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(54) **Bed board**

(57) A bed board (1) for attaching to a mounting frame (2) of a mattress support (3), characterized in that the first and the second hook element (11, 12) are attached to the bed board (1), and the first hook element (11) is provided for allowing an at least partial rotational move-

ment of the bed board (1) around a rotation axis (13), located along the frame side (7), and the second hook element (12) is provided for being moved during the rotation around the rotation axis (13) beneath the bottom (10) of the frame side (7).

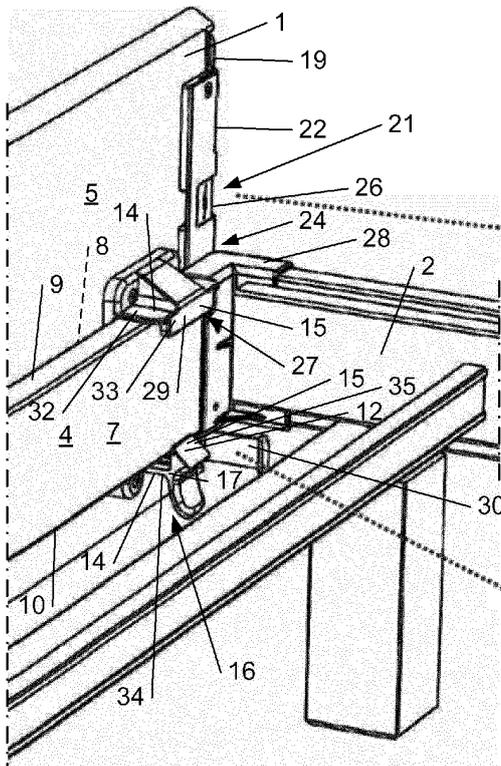


Fig. 2a

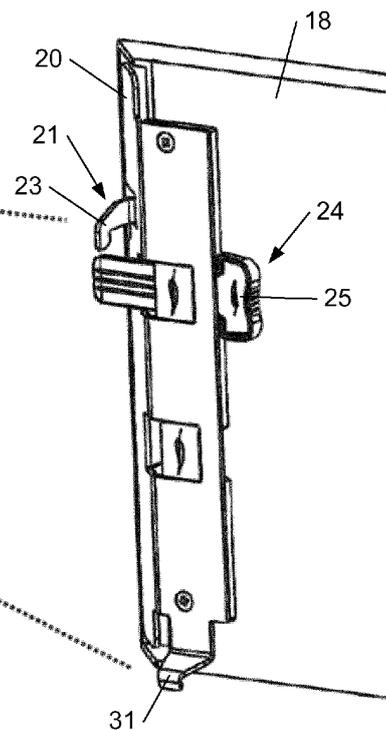


Fig. 2b

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Description

[0001] The present invention relates to a bed board according to the preamble of the first claim.

[0002] The present invention also relates to a set of bed boards with at least one bed board according to the invention, a mounting frame or a mattress support provided with a set of bed boards according to the invention, a bed comprising a mattress support according to the present invention, and a method for the manufacturing a bed or a mattress support or a mounting frame according to the present invention.

[0003] Such a bed board is already known from DE29701146U1. DE29701146U1 describes a bed board for attaching to a mounting frame of a mattress support, wherein the mounting frame delimits at least a part of the periphery of the mattress support. The bed board is provided to be mounted, with a substantially planar inner side, adjacent to a first outer side of a delimiting frame side of the mounting frame, which outer side is directed away from a mattress support surface, which is provided for supporting a mattress. The bed board is also provided with a pair of a first and a second hook element extending from the inner side. The hook elements are provided for suspending the bed board on the frame side of the mounting frame. The first hook element is thereby hooked around a top side of the frame side and the second hook element is hooked around a bottom side of the frame side. The second hook element is attached to the frame element by means of screws. To attach the bed board to the frame side, the inner side of the bed board is shifted along the outer side of the frame side in accordance with a displacement parallel to the outer side of the frame side and the inner side of the bed board until the first hook element is hooked around the top of the frame element.

[0004] In such an assembly of the bed board to the frame side, it is necessary, however, to attach the second hook element to the frame side, for example by screws or nails, whereby the mounting frame of the mattress support is damaged.

[0005] It is therefore an object of the present invention to provide a bed board which can be fixed to a mounting frame with a reduced risk of damaging the mounting frame.

[0006] This is achieved with a bed board that exhibits the technical features of the characterizing part of the first claim.

[0007] To this end, the first and the second hook element are attached to the bed board, and the first hook element is provided for allowing an at least partial rotating movement of the bed board around a rotation axis, located along the frame side, and the second hook element is provided for being moved beneath the bottom side of the frame side during rotation around the rotation axis.

[0008] Such a first and second hook element allow for easier mounting of the bed board, without having to attach additional mounting means to the frame side or other parts of the mounting frame, as the bed board can be

suspended on the frame side entirely based on the first and the second hook element.

[0009] By making use of such bed boards, the mattress support may be used as a product independent of the bed boards, and for example a single mattress support can be provided with different bed boards, for example when the owner of the mattress support desires newer bed boards, for example if the old ones are worn and/or damaged by use, and/or if a new fashion trend makes this desirable.

[0010] According to preferred embodiments of the present invention, the first and the second hook element comprise, when the bed board is suspended on the frame side of the mounting frame, a first section which extends adjacent to the top and bottom of the frame side, respectively, and a second section which extends in such a way with respect to the first section that the second section of the first and the second hook element extend towards each other, when the bed board is suspended on the frame side of the mounting frame, preferably along the inner side of the frame side located opposite of the outer side of the frame side. Such first and second hook elements make it possible to sufficiently safely secure the bed board, so that the risk that the bed board is unintentionally moved off the frame side is reduced.

[0011] According to preferred embodiments of the present invention, the second hook element, when rotating the bed board, is hooked around the rotation axis around the frame side by means of a clip-on connection. Such a connection of the second hook element with the frame side allows that in a first step, the first hook element is hooked to the bed board over the top of the frame side, after which the rotational movement can complete the attachment of the bed board to the frame side, by hooking the second hook element around the bottom of the frame side by means of the clip-on connection. It was found that such actions may be carried out independently of each other in two separate steps by a single person.

[0012] According to preferred embodiments of the present invention, a resilient part of the second hook element is resiliently connected to the other part of the second hook element with respect to a relaxed position, such that the resilient part of the second hook element is provided in such a way for bending, at the rotation of the bed board around the rotation axis, wherein the second part of the second hook element is partially halted by the frame side, that the second part of the second hook element can be slid beneath the bottom of the frame side, and once the second part of the second hook element arrives at the inner side of the frame side, the resilient part springs back to its relaxed position, so that the second hook element is hooked around the bottom of the bed board and hence, the second hook element connects the bed board with the clip-on connection to the frame side, preferably by clamping. It was found that in such a way a simple clip-on connection can be realized.

[0013] According to preferred embodiments of the present invention, the elastic part is disposed between

the first and the second part of the second hook element. Such a connection may be applied in a simple manner and thus allows the realization of a clip-on connection in an easy way.

[0014] According to preferred embodiments of the present invention, the first and the second hook element are attached along opposite sides of the inner side of the bed board. In such an embodiment it was found that a stable and easy attachment of the bed board to the frame side is obtained.

[0015] According to preferred embodiments of the present invention, the bed board is provided with positioning means, which allow the bed board to be positioned with respect to the frame side along a direction substantially parallel to the rotation axis. Indeed, such positioning means allow optimal positioning of the bed board with respect to the frame side, in order to be able to easily realize the connection of adjacent bed boards and therefore also to allow a more rapid assembly.

[0016] The invention also relates to a set of bed boards with at least a first bed board according to any one of the preceding claims and a second bed board. The bed boards of the set are provided for being attached to adjacent sides of the mounting frame with an upright side of the first bed board abutting on an upright side of the second bed board, wherein the upright sides are provided for being connected to each other. Such a configuration of bed boards allows on one hand for the bed boards to be transported independently of each other in a non-connected state, such that for example compact packaging of the set of bed boards may be obtained. On the other hand, such a connection of the upright sides of the first and the second bed board reduces the risk that, if present, the clip-on connection of the first bed board to the respective frame side is unintentionally disconnected.

[0017] According to preferred embodiments of the present invention, the connecting means comprise a co-operating pair of an opening and a hook attached to the upright sides. Such a co-operating pair allows an easy connection of the first and the second bed board.

[0018] According to preferred embodiments of the present invention, the upright sides comprise respective mutually co-operating first and second support means, provided for supporting the second bed board, by means of the second support means, on the first support means of the previously mounted first bed board. Preferably, the first and the second bed board are provided for movement with respect to each other so that the connecting means of the first and the second upright side may be connected to each other. More preferably, the first and the second support means are provided such that the second support means are slid over the first support means until an end of the second support means is reached, after which the second bed board drops with respect to the first bed board, as a result of which the connecting means, preferably the hook and the opening, become connected and thus the first bed board is an-

chored to the second bed board.

[0019] According to preferred embodiments of the present invention, the bed boards comprise locking means, provided for ensuring a further locking of the first to the second bed board, for example after the first and the second bed board were connected to each other by the connecting means, if present. Preferably, the locking means comprise thereto a co-operating pair of a slider and a slot. Preferably, the locking means, preferably the slider and the slot, connect the first and the second bed board along a direction perpendicular to the upward direction so as to further avoid detaching of the first and the second bed board.

[0020] According to preferred embodiments of the present invention, the set comprises two pairs of first and second bed boards, wherein the first board of the first pair and the second board of the second pair are provided for being attached to adjacent sides of the mounting frame, with an upright side of the first bed board of the first pair abutting on an upright side of the second bed board of the second pair, wherein the upright sides comprise connecting means to be connected to each other. Such a set allows a further improvement of the connection of the different bed boards, and allows the mounting frame, which is often rectangular, to be completely surrounded with bed boards, which enables further securing of the connection of the bed boards, since the two first beds boards in such a configuration are connected by the two second bed boards, whereby the performing of a rotation of the first bed boards around their respective rotation axes, and the resulting rotating of the second hook elements away from their connection to their respective frame sides, is further avoided.

[0021] The invention also relates to a mounting frame provided with a set according to the present invention, wherein the mounting frame is provided for delimiting at least a part of the periphery of the mattress support, wherein the bed board is suspended on the frame side of the mounting frame. The bed board is provided for being mounted adjacently to a substantially planar inner side abutting on a first outer side of the frame side of the mounting frame, which outer side is directed away from a mattress support surface, provided for supporting a mattress. The first and the second hook element suspend the bed board on the frame side of the mounting frame, wherein the first hook element hooks around a top of the frame side and the second hook element hooks around a bottom of the frame side, and the first and the second hook element are attached to the bed board.

[0022] The invention also relates to a mattress support comprising a mounting frame according to the present invention, wherein the mounting frame delimits at least a part of the periphery of the mattress support.

[0023] According to preferred embodiments of the present invention, the mattress support surface is substantially surrounded by the mounting frame.

[0024] The invention also relates to a bed comprising a mattress support according to the present invention.

[0025] According to preferred embodiments of the bed according to the present invention, a mattress is placed on the mattress support.

[0026] The invention also relates to a method for manufacturing a mounting frame, a mattress support, or a bed according to the invention. The bed board is mounted adjacently with a substantially planar inner side provided for abutting on a first outer side of a frame side of the mounting frame, which outer side is directed away from a mattress support surface, which is provided for supporting a mattress, by hooking the first hook element around a top of the frame side, and, with the aid of the first hook element, performing an at least partial rotational movement of the bed board around a rotation axis, located along the frame side, and moving the second hook element beneath the bottom of the frame side during rotation around the rotation axis, after which the first and the second hook element suspend the bed board on the frame side of the mounting frame, wherein the first hook element hooks around a top of the frame side and the second hook element hooks around a bottom of the frame side.

[0027] The invention will be further elucidated with reference to the included figures.

Figure 1a shows an overview of a preferred embodiment of a first bed board according to the present invention during mounting of the bed board on a mounting frame on a mattress support.

Figure 1b shows a detail of the overview shown in Figure 1a.

Figure 2a shows a detail of the bed board of Figure 1a after mounting of the bed board on the mattress support.

Figure 2b shows a preferred embodiment of the present invention of a second bed board according to the present invention.

Figure 3a shows the first bed board according to Figure 2a, mounted on the second bed board shown in Figure 2b.

Figure 3b shows a detail of the connection between the first and the second bed board shown in Figure 3a.

Figure 4 shows a detail of a connection between two preferred embodiments of bed boards according to the present invention.

Figure 5 shows an overview of the assembly of an embodiment of a mattress support according to the present invention.

1. Bed board
2. Mounting frame
3. Mattress support
4. Mattress support periphery
5. Inner side of bed board
6. Mattress support surface
7. Delimiting frame side
8. Outer side of frame side

9. Top of frame side
10. Bottom of frame side
11. First hook element
12. Second hook element
13. Rotation axis
14. First part of hook elements
15. Second part of hook elements
16. Clip-on connection of second hook element
17. Resilient part of second hook element
18. Second bed board
19. Upright side of first bed board
20. Upright side of second bed board
21. Connecting means of upright sides of first and second bed boards
22. Opening
23. Hook
24. Locking means
25. Slider
26. Slot
27. Positioning means
28. Positioning limiter of frame side
29. Positioning hook element
30. First part of co-operating support means
31. Second part of co-operating support means
32. First part of first hook element
33. Second part of first hook element
34. First part of second hook element
35. Second part of second hook element

[0028] Figure 1a shows a bed board 1 during the mounting of the bed board 1 to a mounting frame 2 of a mattress support 3. The mounting frame 2 delimits at least a part of the periphery 4 of the mattress support 3. The mattress support 3 also comprises a mattress support surface 6, which is provided for supporting a mattress. Although the mattress support surface 6 is not shown in Figure 1a, it is shown in Figure 5. Although Figure 5 shows that the mattress support surface 6 is substantially surrounded by the mounting frame 2, this is not essential to the invention, and the mounting frame 2 may also be, for example, smaller than the mattress support surface 6, and/or situated in a plane lower than the mattress support surface 6, for example when the mattress support surface can be moved in a vertical direction.

[0029] The mattress support surface 6 may be any mattress support surface 6 known to the person skilled in the art, such as for example a board, a slatted bed base, a spring bottom, etc. Preferably, however, the mattress support surface 6 is a slatted bed base, as in such an embodiment, it is more desirable to hide the mattress support surface 6 from the eye of an observer. An example of a mattress support surface 6 may for example be found in EP1425995A1.

[0030] The periphery 4 shown in Figure 1a is also substantially the outmost periphery of the mattress support 3. However, this is not essential to the invention, and the periphery 4 can also be a more inwardly situated periph-

ery 4, such as for example when the periphery 4 is located at least partially below the mattress support surface 6 and the mattress support surface 6 extends beyond the periphery 4, located beneath the mattress support surface 6.

[0031] Each bed board 1 deemed suitable by the person skilled in the art may be used. Thus, the bed board may for example comprise a board, more particularly a wooden board. However, this is not essential to the present invention, and the bed board 1 may also comprise a plastic board or a board made of a different material. The bed board 1 may also be spanned with a fabric to obtain a more aesthetic finish of the bed board 1. However, this is not essential to the present invention, and the board may also be unfinished, or finished by, for example, a coating such as paint, varnish, etc., or a film, or any other finishing coatings known to the person skilled in the art.

[0032] As shown in Figure 1a, the bed board 1 is provided for mounting with a substantially planar inner side 5 adjacent to an outer side 8 of a delimiting frame side 7 of the mounting frame 2, which outer side is directed away from the mattress support surface 6. As shown in Figure 1a, the outer sides 8 of the delimiting frame sides 7 constitute the periphery 4. More preferably, the periphery 4 is constituted by the delimiting frame sides 7, rectangular. Preferably, the delimiting frame sides 7 are rectangular boards. Since the periphery 4, the frame sides 7, and the mounting frame 3 are, however, known to the person skilled in the art, the design and dimensions of the periphery 4, the frame sides 7, and the mounting frame 3 may be completely determined by the person skilled in the art, taking into account the features of the present invention.

[0033] As shown in Figure 1a and in more detail in Figure 1b, 2a and 3a, the bed board 1 is provided with a pair of a first and a second hook element 11, 12, which extend from the inner side 5, and are provided for suspending the bed board 1 on the frame side 7 of the mounting frame 2, wherein the first hook element 11 hooks around a top 9 of the frame side 7 and the second hook element 12 hooks around a bottom 10 of the frame side 7.

[0034] As shown in Fig 1a, the first hook element 11 is provided for allowing an at least partial rotational movement of the bed board 1 around a rotation axis 13, located along the frame side 7.

[0035] The second hook element 12 is provided for being moved beneath the bottom 10 of the frame side 7 at the rotation around the rotation axis 13. The result of this movement is for example shown in Figure 2a.

[0036] The first and the second hook element 11, 12 are thereby attached to the bed board 1. Figures 1a and 1b show for example that the first and the second hook element 11, 12 are part of a single element which is attached to the bed board 1 by screws. Such a mounting of the first 11 and the second 12 hook element is however not essential to the present invention, and the first and the second hook element 11, 12 may also be attached

to the bed board 1 as separate elements. Also, the manner of attaching the first and the second hook element 11, 12 to the bed board 1 is not essential to the present invention, and the hook elements 11, 12 may also be attached by, for example, one or more of the following methods: nailing, stapling, gluing, screwing, etc.

[0037] As is shown in more detail in Figure 1a and Figure 2a, the first and the second hook element 11, 12 comprise preferably, when the bed board 1 is suspended on the frame side 7 of the mounting frame 2, a first part 14 which extends adjacent to the top side 9 and bottom side 10 of the frame side 7, respectively, and a second part 15 which extends in such a way with respect to the first part 14 that the second part 15 of the first and the second hook element 12 extend towards each other. More preferably, and as shown in Figure 2a, the second parts of the first and the second hook element 12 extend, when the bed board 1 is suspended on the frame side 7 of the mounting frame 2, towards each other along the inner side 5 of the frame side 7 which is located opposite of the outer side 8 of the frame side 7. In the figures, the first part 14 of the first hook element 11 is more specifically referred to as 32, the second part 15 of the first hook element 11 as 33, the first part 14 of the second hook element 12 as 34, and the second part 15 of the second hook element 12 as 35.

[0038] Figure 2a also shows that the second hook part 12 is adapted to hook around the frame side 7 during rotation around the rotation axis 13 of the bed board 1, more particularly around the bottom 10, by means of a clip-on connection 16. To this end, the second hook part 12 is for example provided with a beveled side, which is provided for allowing easier sliding along the bottom. In addition, the second hook part 12 is preferably provided with an upright side which prevents the second hook part 12 from unintentionally moving back, so that the bed board 1 would become detached.

[0039] Preferably, to realize such a clip-on connection 16, a resilient part 17 of the second hook element 12 is resiliently connected to the other part of the second hook element 12 with respect to a relaxed position, such that the resilient part 17 of the second hook element 12 is provided for bending, at the rotation of the bed board 1 around the rotation axis 13, wherein the second part 15 of the second hook element is partially halted by the frame side 7, in such a way that the second part 15 of the second hook element 12 can be slid beneath the bottom 10 of the frame side 7, and once the second part 15 of the second hook element 12 arrives at the inner side 5 of the frame side 7, the resilient part 17 springs back to its relaxed position, so that the second hook element 12 hooks around the bottom 10 of the bed board 1 and thus the second hook element 12 connects the bed board 1 with the clip-on connection 16 to the frame side 7.

[0040] To be able to easily remove the second hook part 12, if still desired, preferably a lip is provided which allows the resilient part 17 to bend so that the second hook part 12, more preferably the second part 15 of the

second hook part 12, can again be moved beneath the bottom 10, in order to release the hooking of the second hook part 12 around the bottom 10 of the frame side 7, and eventually to be able to disassemble the bed board 1 from the frame side 7.

[0041] Preferably, the resilient part 17 is disposed between the first and the second part 14, 15 of the second hook element 12. In order to obtain such a second hook element 12, preferably, the shape of the resilient part 17 is adapted to obtain a resilient part and/or the material of the resilient part 17 consists of, for example, a resilient material, such as for example a polymer, preferably with high density, such as for example POM (polyoxymethylene). The resilience of the material of the resilient part 17 is preferably adapted to be resiliently deformable by forces that can be exerted by an average person without tools. Preferably, the second hook element 12, and if the first and the second hook element 11, 12 form a single element, then also the first hook element 11, is formed from this material. Often such resilient polymeric materials also have the advantage that they can be easily manipulated, in order to form the element that includes the first and the second hook element 11, 12.

[0042] As shown in Figure 2a, the first and the second hook element 11, 12 are preferably attached along opposite sides of the inner side 5 of the bed board 1.

[0043] While Figure 2a shows that the first and the second hook element 11, 12 are provided closer along the bottom 10 of the bed board, this is not essential to the present invention, and they may also be provided closer to the middle of the bed board 1, or even along the top 9, depending on the desired result.

[0044] Figure 1b shows that, preferably, the bed board 1 is provided with positioning means 27, which allow the bed board 1 to be positioned with respect to the frame side 7 along a direction substantially parallel to the rotation axis 13. The positioning means 27 comprise thereto preferably a positioning limiter 28, mounted on the frame side 7, provided for co-operation with a positioning hook element 29, for example the first hook element 11 as shown in Figure 1a. Such positioning means 27 are however not essential to the present invention, and also positioning means 27 that are independent of the hook elements 11, 12 may be used. However, by making use of positioning means 27 wherein one of the hook elements 11, 12 is part of the positioning means 27, a simpler bed board 1 is obtained.

[0045] Preferably, as also shown in Figure 1b, the positioning limiter 28 of the positioning means 27 is provided for abutting on the positioning hook element 29, so as to realize the positioning of the bed board 1 with respect to the frame side 7. More preferably, the positioning limiter 28 of the frame side 7 is a constructional part of the mounting frame 2, such as for example an angle element that delimits two frame sides of the mounting frame as shown in the figures, so that additional elements are further avoided. In such a configuration, in other words, the positioning hook element 29 is provided on the bed board

1 in such a way that, if it abuts on the positioning limiter 28 of the frame side 7, the bed board 1 is correctly positioned on the frame side 7.

[0046] In order to promote a simplified suspension of the bed board 1 on the frame side 7, preferably, as shown in Figure 1a, a plurality of first hook elements 11 is provided along the bed board, more preferably at least two or more, such as three, four, five, six, seven, eight, nine, etc.

[0047] Although the first and the second hook element 11, 12 shown in the figures are always positioned opposite of each other in longitudinal direction of the frame side, this is not essential to the invention, and the first and the second hook element 11, 12 may also occupy different positions with respect to each other along the longitudinal direction of the frame side 7 and/or the bed board 1. If the first and the second hook element 11, 12 are however positioned opposite of each other along the longitudinal direction of the frame side 7, it has been found that they may be more easily combined into a single element, which realizes an easy assembly.

[0048] As shown in Figure 1a, preferably a plurality of positioning hook elements 29 is provided, in order to obtain a further improved positioning of the bed board 1 with respect to the frame side 7.

[0049] Preferably, as also shown in Figure 1a, the bed board 1 is provided for covering a full outer side 8 of the periphery 4, in order to limit the number of bed boards 1 required for the covering of the frame side 7.

[0050] Figure 2b shows a further second bed board 18 of a set of bed boards 1, 18.

[0051] In addition, the beds boards 1, 18 of the set are provided for attachment to adjacent sides of the mounting frame 2, with an upright side 19 of the first bed board 1 abutting on an upright side 20 of the second bed board 18, wherein the upright sides 19, 20 comprise connecting means 21 to be connected to each other.

[0052] As for example shown in Figure 3a, the upright sides 19, 20 are finished by means of a right-angled corner connection. Although the upright sides 19, 20 may also be finished by means of sides that form a right angle with the inner and outer sides of the bed boards 1, 18, by such a right-angled corner connection a finish is obtained which is often experienced as more elegant and/or more beautiful by an observer.

[0053] Preferably, the connecting means 21 are a co-operating pair of an opening 22 and a hook 23, disposed on the upright sides 19, 20. Such connecting means 21 allow an easier attachment of the second bed board 18 to the first bed board 1.

[0054] Preferably, the upright sides 19, 20 comprise respective mutually co-operating first and second support means 30, 31. As shown in Figures 2a and 2b, such means allow to support the second bed board by means of the second support means 31 on the first support means 30 of the previously mounted first bed board 1. Preferably, the first and the second bed board 1, 18 are then moved with respect to each other, so that the con-

necting means 21 of the first and the second upright side 19, 20 become connected to each other. More preferably, the first and the second support means 30, 31 are provided such that thereto, the second support means 31 are slid over the first support means 30 until an end of the second support means 31 is reached, after which the second bed board 18 drops with respect to the first bed board 1, as a result of which the connecting means, preferably the hook 23 and the opening 22, become connected and thus the first bed board 1 is anchored to the second bed board 18.

[0055] As shown in Figure 2b, the upright sides 19 and 20 are for that purpose provided mitered in order to provide a further improved finish.

[0056] The second bed board 18 itself does not, because of the presence of the connecting means 21, need to be provided with hook elements 11, 12 to be attached to the mounting frame 2, since the second bed board 18 is indirectly connected to the mounting frame 2 by means of the first bed board 1. However, this is not essential to the invention, and the second bed board 18 may also be attached to the mounting frame 2 independently of the first bed board 1 by means of its own hook means 11, 12. However, by providing connecting means 21, it was found that the bed boards could be anchored more securely to the mounting frame 2.

[0057] As shown in Figure 2b and 3a, preferably also locking means 24 are provided to ensure a further locking of the first and the second bed board 1, 18, for example after the first and the second bed board 1, 18 have been connected by the connecting means 21, and for example to prevent that the second bed board 18 is unintentionally detached from the first bed board 1. Such unintentional detaching of the second bed board 18 from the first bed board 1 is for example possible if through an upward movement, for example during vacuuming beneath the mattress support 3, the second bed board 18 moves upward and unintentionally the hook 23 exits the opening 22, possibly causing a sudden and unexpected detaching of the second bed board 18 from the first bed board 1. However, by providing locking means 24 which connect the first 1 and the second bed board 18 along a direction perpendicular to the upward direction, such a detaching is avoided. Preferably, the locking means 24, as shown in Figure 2b and 3a, comprise thereto a slider 25 which can be caught in a slot 26. Although the slider 25, shown in Figure 2b, is provided on the second bed board 18 and the slot 26 is provided in the first bed board 1, this is not essential to the present invention, and the slider 25 and the slot 26 may be provided on the first and second bed board 1, 18, respectively.

[0058] Figure 4 shows an alternative configuration in which the locking means 24 are used.

[0059] Various details of the connection between the first and the second bed board 1, 18, such as for example the locking means 24, the positioning means 17, including the positioning limiter 28 and the positioning hook element 29, and the support means 30, 31 are for exam-

ple shown assembled in Figure 3a. Figure 3a also shows the right-angle finish of the upright sides 19, 20 in more detail.

[0060] Figure 3b shows a cross section of the assembly of the first and the second bed board 1, 18 shown in Figure 3b, and shows in more detail for example the mounting of the hook 23 and the opening 22, and the support means 30, 31.

[0061] Preferably, although not fully shown in the figures, the set comprises two pairs of first and second bed boards 1, 18, wherein the first board 1 of the first pair and the second board 18 of the second pair are provided for being attached to adjacent sides of the mounting frame 2, with an upright side 19 of the first bed board of the first pair abutting on an upright side 20 of the second bed board 18 of the second pair, wherein the upright sides 19, 20 comprise connecting means 21 to be connected to each other.

[0062] Preferably, in this configuration, first the first bed boards of the two pairs are attached to the mounting frame 2, and subsequently the second bed boards are suspended in between by means of the connecting means 21. Such a configuration allows for surrounding the mounting frame with bed boards, wherein the different bed boards prevent them from unintentionally detaching from the mounting frame, since the presence of the second bed boards prevents the rotation of the first bed boards, preferably also by means of the locking means 24.

[0063] These additional connections may be obtained with the previously discussed connecting means 21, locking means 24, and support elements 31.

[0064] Figure 5a - 5f show an overview of an example of the assembly of an embodiment of a mattress support according to the present invention.

Claims

1. Bed board (1) for attaching to a mounting frame (2) of a mattress support (3), wherein the mounting frame (2) delimits at least a part of the periphery (4) of the mattress support (3), wherein the bed board (1) is provided for being mounted with an substantially planar inner side (5) adjacent to an outer side (8) of a delimiting frame side (7) of the mounting frame (2), which outer side (8) is directed away from a mattress support surface (6), which is provided for supporting a mattress, wherein the bed board (1) is provided with a pair of a first and a second hook element (11, 12) which extend from the inner side (5) and are provided for suspending the bed board (1) on the frame side (7) of the mounting frame (2), wherein the first hook element (11) hooks around a top (9) of the frame side (7) and the second hook element (12) hooks around a bottom (10) of the frame side (7), **characterized in that** the first and the second hook element (11, 12) are attached to the bed

board (1) and the first hook element (11) is provided for allowing an at least partial rotational movement of the bed board (1) around a rotation axis (13), located along the frame side (7), and the second hook element (12) is provided for being moved beneath the bottom (10) of the frame side (7) during the rotation around the rotation axis (13).

2. Bed board (1) according to claim 1, **characterized in that**, when the bed board (1) is suspended on the frame side (7) of the mounting frame (2), the first and the second hook element (11, 12) comprise a first part (14) that extends adjacent to the top (9) and bottom (10) of the frame side (7), respectively, and a second part (15) that extends in such a way with respect to the first part (14) that the second part (15) of the first and the second hook element (12) extend towards each other, and that the second parts of the first and the second hook element (12) extend, when the bed board (1) is suspended on the frame side (7) of the mounting frame (2), towards each other along the inner side (5) of the frame side (7) which is located opposite of the outer side (8) of the frame side (7), and that the second hook element (12), during the rotation around the rotation axis (13) of the bed board (1), hooks around the frame side (7) by means of a clip-on connection (16), and that a resilient part (17) of the second hook element (12) is resiliently connected to the other part of the second hook element (12) with respect to a relaxed position, such that the resilient part (17) of the second hook element (12) is provided for bending, during the rotation of the bed board (1) around the rotation axis (13), wherein the second part (15) of the second hook element is partially halted by the frame side (7), in such a way that the second part (15) of the second hook element (12) can be slid beneath the bottom (10) of the frame side (7), and once the second part (15) of the second hook element (12) arrives at the inner side (5) of the frame side (7), the resilient part (17) springs back to its relaxed position, so that the second hook element (12) hooks around the bottom (10) of the bed board (1) and thus the second hook element (12) connects the bed board (1) with the clip-on connection (16) to the frame side (7).
3. Bed board (1) according to claim 2, **characterized in that** the resilient part (17) is attached between the first and the second part (14, 15) of the second hook element (12).
4. Bed board (1) according to any one of the preceding claims, **characterized in that** the first and the second hook element (11, 12) are attached along opposite sides of the inner side (5) of the bed board (1).
5. Bed board according to any one of the preceding claims, **characterized in that** the bed board (1) is

provided with positioning means (27) which allow the bed board (1) to be positioned with respect to the frame side (7) along a direction substantially parallel to the rotation axis (13).

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6. Set of bed boards (1) having at least a first bed board (1) according to any one of the preceding claims.
7. Set of bed boards (1, 18) according to claim 6, **characterized in that** the set comprises a second bed board (18), wherein the bed boards (1, 18) of the set are provided for mounting to adjacent sides of the mounting frame (2) with an upright side (19) of the first bed board (1) abutting on an upright side (20) of the second bed board (18), wherein the upright sides (19, 20) comprise connecting means (21) to be connected to each other.
8. Set of bed boards (1, 18) according to claim 7, **characterized in that** the connecting means (21) comprise a co-operating pair of an opening (22) and a hook (23), attached to the upright sides (19, 20).
9. Set of bed boards (1, 18) according to any one of claims 6-8, **characterized in that** the upright sides (19, 20) comprise respective mutually co-operating first and second support means (30, 31), provided for supporting the second bed board (18) by means of the second support means (31) on the first support means (30) of the previously mounted first bed board (1).
10. Set of bed boards (1, 18) according to any one of claims 6-9, **characterized in that** the bed boards (1, 18) comprise locking means (24), provided for ensuring a further locking of the first to the second bed board (1, 18).
11. Set of bed boards (1, 18) according to claim 10, **characterized in that** the locking means (24) comprise thereto a co-operating pair of a slider (25) and a slot (26).
12. Mounting frame (2) provided with a set of bed boards (1, 18) according to any one of the claims 6-11, **characterized in that** the mounting frame (2) is provided for delimiting at least a part of the periphery (4) of a mattress support (3), wherein the bed board (1) is suspended on the frame side (7) of the mounting frame (2), wherein the bed board (1) is provided for being mounted adjacently with an substantially planar inner side (5) abutting on a first outer side (8) of the frame side (7) of the mounting frame (2), which outer side (8) is directed away from a mattress support surface (6), which is provided for supporting a mattress, wherein the first and the second hook element (11, 12) suspend the bed board (1) on the frame side (7) of the mounting frame (2), wherein

the first hook element (11) hooks around a top (9) of the frame side (7) and the second hook element (12) hooks around a bottom (10) of the frame side (7), and the first and the second hook element (11, 12) are attached to the bed board (1).

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13. Mattress support (3) comprising a mounting frame (2) according to claim 12, wherein the mounting frame (2) delimits at least a part of the periphery (4) of the mattress support (3) and wherein the mattress support surface (6) is substantially surrounded by the mounting frame (2).

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14. Bed comprising a mattress support (3) according to claim 13.

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15. Method for manufacturing a mounting frame (2) according to claim 12, a mattress support (3) according to claim 13, or a bed according to claim 14, **characterized in that** the bed board (1) is mounted adjacently with a substantially planar inner side (5) provided for abutting on a first outer side (8) of a frame side (7) of the mounting frame (2), which outer side (8) is directed away from a mattress support surface (6), which is provided for supporting a mattress, by hooking the first hook element (11) around a top (9) of the frame side (7), and to perform, with the aid of the first hook element (11), an at least partial rotational movement of the bed board (1) around a rotation axis (13), located along the frame side (7), and to move the second hook element (12) during the rotation around the rotation axis (13) beneath the bottom (10) of the frame side (7), after which the first and the second hook element (11, 12) suspend the bed board (1) on the frame side (7) of the mounting frame (2), wherein the first hook element (11) hooks around a top (9) of the frame side (7) and the second hook element (12) hooks around a bottom (10) of the frame side (7).

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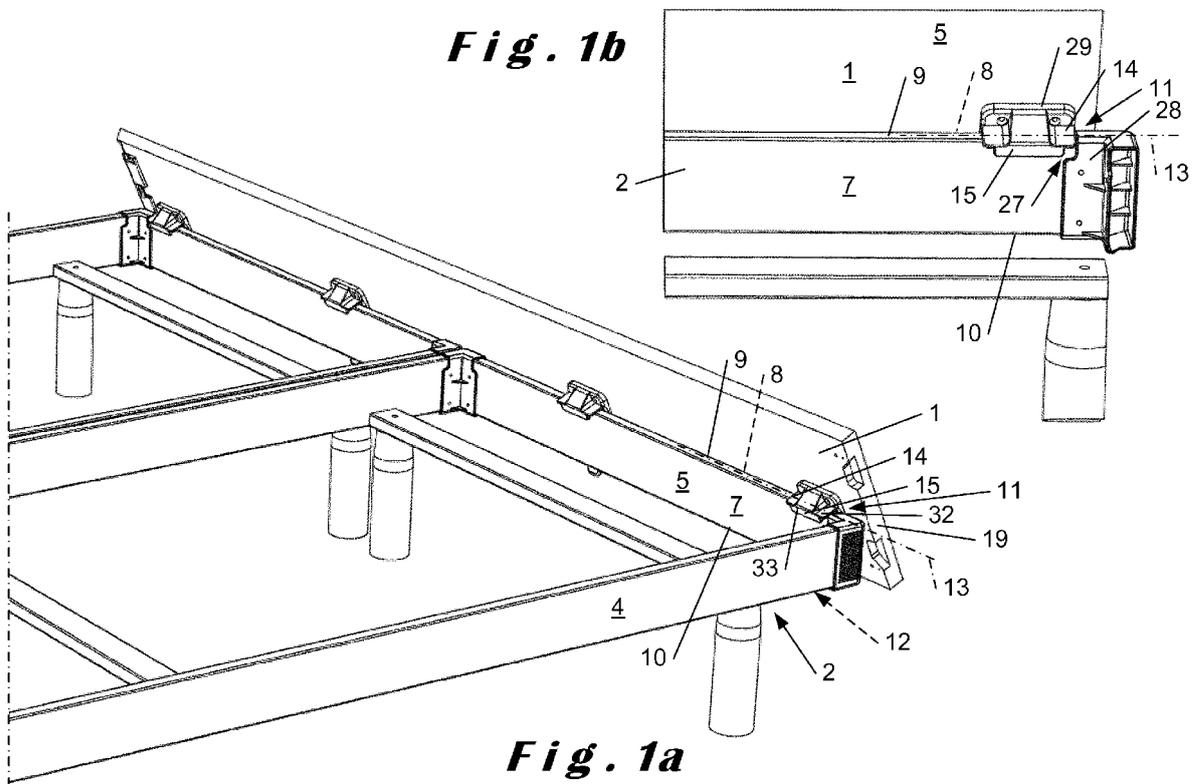
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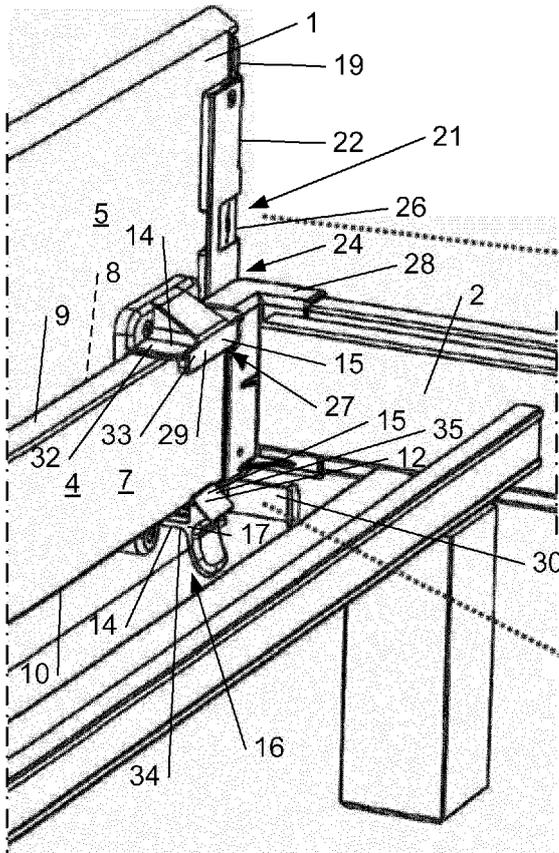


Fig. 2a

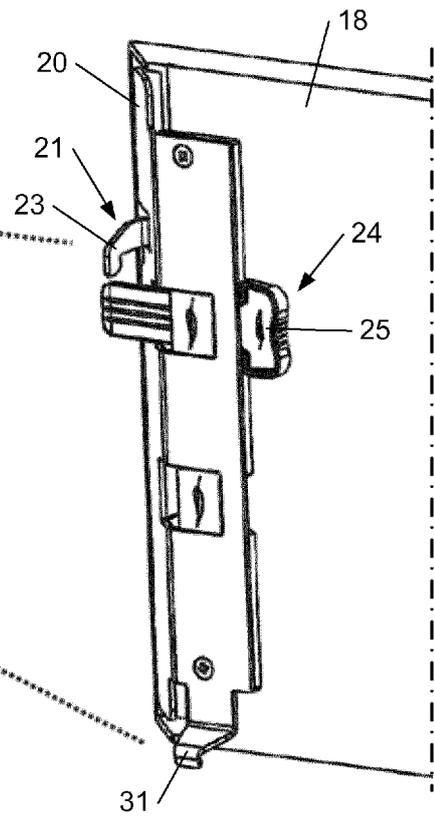


Fig. 2b

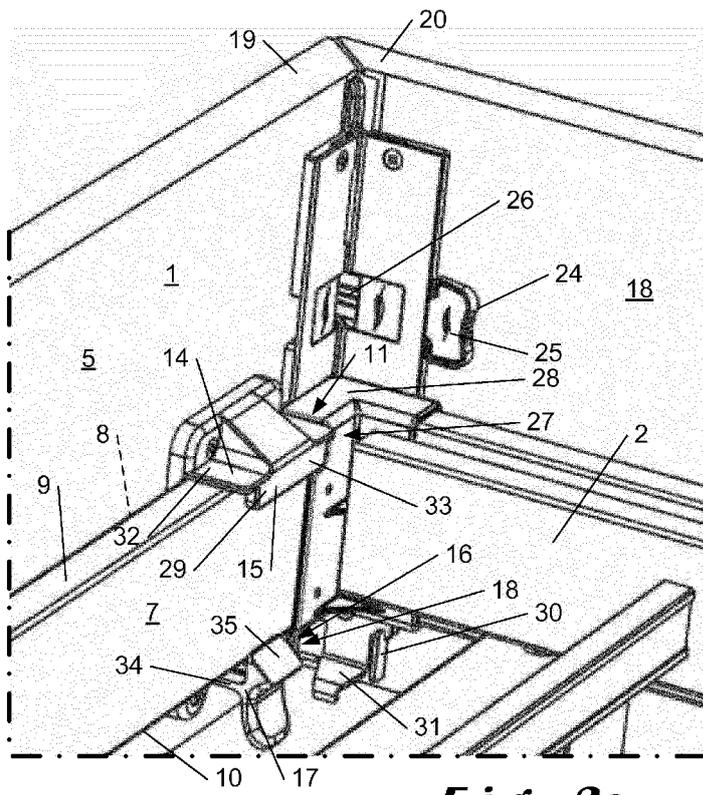


Fig. 3a

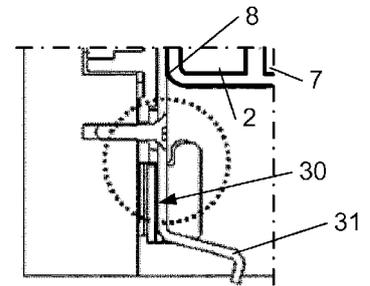
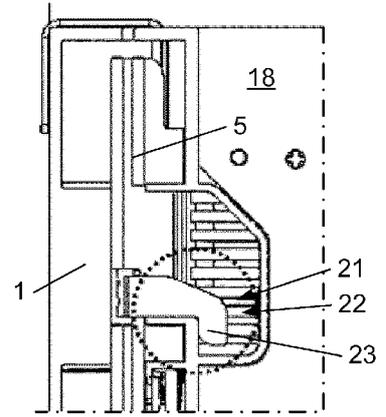


Fig. 3b

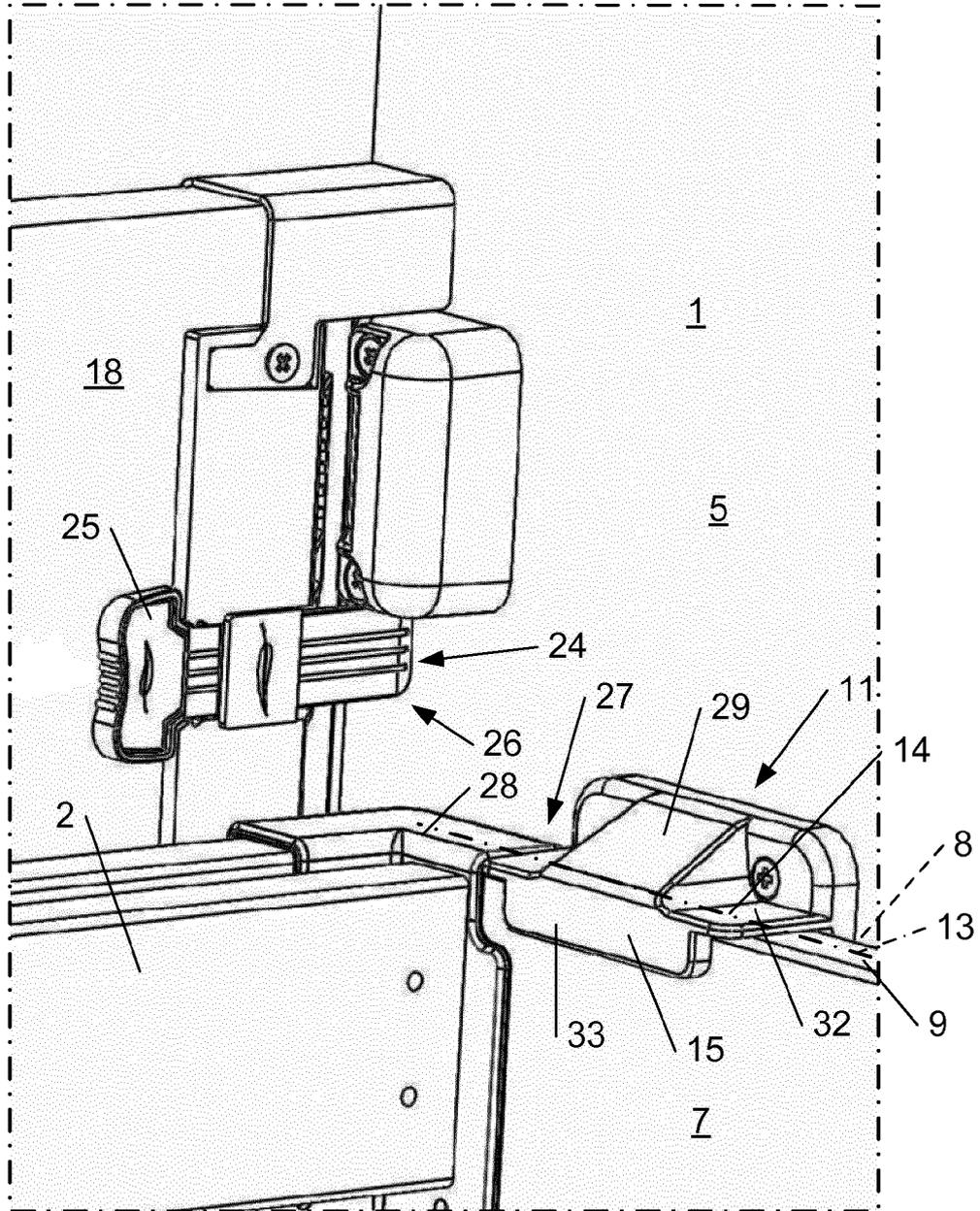


Fig. 4

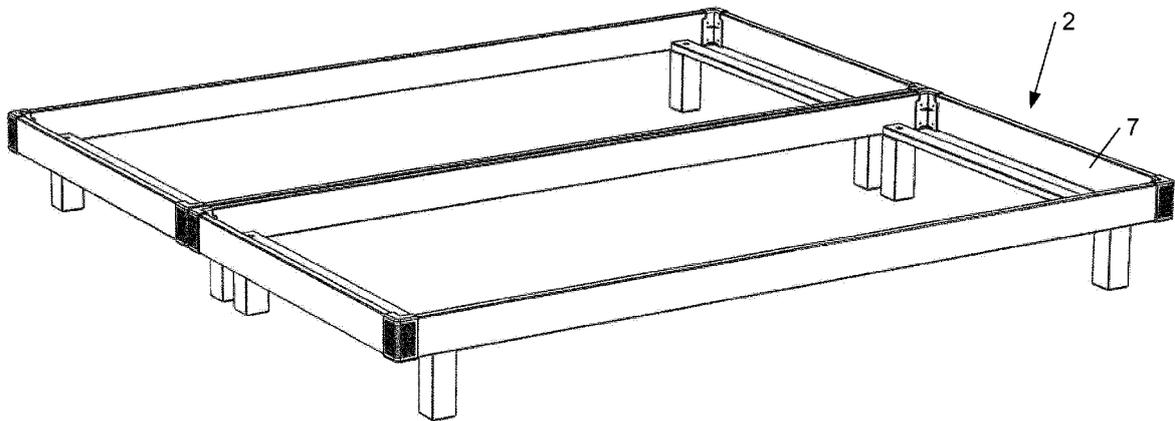


Fig. 5a

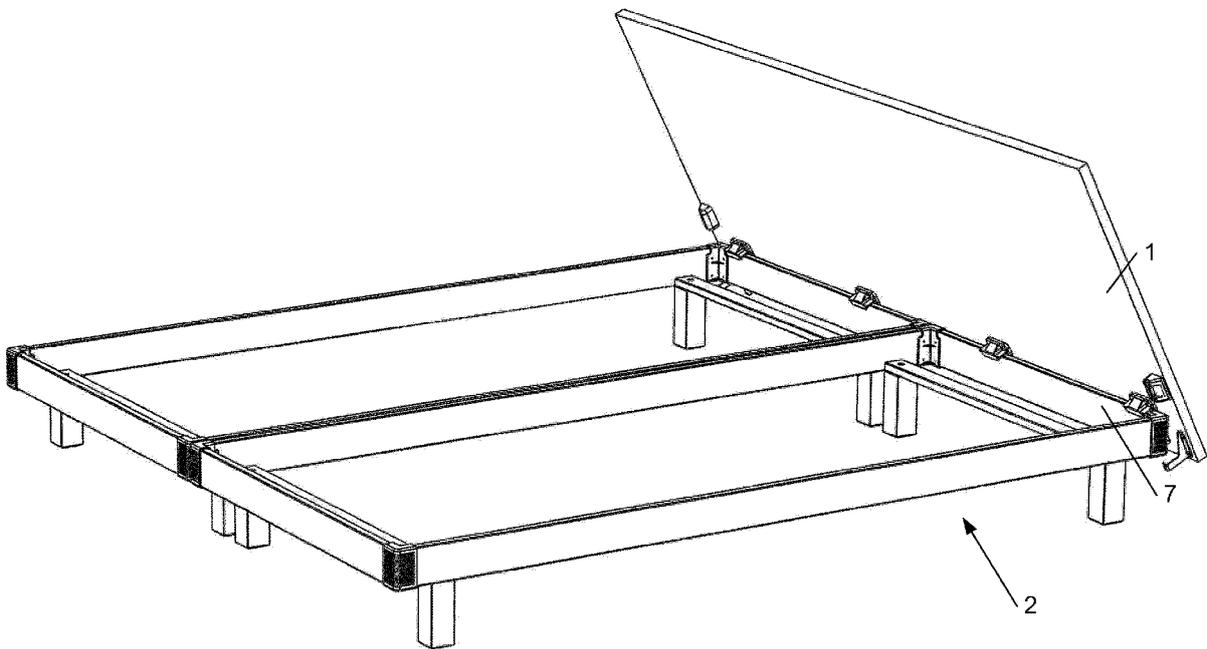


Fig. 5b

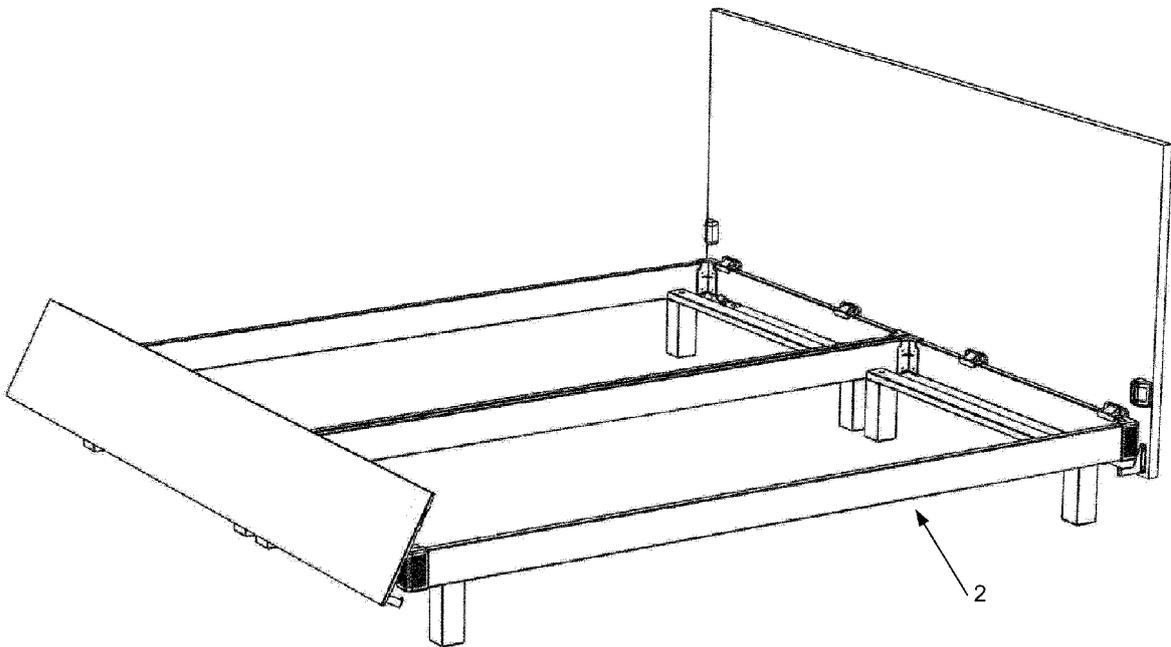


Fig. 5c

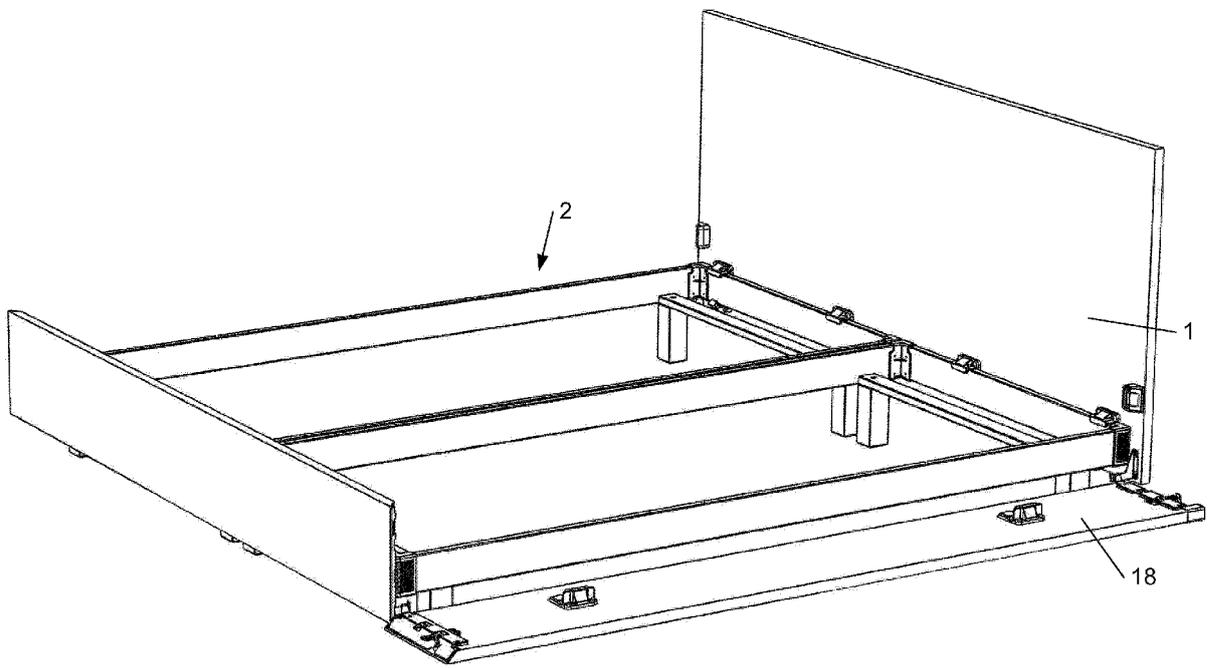


Fig. 5d

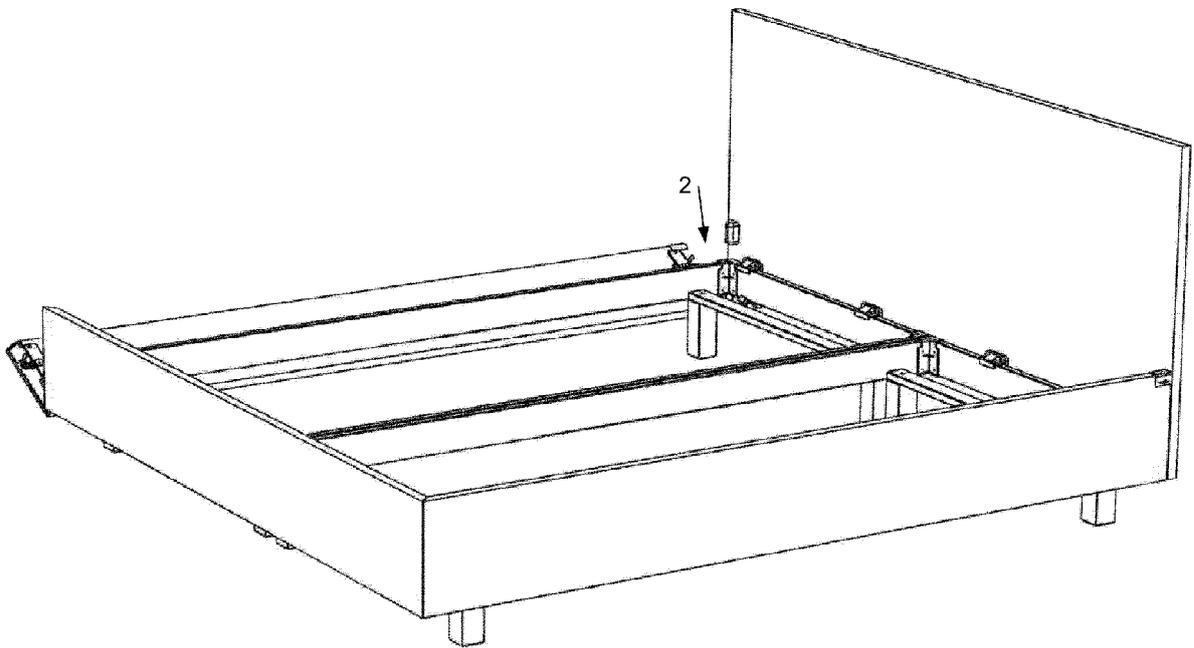


Fig. 5e

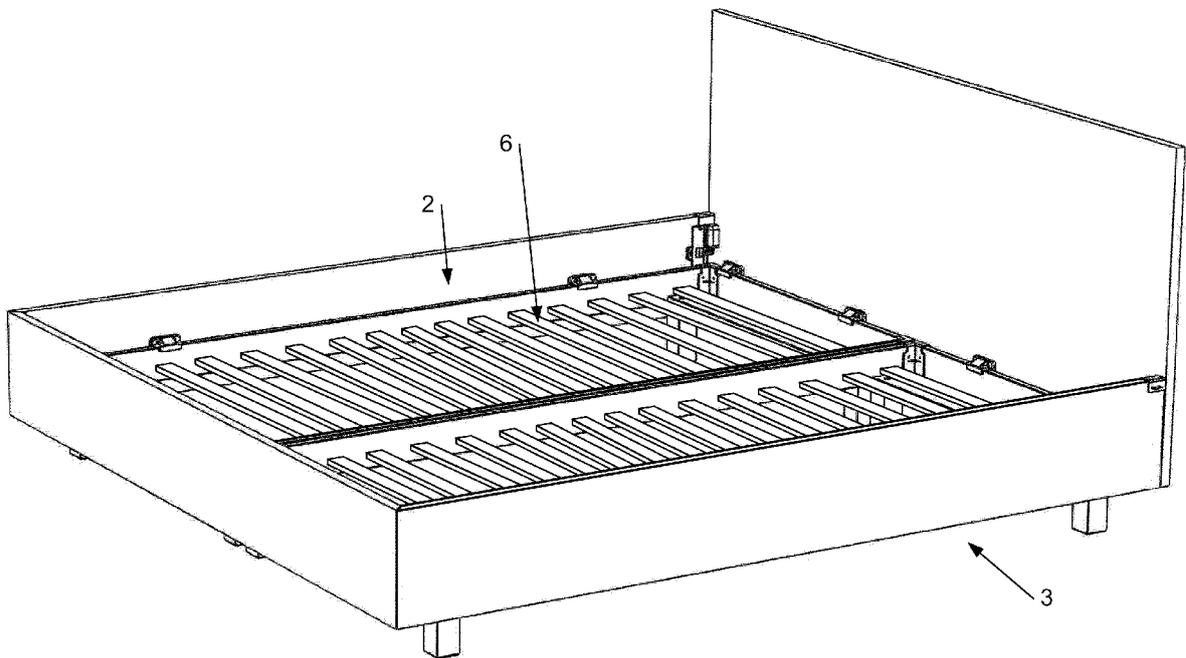


Fig. 5f



EUROPEAN SEARCH REPORT

Application Number
EP 12 19 0431

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	DE 20 2009 000750 U1 (PAIDI MOEBEL GMBH [DE]) 26 March 2009 (2009-03-26) * paragraph [0043]; claim 1; figures 1-8 *	1,4-6, 12-15	INV. A47C19/02
X	US 2 195 955 A (HILLENBRAND WILLIAM A) 2 April 1940 (1940-04-02) * columns 2-5; figures 1-7 *	1	
			TECHNICAL FIELDS SEARCHED (IPC)
			A47C
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 29 January 2013	Examiner Vollering, Johannes
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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EPO FORM 1503 03.82 (F04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 12 19 0431

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The members are as contained in the European Patent Office EDP file on
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29-01-2013

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DE 202009000750 U1	26-03-2009	NONE	

US 2195955 A	02-04-1940	NONE	

EPO FORM P0459

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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