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(54) Device for lowering and positioning a storage bed lid

(57) Device for abating and positioning a storage bed lid, being of the type of abatable storage beds consisting of a hollow frame closed at the top by an abatable lid on which the mattress is placed, being attached by a hinge mechanism comprising a flat bar integral with the frame and an angle bar integral with the lid associated together through connecting rod elements and a damper or spring, with the flat bar (4) being integral with the frame (2) and the angle bar (5) integral with the abatable lid (3) rotatably attached by a connecting rod (7) and a first damper (6), so that to the said connecting rod (7) a second damper (8) is attached, which is in turn attached to the angle bar (5) integral with the abatable lid (3), achieving the abatable lid, in addition to the normal tilted static position for the aperture, to have an elevated horizontal static position in the closing position, in order to facilitate the task of making the bed.

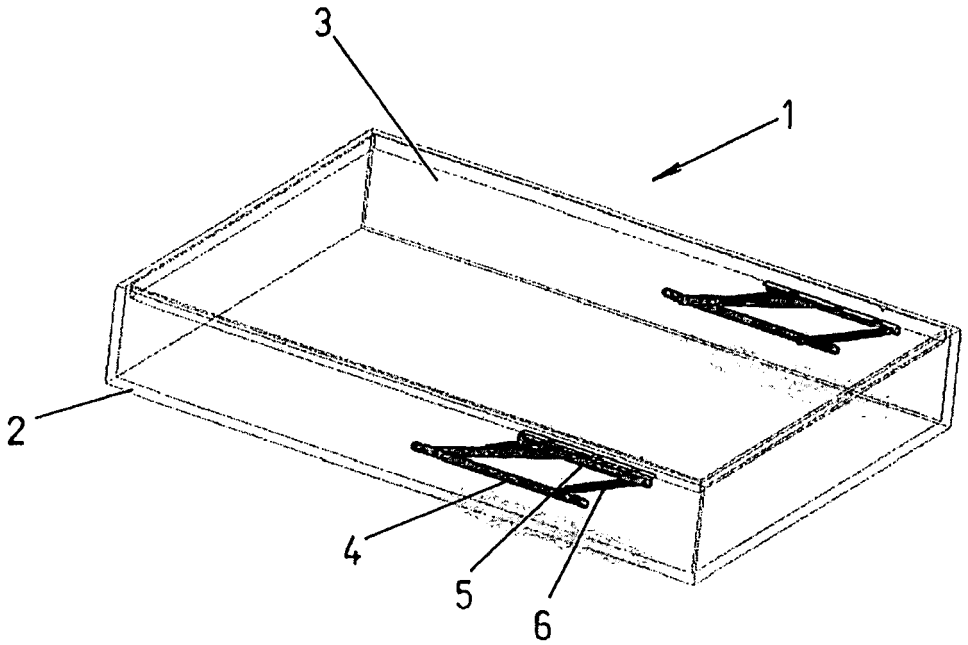

Fig. 1

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Description

OBJECT OF THE INVENTION

[0001] The following Utility Model, as the title of the present specification states, refers to a device for abating and positioning a lid storage bed, being of the type of abatable storage beds consisting of a hollow frame closed at the top by an abatable lid on which the mattress is placed, so that the essential purpose of the invention is to provide the abatable lid with, in addition to the normal tilted static position for the aperture so as to access to the cabinet, an elevated horizontal static position above the closed position in order to facilitate the task of making the bed.

[0002] For this purpose, one of the connection elements between the pair of flat bars integral with the frame and the lid, respectively, is defined by a first damper that with the lid in a horizontal position is locked while maintaining thereof in a static position.

FIELD OF THE INVENTION

[0003] In the present specification a device for abating and positioning a storage bed lid is described, which is applicable for being installed in abatable storage beds, that is, those made up with a cabinet and an abatable lid.

BACKGROUND OF THE INVENTION

[0004] As it is currently known storage beds are largely extended, since, in addition to fulfill the expected function they provide ample space for storing different objects, such as home furnishings.

[0005] Thus, storage beds are of two different models, one model being with drawers or another abatable model, so that the model of drawers consists of a hollow frame, on which the mattress is placed and its side is provided with one or more drawers, whereas the abatable model is constituted by a hollow frame that is closed at the top by an abatable lid, on which the mattress is located.

[0006] Considering the abatable storage bed model, the lid is rotatably attached to the frame through a pair of side "hinges", which are basically formed by a flat bar integral with the inner side of the frame and an angle bar integral with the lid, these being associated by a pair of connecting rods of different length and with, at least, one spring or damper.

[0007] According to this configuration documents ES 1025356, ES 1040166, ES 1040768 and ES 1066304, related to abatable storage beds in which the hinge mechanism for the connection between the frame and the lid has the mentioned characteristics, can be considered.

[0008] Similarly, there documents ES 1027423 and ES 1027981 can be considered, ES 1027423 disclosing a hinge mechanism defined by an angle bar integral with the storage bed lid, to angle bar of which a pair of connecting rods is attached, by one end, which on its other end, one of these is attached to the frame and the other one is attached to the plunger end of a damper that is attached to the frame through its frame.

[0009] Document ES 1027981 discloses a hinge mechanism formed by an angle bar integral with the lid, to angle bar of which a pair of connecting rods is attached through one of its ends, so that one of said connecting rods, through its other end, is attached to the frame, while the other connecting rod at about 2/3 of its length is rotatably attached to the frame and through its free end is attached to one end of a spring, which through its other end is attached to a fixed point of the frame.

[0010] Finally, document GB 2194561 can be considered, wherein a mechanism for opening and closing an abatable storage bed is described, wherein based on the pair of connecting rods attached to a flat bar integral with the frame and to an angle bar integral with the lid and with a first damper attached to the lead connecting rod and to the angle bar, has a second damper attached to the lead connecting rod and fixed to the frame through a spring.

[0011] All these hinge mechanisms have in common providing the storage bed lid with a rocking motion for adopting, from their closed position, a single tilted position for accessing inside the frame.

[0012] Moreover, it can be considered as a problem common to all these models of abatable storage beds that the task of "making the bed" is quite uncomfortable, since the mattress is at a low level, and also has its lower base under the upper edge of the frame.

DESCRIPTION OF THE INVENTION

[0013] The present specification describes a device for abating and positioning a storage bed lid, being the type of storage beds consisting of a hollow frame closed at the top by an abatable lid on which the mattress is placed, being attached by a hinge mechanism comprising a flat bar integral with the frame and an angle bar integral with the lid associated together through connecting rod elements and a damper or spring, so that the flat bar integral with the frame and the angle bar integral with the lid are rotatably attached by a connecting rod and a first damper, so that to the connecting rod a second damper is attached, which is in turn attached to the angle bar integral with the lid.

[0014] With this structure, in the first rest position with the lid closing the frame, the plunger of the first damper is retracted and the plunger of the second damper is also retracted, the lid being leveled with the upper edge of the frame.

[0015] From the first rest position by manually operating the lid, it can be passed to a second position with the plunger of the first damper deployed and the plunger of the second damper, also deployed, the lid is in a stable static parallel position and in an elevated plane above the upper edge of the frame, allowing in this position to perform the task of "making the bed" in a simple and

comfortable manner.

[0016] Also, the storage bed can take a third position with the plunger of the first damper retracted and the plunger of the second damper deployed, with the lid being in a tilted position over the frame, facilitating access to the cabinet, that is, inside the frame.

[0017] In short, by using the structure described it is allowed that the storage bed can take three different positions of the lid with respect to the frame.

[0018] To complement the description that will be now made, and in order to help to a better understanding the features of the invention, a set of drawings in figures of which the most characteristic details of the invention are represented in an illustrative and not limitative manner, is attached to the present specification.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019]

Figure 1. Shows a schematic perspective view of a storage bed provided with the device object of the invention in the closed position with the lid leveled with the upper edge of the frame, in which it can be seen how the hinge mechanism is mounted to the larger sides.

Figure 2. Shows a view of the device for abating and positioning a storage bed lid object of the invention, in the closed position, in which it can be seen how the flat bar integral with the frame and the angle bar integral with the lid are attached through a connecting rod and a damper, providing between the connecting rod and the angle bar a second damper, the first damper with the plunger retracted being in this position.

Figure 3. Shows a schematic perspective view of a storage bed provided with the device object of the invention in a position with the horizontal lid on an elevated plane over the frame.

Figure 4. Shows a view of the device for abating and positioning a storage bed lid object of the invention, according to the position of the previous figure, with the lid on an elevated plane over the frame, in which it can be seen how the first damper is with the plunger in its deployed position.

Figure 5. Shows a schematic perspective view of a storage bed provided with the device object of the invention in a position with the lid tilted for accessing the cabinet.

Figure 6. Shows a view of the device for abating and positioning a storage bed lid object of the invention, according to the position of the previous figure, with the lid tilted, in which it can be seen how the first damper has the plunger retracted and the second damper has the plunger deployed.

DESCRIPTION OF A PREFERRED EMBODIMENT

[0020] In view of the mentioned figures and according to the numbering adopted, it can be seen how starting from a storage bed 1 of abatable type consisting of a hollow frame 2 closed at the top by an abatable lid 3 on which the mattress is located, being joined by hinge mechanism comprising a flat bar 4 integral with the frame 2 and an angle bar 5 integral with the abatable lid 3, so that in order to obtain a storage bed, abatable lid 3 of which has three relative positions with respect to the frame 2, the flat bar 4 integral with the frame 2 is intended to be associated with the angle bar 5 integral with the abatable lid 3 through a connecting rod 7 and a first damper 6, and this connecting rod 7 is attached to a second damper 8, which is in turn attached to the angle bar 5 integral with the abatable lid 3.

[0021] Thus, in a first position in which the abatable lid 3 is in the closed position leveled with the frame 2, the plunger 9 of the first damper 6 is retracted, and the plunger 10 of the second damper 8 is also retracted, such as shown in the drawings of Figure 1.

[0022] The drawings of Figure 2 show the position taken by components making up the hinge mechanism in said first position.

[0023] From this first position of the abatable lid 3 the abatable lid 3 may be manually moved to a second position with the plunger 9 of the first damper 6 deployed, and the plunger 10 of the second damper 8, also deployed, thus the abatable lid 3 is adopting a stable static parallel position and on an elevated plane over the upper edge of the frame, such as shown in the drawings of Figure 3.

[0024] The drawings of Figure 4 show the position taken by the components making up the hinge mechanism in said second position.

[0025] With the abatable lid 3 in this second position the task of "making the bed" will be facilitated, since it is situated in an elevated position and without any hassle on behalf of the upper edge of the frame 2 for introducing the clothing, as necessary, under the mattress.

[0026] Moreover, in this second position of the abatable lid 3 the first damper 6 is locked and the abatable lid 3 is in a static horizontal position.

[0027] Also, the abatable lid 3 can be arranged in a third position with respect to the frame 2 for which purpose a manual actuation will be enough for unlocking the first damper 6 placing it in a tilted position, such as shown in the drawings of Figure 5, allowing the access inside the frame 2.

[0028] The drawings of Figure 6 show the position taken by the components making up the hinge mechanism in said third position.

[0029] In this third position, the abatable lid is in a static position and from the same it may be placed in the first or second position.

[0030] In short, it is about having a storage bed 1 of the abatable type in which the abatable lid 3 can take

three relative positions with respect to the frame 2.

Claims

1. Device for abating and positioning a storage bed lid, being of the type of abatable storage beds consisting of a hollow frame closed at the top by an abatable lid on which the mattress is placed, being attached by a hinge mechanism comprising a flat bar integral with the frame and an angle bar integral with the lid associated together through connecting rod elements and a damper or spring, **characterized in that** the flat bar (4) integral with the frame (2) and the angle bar (5) integral with the abatable lid (3) are rotatably attached by a connecting rod (7) and a first damper (6), so that to the mentioned connecting rod (7) a second damper (8) is attached, which is in turn attached to the angle bar (5) integral with the abatable lid (3).

2. Device for abating and positioning a storage bed lid, according to claim 1, **characterized in that** in a first position with the plunger (9) of the first damper (6) retracted, and the plunger (10) of the second damper (8), also retracted, the abatable lid (3) is in closed position parallel to the upper edge of frame (2).

3. Device for abating and positioning a storage bed lid, according to claim 1, **characterized in that** in a second position with the plunger (9) of the first damper (6) deployed and the plunger (10) of the second damper (8), also deployed, the abatable lid (3) is in a stable static parallel position and in an elevated plane above the upper edge of the frame (2).

4. Device for abating and positioning a storage bed lid, according to claim 1, **characterized in that** in third position with the plunger (9) of the first damper (6) retracted and the plunger (10) of the damper (8) deployed, the abatable lid (3) is in an tilted position over the frame (2).

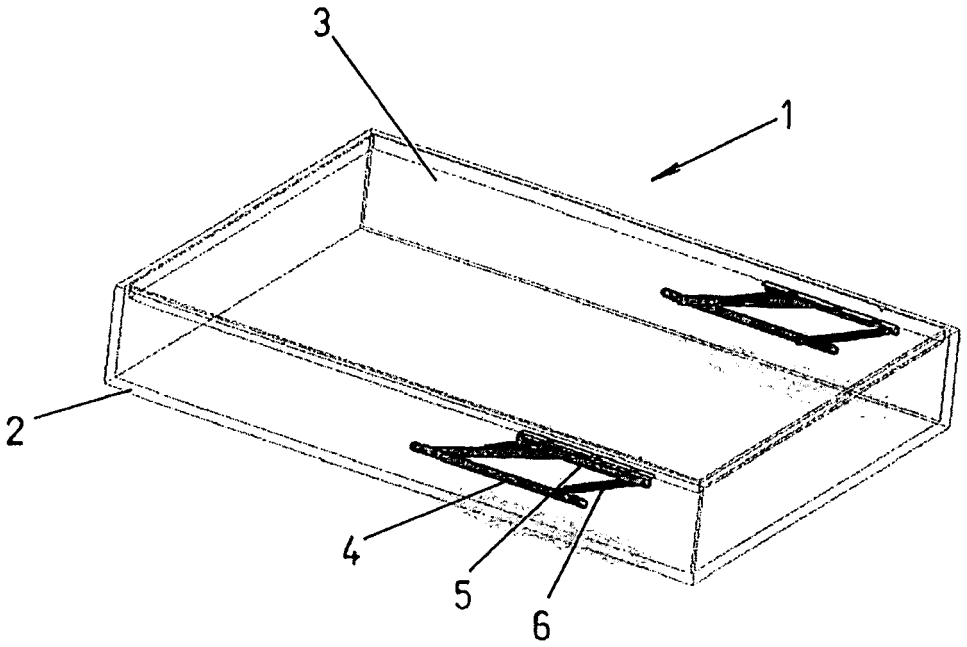

Fig. 1

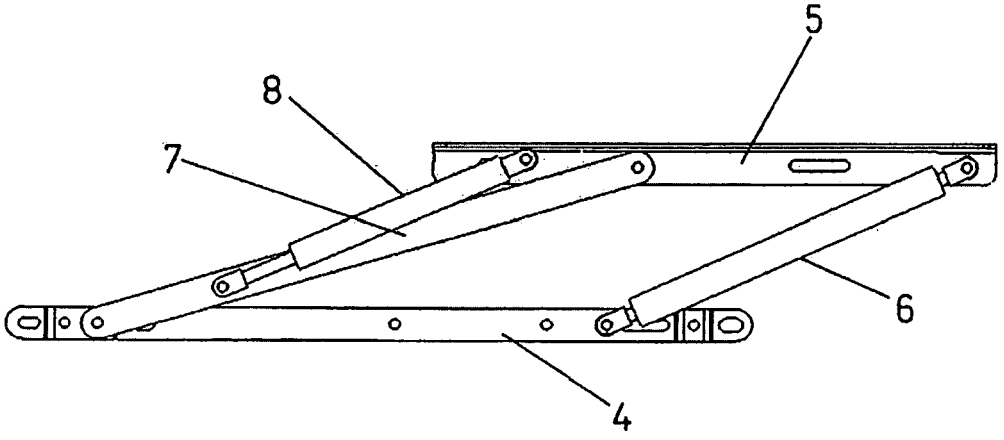

Fig. 2

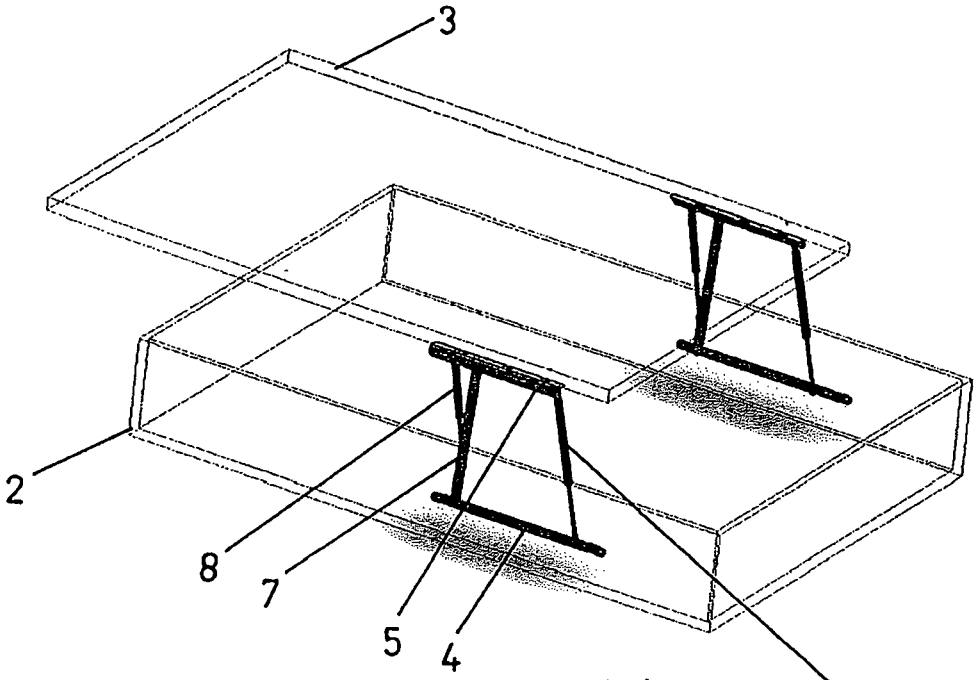

Fig. 3

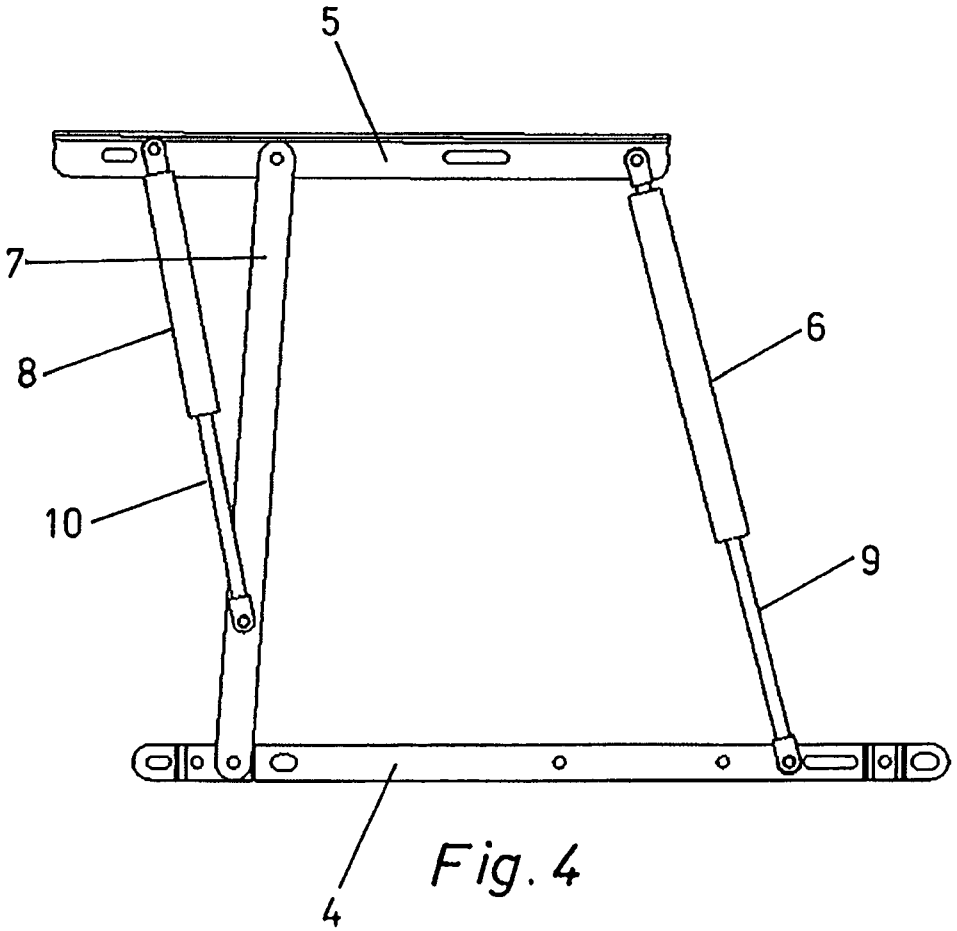

Fig. 4

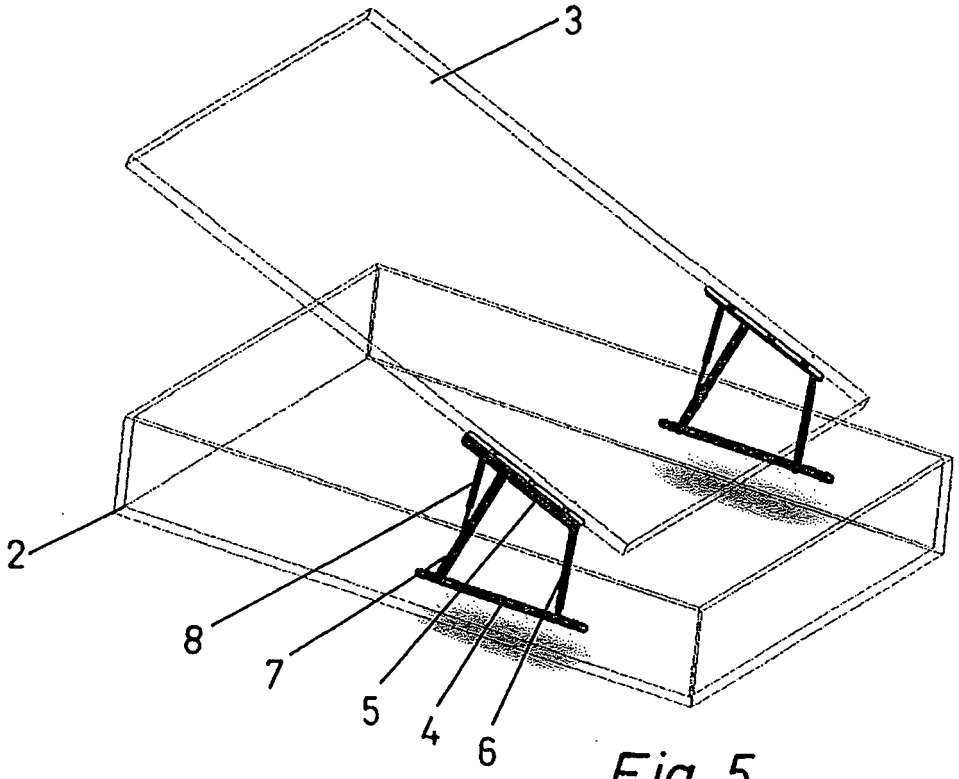

Fig. 5

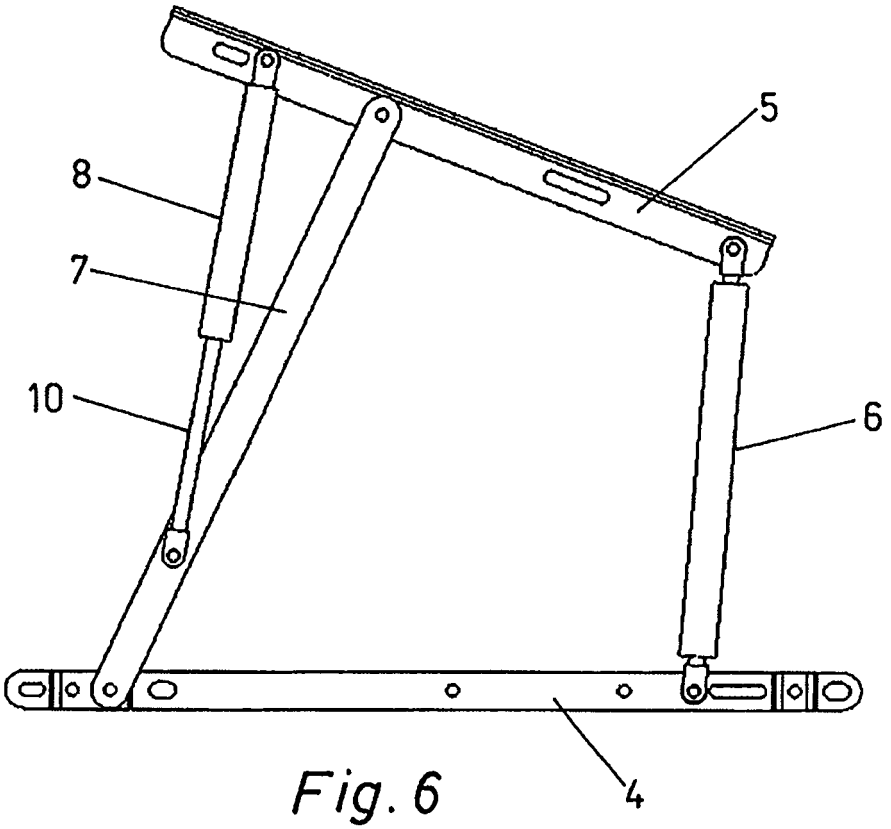

Fig. 6

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EUROPEAN SEARCH REPORT

Application Number
EP 11 38 0035

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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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
Munich	21 July 2011	MacCormick, Duncan

CATEGORY OF CITED DOCUMENTS

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 11 38 0035

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

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