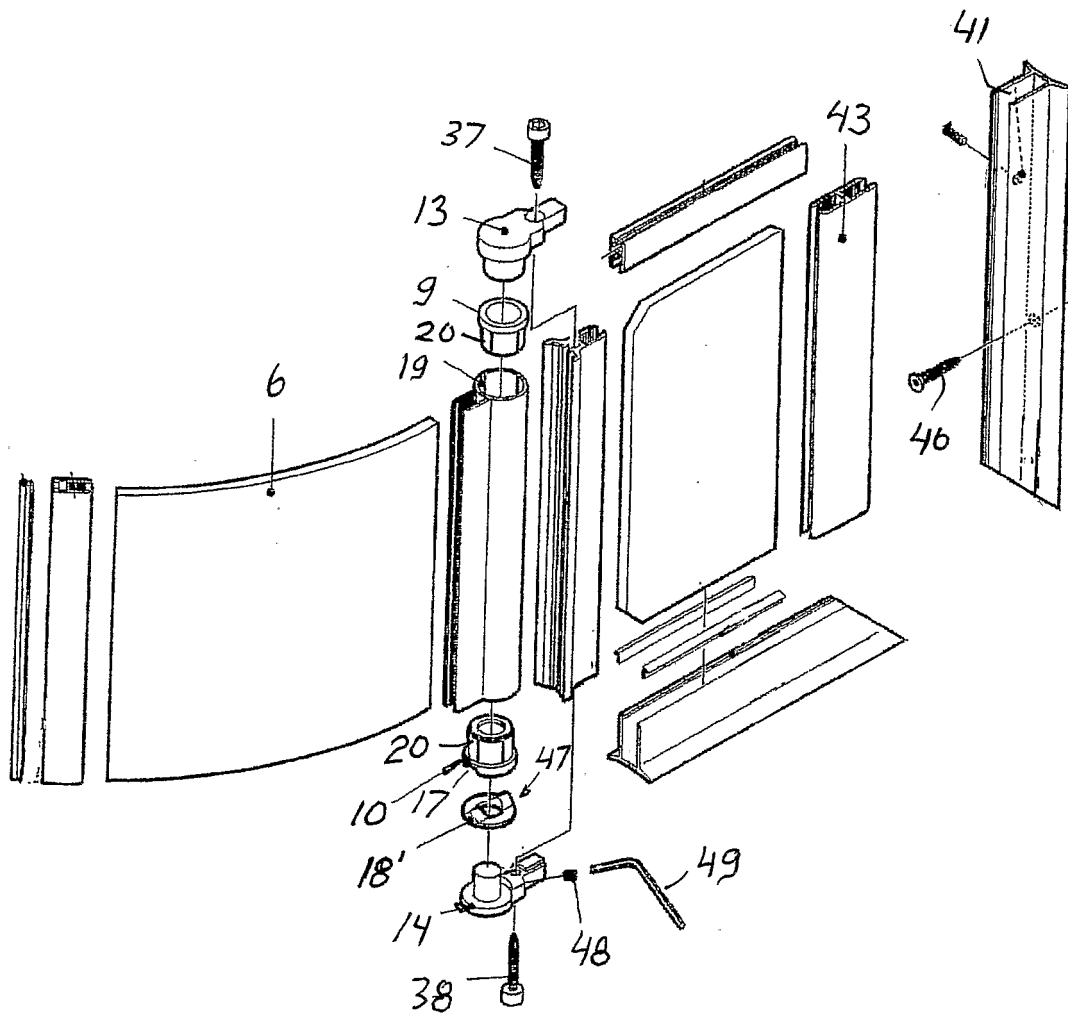


Fig. 3

REFERENCES CITED IN THE DESCRIPTION

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