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(54) Support device for furniture structures

(57) A support device (1) for a furniture structure suitable to constitute the support for the body of a person sitting or lying on said furniture structure, includes frame means (2) associable to the frame of the furniture structure, support means (5) for the body of said person constituted by sheet means (5) secured to said frame means (2).

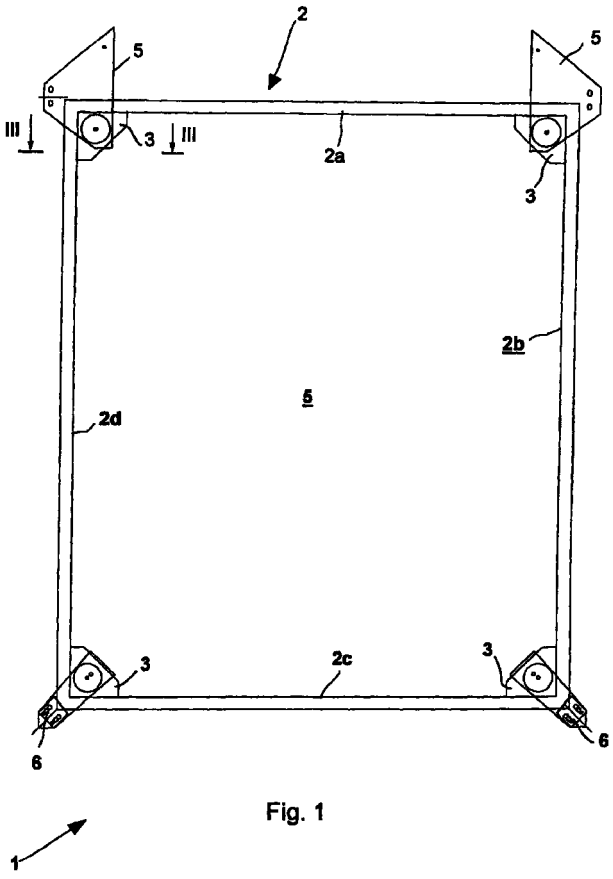


Fig. 1

EP 1 066 777 A1

Description

[0001] The object of the present invention is a supporting device for furniture structures such as, for example, beds, chairs, sofas, armchairs.

[0002] The prior art includes essentially two types of supports for furniture structures: the first one is constituted by metallic nets to be inserted inside the frame constituting the skeleton of the piece of furniture and the second one is constituted by a support surface of wooden staves framed by steel sections and resting on the inner perimeter of the frame of the furniture structure.

[0003] Such devices exhibit however some disadvantages.

[0004] First of all, it is extremely problematic for a user to keep his body along the supporting surface in a position ergonomically and physiologically correct, because of the fact that the materials constituting the support (metallic nets and/or wooden staves) are subjected in course of time to deformations which may be of inelastic type and may result in incorrect and harmful physiological positions.

[0005] Secondly, the support devices constituted by metallic nets and/or wooden staves involve, in use, the presence of squeaks and other undesired noises caused by the high deformability of the materials constituting the support and the adjustment of the different parts forming the support itself.

[0006] Furthermore, in such known support devices, a uniform, continuous, homogeneous support surface, which is also firmly connected to the supporting skeleton of the structure and totally synergic with it, does not exist.

[0007] A purpose of the present invention is to eliminate the above described disadvantages by providing a support device for furniture structures that allows a greater comfort to be obtained through a combined action of balanced softness and complete synergy with the furniture structure such as to enable a physiologically correct position.

[0008] In a first aspect of the invention, a support device for a furniture structure is provided suitable to constitute a support for the body of a person seated or lying on said furniture structure, comprising frame means which may be associated with a frame of the furniture structure, support means for the body of said person, characterized in that said support means is constituted by sheet means secured to said frame.

[0009] The sheet means may consist of any resistant and flexible laminar support, such as a sheet, or the like.

[0010] The support device according to the invention has the advantage of providing, for the body of a seated or lying person on the furniture structure, a support surface that keeps the body in a physiologically and ergonomically correct position.

[0011] A further advantage lies in the fact that said support surface is without reliefs or unevennesses or discontinuities that can damage an overhanging structure (e.g. mattress, cushion) reducing its life.

[0012] Furthermore it is possible to obtain a complete aeration, by permitting the necessary air flow that prevents the formation of condensation humidity, the accumulation of organic waste (that are originated for example by the contact mattress-stave) and the formation of anaerobic micro-organisms, concomitant causes of sanitary problems.

[0013] A further advantage of the device according to the invention is that it may be easily applied and mounted on existing structures and may be used as supporting element for obtaining new manufactures.

[0014] The invention will be better understood and put into effect with reference to the attached drawings, that illustrate an exemplifying, but not restrictive embodiment thereof, wherein:

Figure 1 is a plan view of a support device according to the invention;
Figure 2 is a broken and enlarged detail of the support device of Figure 1;
Figure 3 is the section III-III of Figure 1;
Figure 4 is a plan view of a bed with the support device according to the invention integrated therein.

[0015] In Figure 1 an embodiment of the support device 1 according to the invention is illustrated, including a frame 2, for example of rectangular shape and made with metallic sections 2a, 2b, 2c, 2d, that can be associated to a frame of a furniture structure, for example the frame of a bed 7 (Figure 4). The metallic sections are mutually connected at the corners of the frame 2 by means of connecting and stiffening elements 3.

[0016] Sheet means 5 is fixed to the metallic sections 2a, 2b, 2c, 2d of the frame 2, for example by means of gluing, mechanical fastening, or gluing and mechanical fastening together. The sheet means 5 is constituted by an elastic and porous material allowing an air flow, in order to allow a complete aeration of the structure. Said material may be a natural or synthetic tissue. The sheet means 5 constitute a continuous rest and support surface, elastic and aerated, for the body of a person sitting or lying on the support means 1, said surface fits the shape and the position of the body, in such a way as to provide a support that allows, in every situations, a physiologically and ergonomically correct position to the body of said person. On the sheet means 5 one or more cushions can be placed, if the support device 1 according to the invention is used for making an armchair or a sofa, or a mattress, if the support device 1 is used for making a bed.

[0017] The sections 2a, 2b, 2c, 2d are preferably made with ends bevelled at 45° in order to allow a connection by welding said end chamfers, or by interposition of rounded corner connection elements 4, these last being preferably used when the frame 2 is visible in

the furniture structure in which it is used.

[0018] The connecting and stiffening elements 3 are arranged at the corners of the frame 2, inside it, and are used to obtain a further connection between pairs of sections 2a, 2b, 2c, 2d converging on the same corner and, if necessary, with said corner connection element 4, and constitute a stiffening of the frame 2.

[0019] Furthermore the connecting and stiffening means 3 work are used as fixing elements for bracket means 5 and 6 which may be used for fixing the frame 2 to the frame of a furniture structure, for example the frame of a bed, an armchair or a sofa.

[0020] The frame 2 with the sheet means 5 constitutes a simple and compact support device 1, suitable to give an ergonomic support to the body of a person, easy integrable also in already existing structures of furniture, simple and inexpensive to be realized. Furthermore, the porosity of the sheet means ensures a complete aeration of cushions and mattresses that are leant on the sheet means, thus avoiding the formation of condensation humidity between the cushion or the mattress and the sheet 5 and preventing, in addition, the proliferation of anaerobic micro-organisms, that can cause sanitary problems.

[0021] Should the sheet means, during the life of the device, become flabby or give, it is possible to provide tensioning means to restore tension.

[0022] The tensioning means may comprise means for rotating outward the sections 2a, 2b, 2c, 2d, which constitute the frame of the device.

[0023] In the practical embodiments, the materials, the dimensions and the construction details, for example the shape and the dimensions of the sections 2a, 2b, 2c, 2d, of the connecting and stiffening elements 3, of the corner connection elements 4 and of the brackets 5 and 6, may be different from those indicated, but technically equivalent thereto, without leaving, for this reason, the juridical domain of the present invention.

Claims

1. Support device (1) for a furniture structure suitable to constitute a support for the body of a person sitting or lying on said furniture structure, comprising frame means (2) which may be associated with a frame of the furniture structure, support means (5) for the body of said person, characterized in that said support means is constituted by sheet means (5) secured to said frame means (2).

2. Device according to claim 1, wherein said sheet means (5) is secured to said frame means (2) by gluing.

3. Device according to claim 1, wherein said sheet means (5) is secured to said frame means (2) by fastening of mechanical type.

4. Device according to any of claims 1 to 3, wherein said sheet means is constituted by an elastic and porous material.

5. Device according to claim 4, wherein said material is a tissue material.

6. Device according to claim 4 or 5, wherein said material is a natural fibre material.

7. Device according to claim 4 or 5, wherein said material is a synthetic material.

8. Device according to any of preceding claims, wherein said frame (2) is constituted by elongate elements (2a, 2b, 2c, 2d) connected with each other at their respective ends.

9. Device according to claim 8, wherein said elongate elements are metallic sections (2a, 2b, 2c, 2d).

10. Device according to claim 8 or 9, wherein the ends of said elongate elements (2a, 2b, 2c, 2d) are bevelled at 45°.

11. Device according to any of claims 8 to 10, wherein said elongate elements (2a, 2b, 2c, 2d) are connected with each other by welding.

12. Device according to any of claims 8 to 11, further including corner connection elements (4), each corner connection element (4) being interposed between two consecutive elongate elements (2a, 2b, 2c, 2d).

13. Device according to any of preceding claims, further including connecting and stiffening elements (3), each of said connecting and stiffening elements (3) being arranged at the corners of said frame (2), inside it.

14. Device according to any of preceding claims, further including bracket means (5, 6) for fixing said frame (2) to said frame of said furniture structure.

15. Device according to claim 14, wherein each of said bracket means (5, 6) is secured to a corresponding connecting and stiffening element (3).

16. Device according to any of preceding claims and further comprising tensioning means for said sheet means (5).

17. Device according to claim 16, when appended to one of claims 8 to 15, wherein said tensioning means comprises rotation means capable of rotating each of said elongate elements (2a, 2b, 2c, 2d) around its own longitudinal axis.

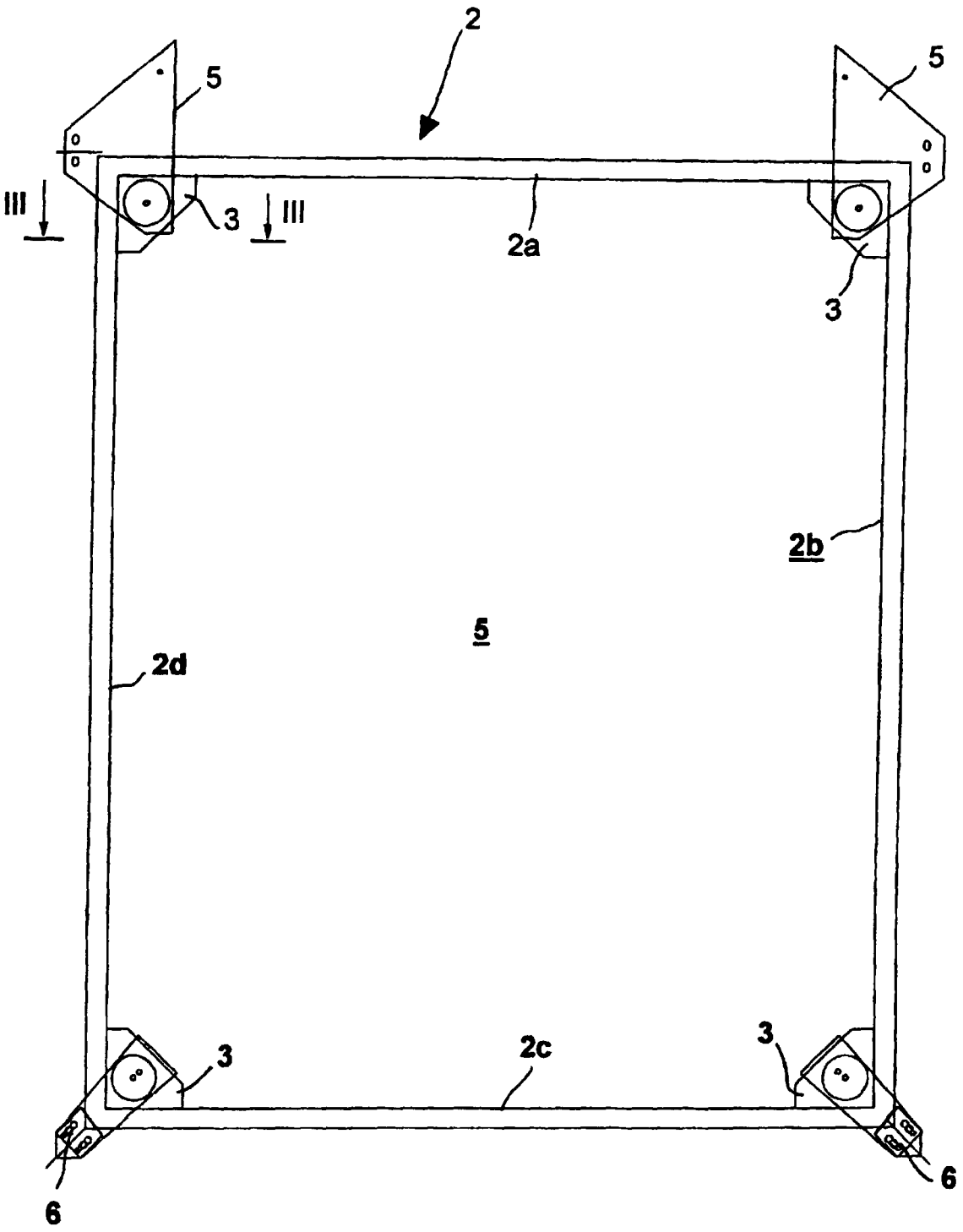
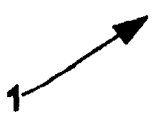


Fig. 1



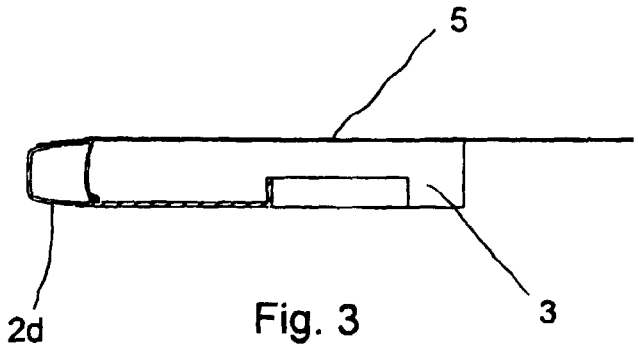


Fig. 3

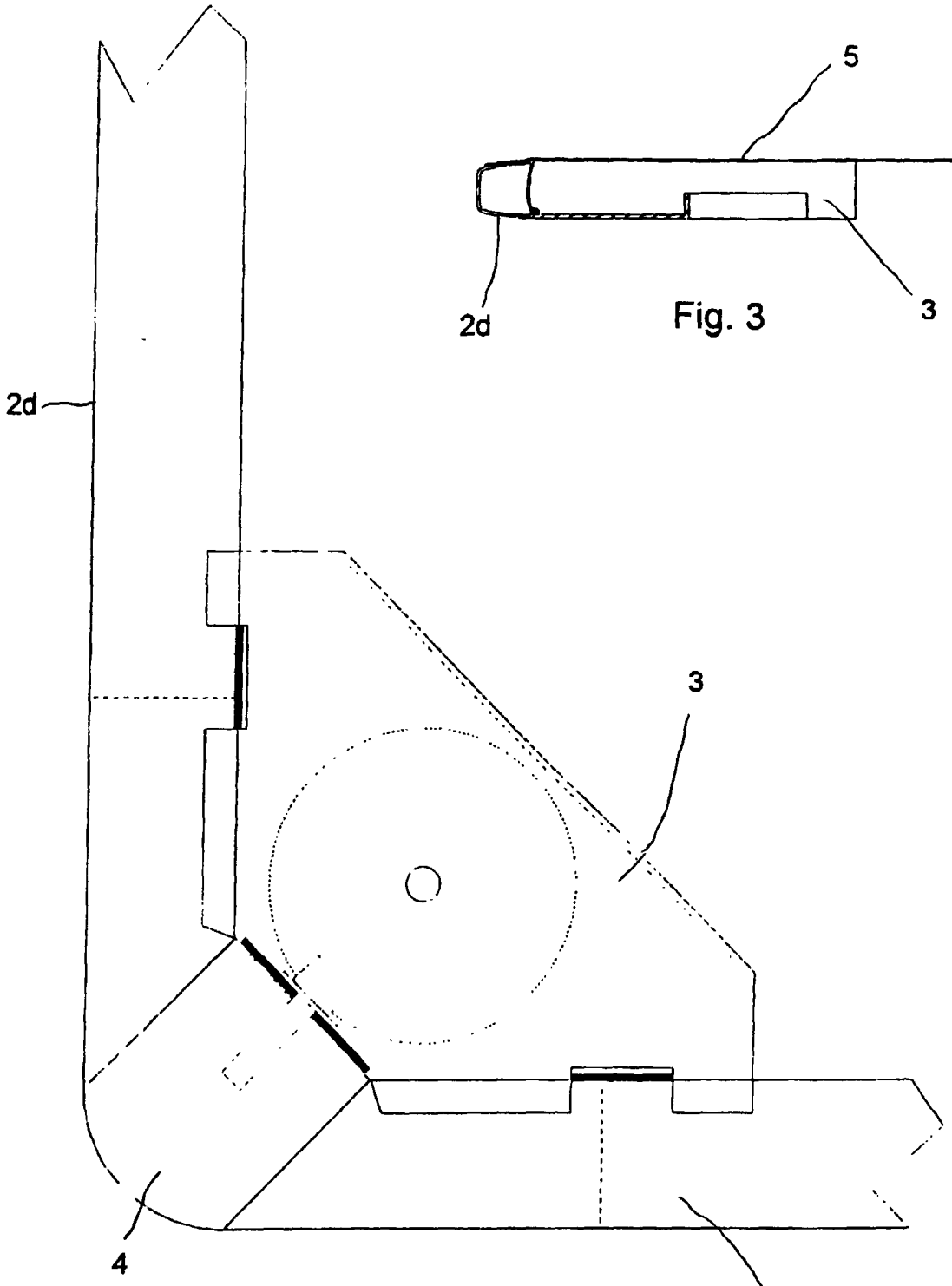


Fig. 2

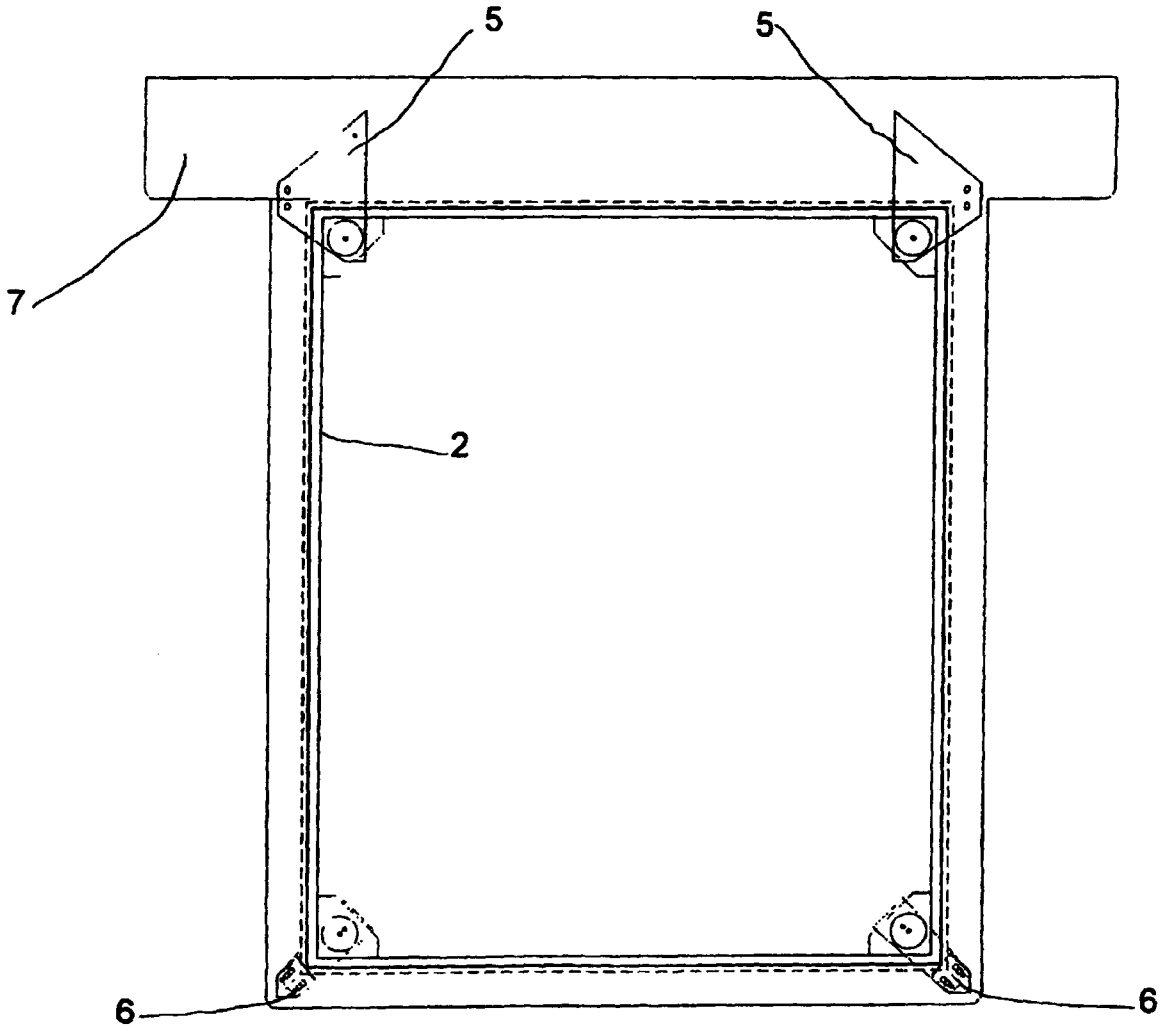


Fig 4

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EUROPEAN SEARCH REPORT

Application Number
EP 00 11 4564

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)
X Y	US 1 979 566 A (MORSE R K) 6 November 1934 (1934-11-06) * page 1, line 36 - line 65; figures 1,3 *	1-3,8 4,6,7, 9-17	A47C19/02
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
BERLIN	13 October 2000	Axelsson, T

CATEGORY OF CITED DOCUMENTS

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