

Description

[0001] The invention relates to brackets to be fixed to the parallel walls of a piece of furniture, in order to support the opposite sides of a surface made of glass or other material. The brackets of the known type which must support glass surfaces in a fixed manner, without the possibility of raising, all require the tightening of a screw which is arranged horizontally or vertically, resulting in an operation which is generally made difficult by the closeness of the screw to the surface, its location which is not aligned with the operator and the dimensions of the furniture.

[0002] The invention relates to a bracket for the fixed supporting of surfaces made of glass or other material and having a variable thickness, which, during assembly and disassembly, does not require any screwing or unscrewing operation as in the known art and which therefore simplifies considerably these same operations. The bracket in question has, in its body, a vertical channel which is close to the wall of the furniture and a horizontal channel which is perpendicular to the preceding channel and inside which a small slide having an external head and, at the other end, transverse teeth which project into the said vertical channel is housed. The body of the bracket and the horizontal slide have respective vertical holes which are aligned with each other and inside which the shank of a rubber mushroom element is precision-fitted, the said mushroom element resting on the said body so as to support the glass surface. The horizontal slide which is provided with teeth at the front is therefore constrained to the body of the bracket by the shank of the rubber mushroom element which allows the said slide to perform a small elastic longitudinal movement. The toothed shank of a slide in the form of an overturned L is inserted inside the said vertical channel and, with its teeth, snap-engages with those of the said horizontal slide which in this way acts as a ratchet and keeps in position the said vertical slide which is arranged with its head on the glass surface and firmly locks it on the body of the bracket. In order to disassemble the bracket, it is envisaged that the external head of the said horizontal slide is structured with at least one part projecting or distant from the body of the bracket so that the said head of the slide can be gripped and displaced with the fingers of a hand or with other means so as to be able to move the teeth of the horizontal slide away from those of the vertical slide and therefore be able to raise the latter slide.

[0003] Further characteristic features of the invention and the advantages arising therefrom will appear more clearly from the following description of a preferred embodiment thereof, illustrated purely by way of a nonlimiting example in the figures of the two accompanying plates of drawings in which:

- fig. 1 is a side view, with parts in section, of the bracket mounted in position;

- figs. 2, 3, 4 and 5 show the body of the bracket in a side elevation, top plan and rear side and front side elevation view, respectively;
- figs. 6 and 7 show a side elevation and top plan view, respectively, of the slide which can be associated, with the possibility of horizontal movement, with the body according to the preceding figures;
- fig. 8 is an elevation view, from the front side, of the surface-fixing slide which can be associated, with the possibility of vertical movement, with the body according to figures 2 to 5.

[0004] In figures 1 to 5 it can be seen that the bracket 1 comprises a body 1 which is made of metal or other suitable material, has a substantially parallelepiped shape and is provided with means for effecting fixing on to the wall P of the furniture, for example consisting of a pin 101 which is integral perpendicularly with the side with which the body 1 touches the said wall and which preferably has a polygonal cross-section and terminates in a rounded tip so that it can be inserted with pressure into a hole F formed in the wall P, without the possibility of rotating in said hole, so as to stabilise the body 1 in the correct vertical working position. It is understood that other means suitable for the purpose, including those of a mountable type, such as screws for example, may be envisaged instead of the pin 101.

[0005] The body 1 has, integral therewith, on the upper surface, a pair of raised and mutually parallel shoulders 201 which, with one side, rest against the wall P and which are rounded in the free angle zone. Between these shoulders, on the upper surface of the body 1, the suitably flared top end of a vertical guide channel 2 with a rectangular cross-section opens out, the other end thereof also opening out on the bottom side of the said body 1. Perpendicularly with respect to the channel 2, the body 1 has a horizontal guide recess 3, for example with a rectangular cross-section, which opens out at one end on the front side of the said body 1 and at the other end communicates with the said channel 2. The sides of the guide channel 3 may be provided with longitudinal straight recesses 4, 4' which are parallel to the longitudinal axis of the said channel, identical, symmetrically arranged and opened out at one end on the front side of the body 1 and which at the other end are located an appropriate distance from the channel 2.

[0006] On the top side of the body 1, in a central position, there opens out the flared end of a vertical hole 5 which may extend along the entire height of the said body 1 or which may terminate blind on the part of the body 1 which is located underneath the horizontal guide channel 3 and which preferably has a rounded front edge 301 for the reasons stated further below.

[0007] The guide channel 3 houses a slide 6, as can be seen from figures 1, 6 and 7, which is provided on the sides with optional straight longitudinal projections 106, 106' which slide in a guided manner inside the optional lateral recesses 4, 4' of the said channel 3 and

which has at the end a head 206 which presses against the front side of the body 1 and which, as shown in figure 7, may have a width such as to project laterally from the said body 1, as shown in continuous lines, or such as not to project from the sides of the said body 1, as shown in broken lines. The head 206 is in any case high enough to reach the rounded edge 301 of the body 1, without however projecting preferably from the bottom of the said body. The slide 6 has, in the central position, a vertical through-hole 5' which has the same diameter as the hole 5 of the body 1 and which opens out on the bottom side of the said slide, with a widened section 105'. The said slide 6, finally, is characterized by having, on the end opposite to that with the head 206, transverse teeth 7 with a sawtooth profile, which are inclined downwards, and with a suitable upper chamfer 107. When the head 206 of the slide 6 is resting against the front side of the body 1, the hole 5' is aligned with the hole 5 and the teeth 7 of the said slide project suitably inside the vertical channel 2.

[0008] The set of holes 5, 5' receive the shank, with substantially the same diameter, of a mushroom element 8 which is made of any suitable elastomer material, for example a silicone material, and which may be axially hollow so as to have a greater elasticity and preferably has an anti-extraction projection 108 which snap-engages with the widened portion 105' of the hole 5' of the slide 6, and has a head 208 of suitable amplitude, preferably concave at the top and having dimension such as not to project from the body 1 and not cover the top end of the channel 2. The mushroom element 8 performs two important functions. With its head 208 it forms the elastic buffer with a suction-cup effect on which the surface L of the furniture delicately rests and with its shank forms an effective elastic means which keeps the teeth 7 of the slide 6 projecting by the correct amount inside the channel 2, but with the possibility of retracting the said slide inside the channel 3. The projections 106, 106' and the corresponding guide recesses 4, 4' mentioned above limit the contact friction of the slide 6 with the channel 3 of the body 1 and therefore facilitate sliding of this slide.

[0009] The bracket in question is completed by the slide 9 illustrated in figures 1 and 8 having a side profile in the form of an overturned L and provided with a flat shank 109 with a rectangular cross-section, chamfered at the end, having dimensions such that it can be inserted with adequate precision inside the guide channel 2 and provided, on the side directed towards the slide 6, with teeth 10 having a sawtooth profile, with an inclination directed upwards and complementing that of the teeth 7 of the said slide 6. The slide 9 has a top section 209 of its shank which is widened and which slides, guided, between the shoulders 201 of the body 1 and which bears against the top side of the said body 1 before the said shank 109 projects from the bottom end of the body 1. The said slide 9 also has a head 309 which has a rectangular shaped plan design, which preferably re-

mains within the plan dimensions of the set of parts 1 and 6, which is chamfered on the bottom edge and which may have an upper rib 409 which reproduces in relief a V-shaped design located with the vertex on the central axis of the head in question. The shank 109 of the slide 9 is snap-engaged inside the channel 2, without the possibility of extraction, since its teeth 10 co-operate by means of snap-engagement with the teeth 7 of the slide 6 which acts as a ratchet, retracting elastically with the elastic deformation of the shank of the mushroom element 8, and this insertion movement of the slide 9 terminates when its head 309 comes into contact with the sheet L, locking it firmly on the body 1 of the bracket.

[0010] By gripping with the fingertips of one hand or using a small tool the bottom end of the head 206 of the slide 6 which is located at a suitable distance from the rounded edge 301 of the body 1, or by gripping with the fingertips of the hand the sides of the head 206 optionally projecting from the body 1, as already mentioned with reference to figure 7, it is possible to move slightly the slide 6 away from the shank 109 of the slide 9, overcoming the elastic force of the shank of the mushroom element 8, and it is therefore possible to raise the said slide 9 for any possible necessary maintenance or disassembly of the bracket in question or the surface L.

Claims

1. Surface-support bracket for furniture, **characterised in that** it comprises a body (1) with means (101) for effecting fixing in cantilever fashion onto the wall (P) of the furniture, having a vertical channel (2) which is close to the said wall (P) and a horizontal channel (3) which opens out into the preceding channel and which has, mounted inside it, a small slide (6) with an external visible head (206), provided at the other end with transverse teeth (7) which project into the said vertical channel (2) and provided on the central axis with a vertical hole (5') which is aligned with a corresponding hole (5) in the body of the bracket and these holes being engaged by the shank of a mushroom element (8) made of elastomer material, which with its head (208) rests on the said body (1) so as to support the edge of the horizontal sheet (L) which forms the surface of the furniture, inside the said vertical channel (2) there being inserted the shank (109) of a slide (9) having a profile in the form of an overturned L, provided laterally with transverse teeth (10) which co-operate with the teeth (7) of the said horizontal slide (6) which acts as a ratchet for axially locking the said vertical slide which rests with its head (209) on the said sheet (L) so as to retain it in position.
2. Bracket according to Claim 1), in which the head (206) of the slide (6) is structured so as to be projecting or located at a distance at the bottom and/

or laterally with respect to specially shaped parts of the body (1) of the said bracket, so that the said head of the slide (6) may be gripped with the fingertips of a hand or with a tool and may be displaced relative to the said body (1), so as to move away the teeth (7) of the said horizontal slide (6) from the teeth (10) of the vertical slide (9) which may thus be raised and extracted for removal of the surface (L) of the furniture.

3. Bracket according to Claim 2), in which the bottom edge (301) of the front side of its body (1) is amply rounded so as to allow gripping of the bottom end of the head (206) of the horizontal slide (6).

4. Bracket according to Claim 2), in which the lateral edges of the head (206) of the horizontal slide may optionally project from the sides of the body (1) of the said bracket which in any case are suitably rounded or otherwise relieved so as to allow gripping of the said head of the slide (6) in question.

5. Bracket according to Claim 1), in which the teeth (7) of the horizontal slide (6) have a sawtooth profile, with a downwards inclination, while the teeth (10) of the shank of the vertical slide (9) also have a sawtooth profile, are inclined upwards and complement the teeth (7) of the said horizontal slide.

6. Bracket according to Claim 1), in which the horizontal slide (6) is provided on its sides with straight longitudinal projections (106, 106') which slide guided inside corresponding straight longitudinal recesses (4, 4') provided on the sides of the horizontal guide channel (3) which houses the said slide in question, so as to limit the friction and facilitate sliding of this slide.

7. Bracket according to Claim 1), in which the vertical channel (2) of its body (1) has a rectangular section and is suitably chamfered on the top end so as to facilitate the introduction, inside the latter, of the shank (109), with a matching cross-section, of the vertical slide (9), which shank is also suitably chamfered on the bottom end, at least on the side directed towards the horizontal slide (6) which is also preferably chamfered on the top edge (107).

8. Bracket according to one or more of the preceding claims, in which its body (1) is provided at the top with a pair of raised and mutually parallel shoulders (201) between which an upper enlarged portion (309) of the shank of the vertical slide (9) slides in a guided manner.

9. Bracket according to one or more of the preceding claims, in which the hole (5) in its body (1), able to house the shank of the mushroom element (8)

made of elastomer material, extends through the part of the said body which is located above and also below the horizontal slide (6) so that the shank of the said mushroom element is retained inside the said hole both along a section of its top end and along a section of its bottom end, while with the remaining intermediate section of the said shank it passes through the hole (5') of the said horizontal slide.

10. Bracket according to the preceding claims, in which the shank of the mushroom element (8) is axially hollow.

11. Bracket according to one or more of the preceding claims, in which the mushroom element (8) has its bottom edge suitably chamfered and has, in its middle part, an annular projection (108) which snap-engages with a bottom widened portion (105') of the holes (5') of the horizontal slide (6).

12. Bracket according to the preceding claims, in which the mushroom element (8) is made with a silicone material and has a head (208) with a concave-shaped axial recess having a suction-cup effect.

13. Bracket according to Claim 1), in which its body (1) is provided, integrally and perpendicularly with respect to the centre line of the side intended to come into contact with the wall (P) of the furniture, with a pin (101) which preferably has a polygonal cross-section and the free end rounded and which engages under pressure and without rotation inside a hole (F) formed in the said wall (P).

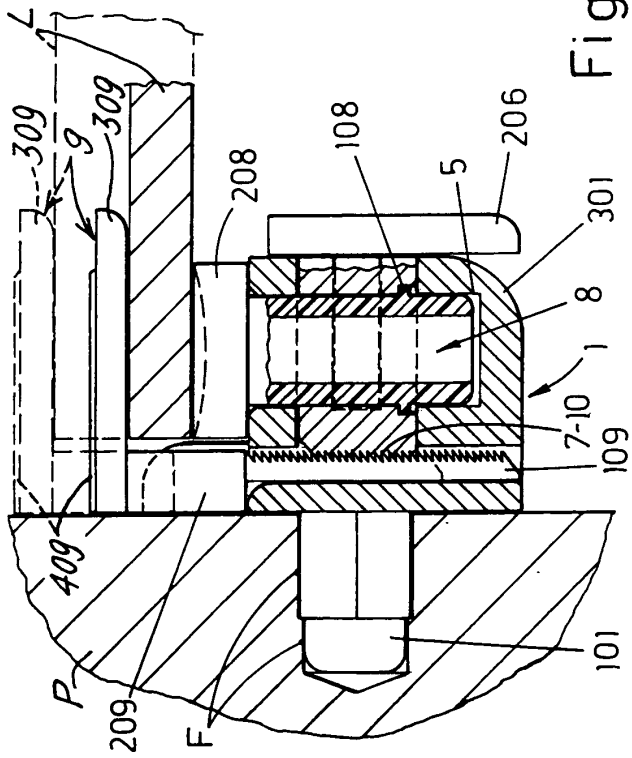


Fig. 1

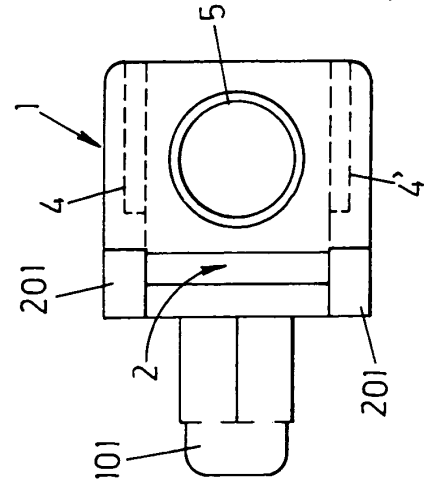


Fig. 3

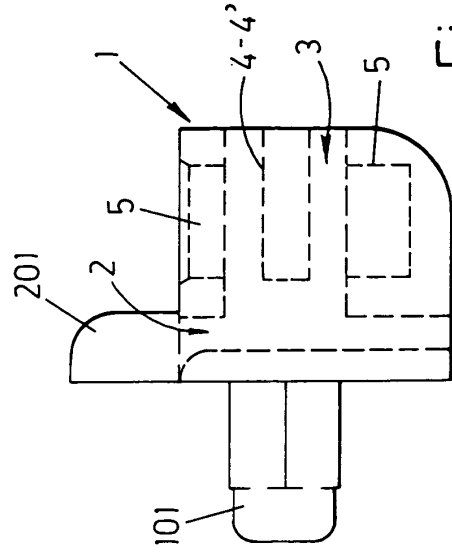


Fig. 2

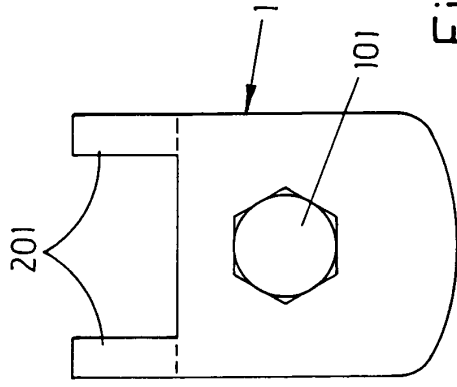


Fig. 4

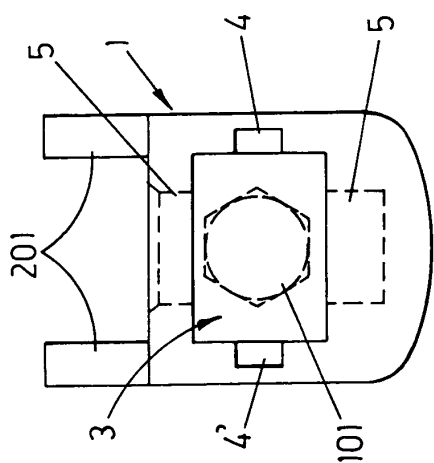


Fig. 5

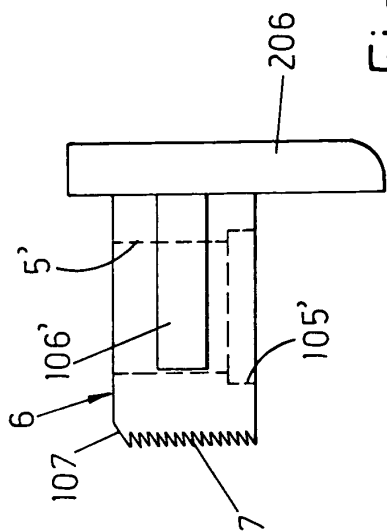


Fig. 6

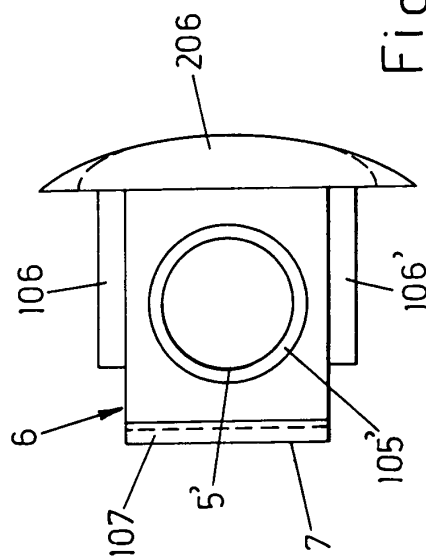


Fig. 7

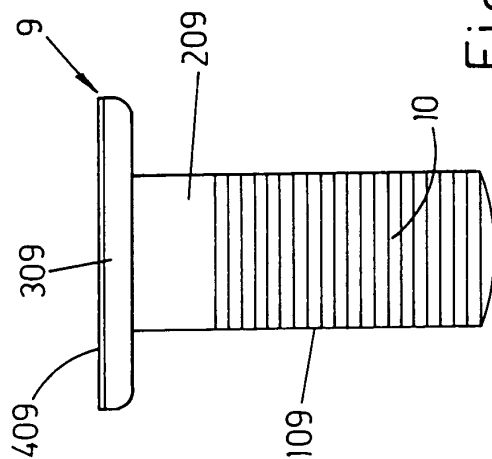


Fig. 8



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 03 00 0246

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)
A, P	DE 202 06 982 U (HAEFELE GMBH & CO) 29 August 2002 (2002-08-29) * abstract; figures 1,2 * * page 4, paragraph 2 - paragraph 3 * ---	1	A47B96/06
A	EP 1 080 670 A (VETRERIA FELICE VOLENO & C S N) 7 March 2001 (2001-03-07) * abstract; figure 1A * * column 3, paragraph 2 * * column 3, paragraph 5 * ---	1	
A	DE 200 13 750 U (PAUL HENKE GMBH & CO KG) 13 December 2001 (2001-12-13) * abstract; figure 1 * * page 3, last paragraph - page 4, line 1 * ---	1	
A	US 569 640 A (HARTZELL) 20 October 1896 (1896-10-20) -----		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			A47B
Place of search	Date of completion of the search	Examiner	
THE HAGUE	17 April 2003	Jones, C	
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			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 03 00 0246

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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17-04-2003

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