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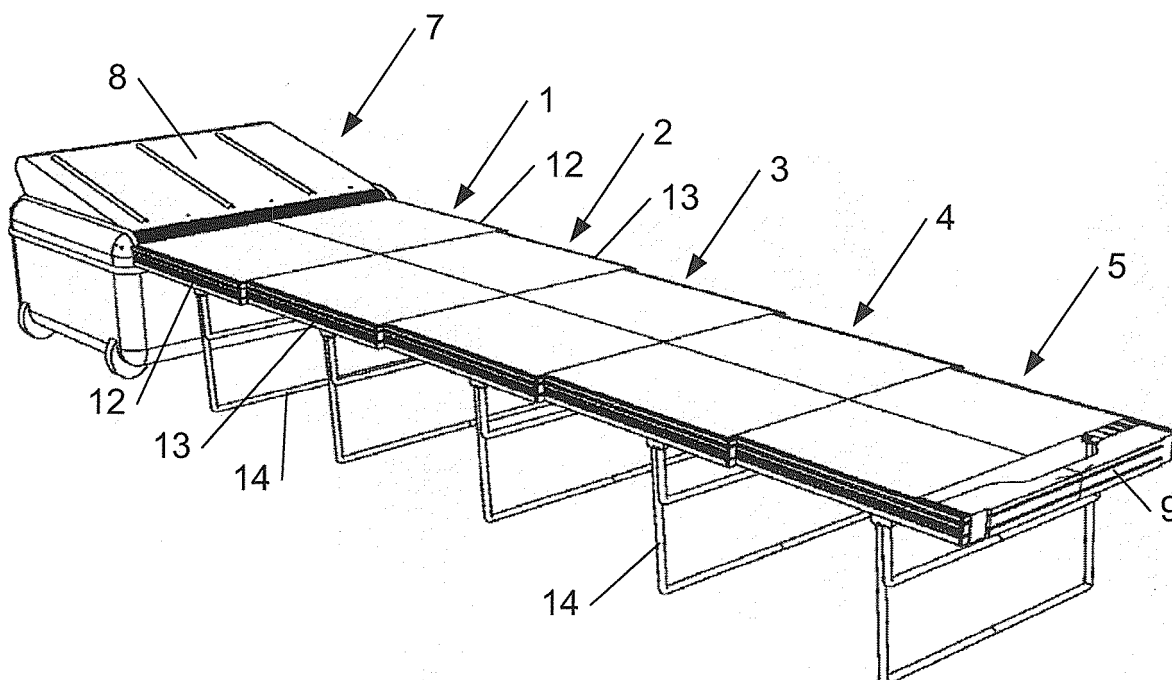
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(54) **Collapsible bed structure and luggage incorporating same**

(57) The invention relates to a collapsible bed structure with telescopic bed sections (1-5) and a piece of luggage (6) having a compartment with such a bed structure. The bed structure can be brought from a compact, storage configuration to an extended, use configuration. Each bed section (1-5) comprises a flat part (11) for supporting a user and oblong lateral frame parts (12,13) be-

tween which the flat part (11) is suspended. The oblong lateral frame parts (12,13) of the successive bed sections (1-5) slidably engage each other. The collapsible bed structure further comprises a plurality of support members (14,31-35), pivotally connected between the frame parts (12,13). The successive support members (14,31-35) have corresponding shapes which fit into each other in the compact configuration of the bed structure.



**Fig. 2**

## Description

### Technical field

[0001] The present invention relates to a collapsible bed structure according to the preamble of the first claim. The invention further relates to a piece of luggage in which such a collapsible bed structure is incorporated.

### Background art

[0002] From JP 2143056 U a collapsible bed structure is known which comprises a number of bed sections which are telescopically movable into each other between a compact configuration for storage and an extended configuration for use. Each section comprises a flat part for supporting a user, lateral frame parts between which the top part is suspended and a support member connected to the frame parts for supporting the bed structure on the ground.

[0003] The bed structure known from JP 2143056 U has the disadvantage that its compact configuration still takes up a large volume of storage space.

### Disclosure of the invention

[0004] It is an aim of the invention to provide a collapsible bed structure which can be collapsed to a more compact configuration.

[0005] This aim is achieved with the collapsible bed structure having the technical characteristics of the first claim.

[0006] The collapsible bed structure according to the invention comprises a plurality of bed sections which are telescopically movable into each other, so that the bed structure can be brought from a compact configuration for storage to an extended configuration for use and vice versa. Each bed section comprises a flat part for supporting a user and oblong lateral frame parts between which the flat part is suspended. The oblong lateral frame parts extend substantially parallel to each other on opposite sides of the bed structure. The oblong lateral frame parts of the successive bed sections slidably engage each other for moving the bed structure from the compact configuration to the extended configuration or vice versa. The collapsible bed structure further comprises a plurality of support members for supporting the bed structure in extended configuration at a given distance above the ground. Each of these support members extends between the lateral frame parts of one of the bed sections and is pivotally connected to these lateral frame parts for being movable between a storage position substantially parallel to the lateral frame parts and a use position downwards from the lateral frame parts. Blocking means are provided for blocking the support members in the use position. The successive support members have corresponding shapes which fit into each other in the compact configuration of the bed structure.

[0007] The fact that the bed sections are telescopically movable into each other means that the bed sections are dimensioned such with respect to each other that they form a sequence of elements with reducing sizes of which each larger element can encompass the subsequent, smaller element.

[0008] The limited volume of the bed structure of the invention in the compact configuration is achieved by the combination of (i) the telescopic arrangement of the bed sections, (ii) the pivotal connection of the support members to the frame parts and (iii) the shapes of the support members which fit into each other. As a result of the pivotal connection of the support members and their ability to fit into each other, the bed structure is collapsible to a more compact configuration with respect to the prior art, in which the support members are fixed to the frame parts in downwards direction. In this way, a considerable amount of storage space can be saved.

[0009] Even though the bed structure according to the invention is collapsible to a larger extent with respect to the prior art, this does not adversely affect the strength of the bed structure of the invention. The strength is maintained in view of the fact that the support members extend from the frame part on one side to the frame part on the other side and so reinforce the bed structure in transverse direction and the fact that the frame parts of successive bed sections slidably engage each other and so reinforce each other in the extended configuration. Such a slidable engagement is much stronger than for example a pivotal connection with hinges which always involves the risk that a hinge might collapse.

[0010] Preferably, the flat part for supporting the user is formed by a flexible sheet which is tensioned between the lateral frame parts. This forms a comfortable resting surface for a user. The flexible sheet can for example be a sheet of canvas, or any other material known to the person skilled in the art.

[0011] Preferably each lateral frame part comprises an upper section, a middle section and a lower section. The upper section preferably forms the part on which the flexible sheet is suspended and preferably comprises means for tensioning the flexible sheet. These tensioning means may for example comprise a cylindrical longitudinal groove which is open at the top and a bar mounted in said groove, the groove and the bar being dimensioned such with respect to each other that they exert a clamping force on an edge of the flexible sheet which is held in between them. In other words, the edge of the flexible sheet is clamped between the bar and the groove in the upper section of the frame part, so that the flexible sheet can be held under tension between the frame parts on opposite sides of the respective bed section. In a preferred embodiment, an arrangement may be provided for re-tensioning the flexible sheet between the frame parts after a number of times of use of the bed structure. Such an arrangement can for example be a user-accessible groove in an end of the bar, so that the re-tensioning of the sheet can be simply performed by slightly rotating

the bar in the groove in the appropriate direction.

**[0012]** Preferably, the middle section of the frame part is the part where the slidable engagement between adjacent frame parts is provided. This slidable engagement is preferably provided by a longitudinal rail on the one frame part which is held in a longitudinal cavity on the other frame part. In this way, a firm engagement between the frame parts can be achieved since they engage each other along a portion of their length. Preferably, end stops are provided for preventing that the rail slides out of the cavity beyond a given portion of the length of the frame parts. These end stops preferably comprise slide strips which are interposed between the rail and the cavity for enhancing slidability. By constructing these slide strips as integral parts of the end stops, the number of constructional parts of the bed structure of the invention is advantageously kept limited.

**[0013]** Preferably, the lower section of the frame parts is where the pivotal connection of the support members is provided. Preferably each bed section comprises one support member, so that each bed section has its own support member which can reduce the risk of unintentional collapse of the bed structure. In this embodiment, the support members are preferably successively mounted more towards the back of the bed sections, meaning that the support member of the foremost bed section is mounted slightly more towards the front with respect to the subsequent bed section, and so on. This is one way of enabling that the telescopic bed sections can be substantially fully slid into each other. The support members preferably comprise substantially U-shaped members in plate metal with a number of cut-outs for reducing their weight.

**[0014]** The blocking means for blocking the support members in the use position can for example comprise stops on the lateral frame parts which block the support members in an angle slightly beyond the vertical direction in use. This means that upon moving the support members from the storage to the use positions, they are swung over slightly more than 90° and are stopped in a slight angle with respect to vertical, so that their collapse can be prevented in view of the earth's gravitation force only.

**[0015]** Alternatively or in addition, the blocking means may comprise clamping means on the lateral frame parts for clamping and actively holding the support members in the use position. This can further reduce the risk of unintentional collapse.

**[0016]** In one preferred embodiment, the collapsible bed structure may be provided with a casing in which the bed structure is stored in the storage configuration. In this embodiment, the dimensions of the casing are preferably limited as much as possible, i.e. that it can just encompass the bed structure in the storage configuration.

**[0017]** In another preferred embodiment, the collapsible bed structure may be integrated into a compartment of a piece of luggage. A serious advantage of this embodiment is that the user is provided with a piece of luggage

which can be converted to a bed, for example when the user is stranded on an airport.

**[0018]** The piece of luggage is preferably a piece of hand luggage, i.e. a suitcase or the like which is within the internationally used boundary dimensions for being qualified as hand luggage, i.e. luggage which does not have to be checked in on aircrafts. The rule is that the sum of length, width and depth should be 115 cm at most. An example of suitable dimensions is about 50 cm by about 39 cm by about 24 cm. The collapsibility of the bed structure of the invention is such that it can be integrated into such a suitcase while leaving ample space for storing other articles in the suitcase. In a preferred embodiment, such a suitcase has a tiltable top side at the compartment with the collapsible bed structure, which can be tilted during use of the bed structure to form a kind of pillow or head rest.

### **Brief description of the drawings**

**[0019]**

Figure 1 shows a perspective view of a preferred embodiment of the collapsible bed structure of the invention in its use configuration.

Figure 2 shows a piece of hand luggage with incorporated collapsible bed structure according to figure 1 in its use configuration.

Figure 3a-e shows in multiple stages how the collapsible bed structure according to figure 2 is collapsed to its storage configuration.

Figure 4 shows the collapsible bed structure of figure 1 in its storage configuration.

Figure 5 shows a detail of the collapsible bed structure of figure 1.

Figure 6 shows another detail of the collapsible bed structure of figure 1.

Figures 7 and 8 show possible dimensions of the collapsible bed structure of figure 1, respectively in its use and storage configurations.

Figures 9 and 10 show details of the engagement between frame parts of the collapsible bed structure of figure 1.

Figure 11 shows part of a cross-section of the collapsible bed structure of figure 1.

Figure 12 shows perspective views of end stops of the collapsible bed structure of figure 1.

Figure 13 shows a bottom view of the collapsible bed structure of figure 1 in its storage configuration.

Figure 14 shows a perspective view of another preferred embodiment of the collapsible bed structure of the invention in its use configuration.

### **Modes for carrying out the invention**

**[0020]** The present invention will be described with respect to particular embodiments and with reference to certain drawings but the invention is not limited thereto

but only by the claims. The drawings described are only schematic and are non-limiting. In the drawings, the size of some of the elements may be exaggerated and not drawn on scale for illustrative purposes. The dimensions and the relative dimensions do not necessarily correspond to actual reductions to practice of the invention.

**[0021]** Furthermore, the terms first, second, third and the like in the description and in the claims, are used for distinguishing between similar elements and not necessarily for describing a sequential or chronological order. The terms are interchangeable under appropriate circumstances and the embodiments of the invention can operate in other sequences than described or illustrated herein.

**[0022]** Moreover, the terms top, bottom, over, under and the like in the description and the claims are used for descriptive purposes and not necessarily for describing relative positions. The terms so used are interchangeable under appropriate circumstances and the embodiments of the invention described herein can operate in other orientations than described or illustrated herein.

**[0023]** The term "comprising", used in the claims, should not be interpreted as being restricted to the means listed thereafter; it does not exclude other elements or steps. It needs to be interpreted as specifying the presence of the stated features, integers, steps or components as referred to, but does not preclude the presence or addition of one or more other features, integers, steps or components, or groups thereof. Thus, the scope of the expression "a device comprising means A and B" should not be limited to devices consisting only of components A and B. It means that with respect to the present invention, the only relevant components of the device are A and B.

**[0024]** The collapsible bed structure of figure 1 comprises a plurality of bed sections 1-5 which are telescopically movable into each other, so that the bed structure can be brought from a compact configuration for storage (shown in figures 4 and 13) to an extended configuration for use (shown in figure 1) and vice versa. The fact that the bed sections 1-5 are telescopically movable into each other means that the bed sections 1-5 are dimensioned such with respect to each other that they form a sequence of elements with reducing sizes of which each larger element can encompass the subsequent, smaller element.

**[0025]** Each bed section 1-5 comprises a flexible sheet 11, which forms a flat part 11 for supporting the user when resting, and oblong lateral frame parts 12, 13 between which the flexible sheet 11 is suspended. The flexible sheet can for example be a sheet of canvas, or any other material known to the person skilled in the art. In the storage configuration, the flexible sheets are located on top of each other (see figure 4). It is preferred that also a part of the flexible sheet of each bed section overlaps with the flexible sheets of the adjacent bed sections to facilitate the return to the storage configuration, but this is not essential. The oblong lateral frame parts 12, 13 extend substantially parallel to each other on opposite

sides of the bed structure. The frame parts 12, 13 of successive bed sections slidably engage each other. They are preferably made in a light-weight material such as for example aluminium, but may also be made in any other material known to the person skilled in the art.

**[0026]** A plurality of support members 14 are provided for supporting the bed structure in extended configuration at a given distance above the ground. Each of these support members 14 extends between the lateral frame parts 12, 13 of one of the bed sections 1-5 and is pivotally connected to these lateral frame parts 12, 13 for being movable between a storage position substantially parallel to the lateral frame parts and a use position downwards from the lateral frame parts (see figure 3). The support members are in some way blocked in the use position to prevent unintentional collapse, as will be described further on. The successive support members 14 have corresponding shapes which fit into each other in the compact configuration of the bed structure.

**[0027]** The narrowest of the bed sections 5 constitutes the foot end of the bed structure in use. This bed section 5 comprises a front frame member 9, connecting the lateral frame members 12, 13 of this bed section. This increases the strength of the bed structure. The front frame member 9 is also shaped as a handle for facilitating the extending of the bed structure from its casing 6 (see figure 4).

**[0028]** As shown in figures 4, 8 and 13, the bed structure is collapsible to a limited volume. This is achieved by the combination of (i) the telescopic arrangement of the bed sections 1-5, (ii) the pivotal connection of the support members 14 to the frame parts 12, 13 and (iii) the shapes of the support members 14 which fit into each other. This ability to be greatly reduced in volume does however not adversely affect the strength of the bed structure. The strength is maintained in view of the fact that the support members 14 extend from the frame part 12 on one side to the frame part 13 on the other side and so reinforce the bed structure in transverse direction and the fact that the frame parts 12, 13 of successive bed sections slidably engage each other and so reinforce each other in the extended configuration.

**[0029]** The slidable engagement of the oblong lateral frame parts 12, 13 is illustrated by means of figures 9-11. Figures 9 and 10 respectively show two frame parts 12, 13 in extended and retracted positions. As is apparent from the cross-section shown in figure 11, these frame parts 12, 13 have the same profile. The slidable engagement is mainly provided at a middle section 16 of the frame parts, where a longitudinal rail 20 on the one frame part 12 engages in a longitudinal cavity 21 on the other frame part 13. In this way, a firm engagement between the frame parts can be achieved since they engage each other along a portion of their length. In order to enhance the slidability of the frame parts 12, 13 along each other, preferably plastic strips 22-25 are mounted on these frame parts 12, 13. These strips 22-25 are integral with plastic end members 26 which are mounted on the op-

posite ends of the frame parts 12, 13. These strips 22-25 also function as end stops: in the extended position, their distal ends abut the distal ends of the strips 22-25 of the opposing end member 26 on the other frame part 13. In this way, it is prevented that the rail 20 slides out of the cavity 21 beyond a given portion L1 of the length of the frame parts 12, 13 (see the top view in figure 9).

**[0030]** The end stops also have a function in the storage configuration, as shown in figures 10 and 13, namely to obtain that each subsequent bed section slightly protrudes from the previous one by a small distance L2, which makes up for the thickness of the support members 14 while they are located against each other in their storage position. The small distance L2 is provided by short stubs 30 on the end stops 26 which abut the subsequent end stop 26 in the storage configuration. This feature is not essential: the thickness of the support members 14 can for example also be made up for by a successively more backwards mounting of the support members 14 on the respective bed sections 1-5, such that they can fully slide into each other.

**[0031]** The flexible sheet 11 is tensioned between the opposite lateral frame parts 12, 13 by means of a cylindrical longitudinal groove 19 and a bar 18 in an upper section 15 of the lateral frame parts 12, 13. The groove 19 is open towards the top. The bar 18 is mounted in the groove 19 with an edge of the flexible sheet 11 held in between them. The groove 19 and the bar 18 are dimensioned such with respect to each other that they exert a clamping force on the edge of the flexible sheet 11. So the edge of the flexible sheet 11 is clamped between the bar 18 and the groove 19 in the upper section 15 of the frame part 12, so that the flexible sheet can be held under tension between the frame parts on opposite sides of the respective bed section. The plastic end members 26 have a hollow cylindrical protrusion which fits in the end of the groove 19 and around the bar 18 for further fixing them with respect to each other. Figure 6 illustrates how the end members 26 fit on the ends of the frame parts 12, 13.

**[0032]** In a preferred embodiment (not shown), an arrangement may be provided for re-tensioning the flexible sheet between the frame parts after a number of times of use of the bed structure. Such an arrangement can for example be a user-accessible groove in an end of the bar, so that the re-tensioning of the sheet can be simply performed by slightly rotating the bar in the groove in the appropriate direction.

**[0033]** The frame parts 12, 13 further have a lower section 17 where the pivotal connection of the support members 14 is provided. The pivotal connection is provided by a recess 28 in the lower section 17 (see figure 11), in which a preferably plastic connecting member 29 (see figure 5), part of the support member 14, is pivotally fixed. The connecting member 29 is dimensioned such with respect to the recess 28 that it is clamped in the recess 28 when the support member 14 is in the use position. The top surface of the connecting member 29 is shaped

such that in the use position, the support member 14 is in a slight angle with respect to vertical (see figure 3a). More particularly this shape is such that upon moving the support member 14 from the storage to the use position, it is swung over slightly more than 90°. These measures ensure in two ways that the support member 14 is blocked in the use position.

**[0034]** In order to facilitate the movement of the bed structure from the storage configuration to the use configuration and vice versa, the connecting member 29 and the recess 28 can furthermore be shaped such with respect to each other that a clamping force is also present in the storage position of the support members 14. In this way, the support members 14 can be held in the storage position upon moving the bed sections 1-5 with respect to each other (see figures 3c-e) until the user actively pulls the support members 14 from their storage positions. This feature is not essential, but can make it easier to convert the bed structure.

**[0035]** In the embodiments shown, the support member comprises two metal bars 30, 31 for providing strength on two levels above each other. In an alternative embodiment, the support members can comprise substantially U-shaped members in plate metal with a number of cut-outs for reducing their weight.

**[0036]** Preferably each bed section comprises one support member, so that each bed section has its own support member which can reduce the risk of unintentional collapse of the bed structure. In this embodiment, the support members are preferably successively mounted more towards the back of the bed sections, meaning that the support member of the foremost bed section is mounted slightly more towards the front with respect to the subsequent bed section, and so on. This is one way of enabling that the telescopic bed sections can be substantially fully slid into each other. The support members preferably comprise substantially U-shaped members in plate metal with a number of cut-outs for reducing their weight.

**[0037]** The collapsible bed structure of figure 1 further comprises a casing 6 in which the bed structure is stored in the storage configuration. In figures 7 and 8, the dimensions of the collapsible bed structure of figure 1 in respectively the use and storage configurations are shown. This illustrates that the bed structure can be brought to a very compact storage configuration.

**[0038]** In figure 2, the bed structure is incorporated in a suitcase, more particularly a suitcase 7 which meets the international requirements for being qualified as "hand luggage". This is important since a traveller who is stranded on an airport usually does not immediately have access to the luggage which has been checked in. The rule is that the sum of length, width and depth should be 115 cm at most. An example of suitable dimensions is about 50 cm by about 39 cm by about 24 cm (cf. also figure 7). The bed structure is otherwise the same as that of figure 1.

**[0039]** Due to the limited volume of the bed structure

in its storage configuration, the largest part of the interior volume of the suitcase remains available for packing any articles of luggage. The suitcase 7 has a tiltable top side 8 at the compartment with the collapsible bed structure, which can be tilted during use of the bed structure to form a kind of pillow or head rest.

[0040] In figures 3a-e it is shown stepwise how the bed structure is brought from the use configuration (figure 3a) to the storage configuration or vice versa.

[0041] In the embodiments shown, the bed structure is made up of five or six bed sections: the telescopic bed sections 1-5 which can all be moved inside the casing 6 which can also have a flexible sheet as top side (which is the case in the embodiment shown in figures 7 and 8). The collapsible bed structure can also have any other number of telescopic bed sections.

[0042] In the alternative embodiment of figure 14, the two foremost (not counting the casing 6) telescopic bed sections 1 and 2 have support members 31 and 32 which lean forwards in the use position, whereas the three rear-most telescopic bed sections 3-5 have support members 33-35 which lean backwards in the use position. These different use positions can for example be achieved by different shapes of the respective connecting members 29, which connect the support members 31-35 to the frame parts of the bed sections 1-5. The difference between the use positions of the respective support members 31-35 can enhance the stability of the bed structure.

## Claims

1. A collapsible bed structure comprising a plurality of bed sections (1-5) which are telescopically movable into each other between a compact configuration for storage and an extended configuration for use, each bed section comprising a flat part (11) for supporting a user and oblong lateral frame parts (12, 13) between which the flat part is suspended, the oblong lateral frame parts extending substantially parallel to each other on opposite sides of the bed structure, the oblong lateral frame parts of successive bed sections slidably engaging each other, the collapsible bed structure further comprising a plurality of support members (14; 31-35) for supporting the bed structure in extended configuration on the ground, **characterised in that** each of the support members (14; 31-35) extends between the lateral frame parts (12, 13) of one of the bed sections and is pivotally connected to these lateral frame parts for being movable between a storage position substantially parallel to the lateral frame parts (12, 13) and a use position downwards from the lateral frame parts (12, 13), blocking means (28-29) being provided for blocking the support members in the use position and the successive support members (14; 31-35) having corresponding shapes which fit into each other in the compact configuration of the bed structure.

2. A collapsible bed structure according to claim 1, **characterised in that** the flat part is a flexible sheet (11) which is tensioned between the lateral frame parts (12, 13).
3. A collapsible bed structure according to claim 2, **characterised in that** each lateral frame part (12, 13) comprises an upper section (15) with means (18, 19) for tensioning the flexible sheet (11).
4. A collapsible bed structure according to claim 3, **characterised in that** the tensioning means comprise a cylindrical longitudinal groove (19) which is open at the top and a bar (18) mounted in said groove, the groove and the bar being dimensioned such with respect to each other that they exert a clamping force on an edge of the flexible sheet (11) which is held in between them.
5. A collapsible bed structure according to any one of the previous claims, **characterised in** the slidable engagement between two of the lateral frame parts (12, 13) is provided by a longitudinal rail (20) on the one frame part which is held in a longitudinal cavity (21) on the other frame part.
6. A collapsible bed structure according to claim 5, **characterised in that** end stops (26) are provided for preventing that the rail slides out of the cavity beyond a given portion (L1) of the length of the frame parts.
7. A collapsible bed structure according to claim 6, **characterised in that** the end stops (26) comprise slide strips (22-25) which are interposed between the rail (20) and the cavity (21) for enhancing slidability.
8. A collapsible bed structure according to any one of the claims 5-7, **characterised in that** the rails (20) and cavities (21) are provided on a middle section (16) of the frame parts (12, 13).
9. A collapsible bed structure according to any one of the previous claims, **characterised in that** each bed section comprises one support member (14; 31-35) and that the support members are successively mounted more towards the back of the bed sections.
10. A collapsible bed structure according to any one of the previous claims, **characterised in that** the support members (14; 31-35) comprise substantially U-shaped members in plate metal with a number of cut-outs for reducing their weight.
11. A collapsible bed structure according to any one of the previous claims, **characterised in that** the blocking means (28, 29) for blocking the support

members in the use position comprise stops on the lateral frame parts (12, 13) which block the support members in an angle slightly beyond the vertical direction in use.

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12. A collapsible bed structure according to any one of the previous claims, **characterised in that** the blocking means comprise clamping members (28, 29) on the lateral frame parts for clamping and holding the support members in the use position. 10
13. A collapsible bed structure according to any one of the previous claims, further comprising a casing (6) in which the bed structure is stored in the storage configuration. 15
14. A piece of luggage comprising a compartment in which a collapsible bed structure according to any one of the claims 1-13 is mounted. 20
15. A piece of luggage according to claim 14, **characterised in that** it is a piece of hand luggage (7). 25
16. A piece of luggage according to claim 15, **characterised in that** the dimensions are such that the sum of length, width and depth is 115 cm at most. 30
17. A piece of luggage according to any one of the claims 14-16, **characterised in that** the piece of luggage (7) comprises a tiltable top side (8) at the compartment with the collapsible bed structure. 35

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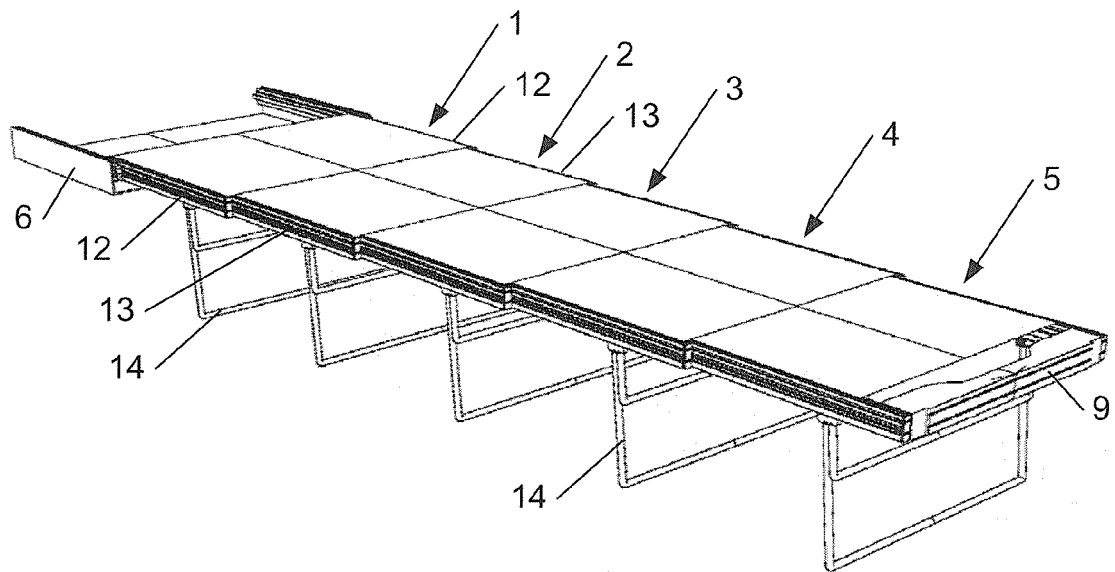
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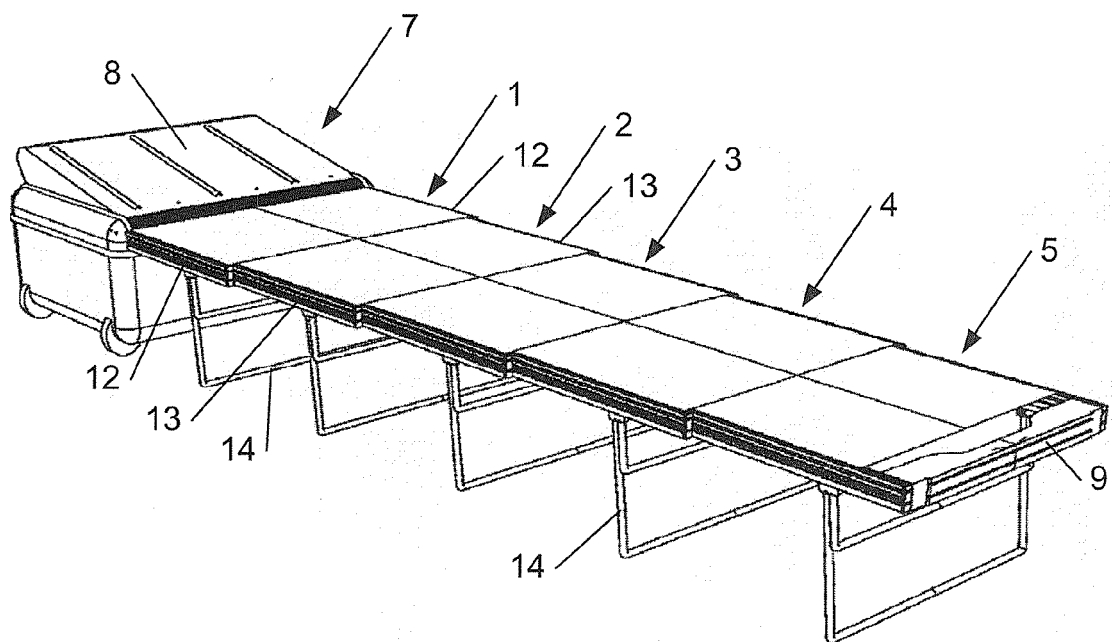
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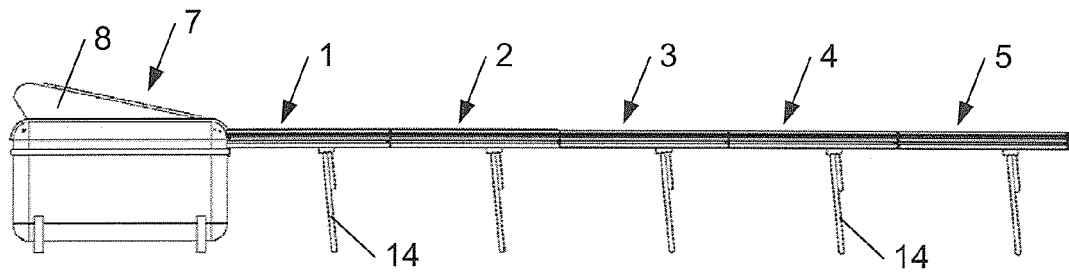


**Fig. 1**

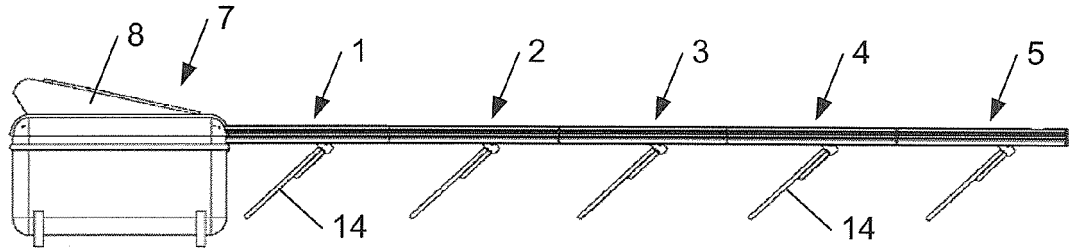


**Fig. 2**

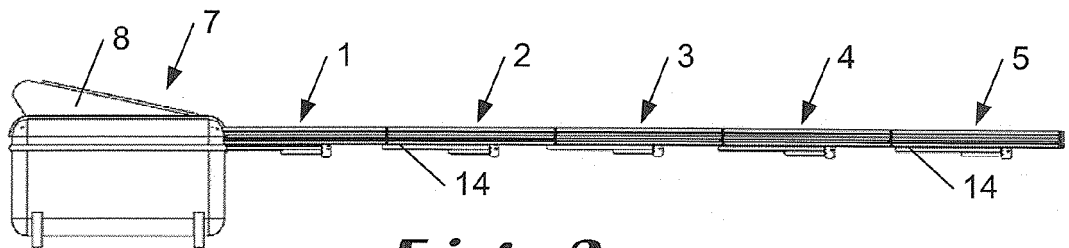




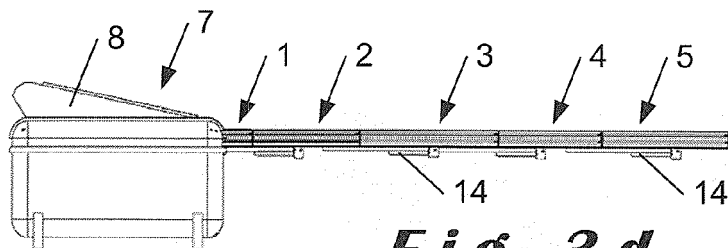
**Fig. 3 a**



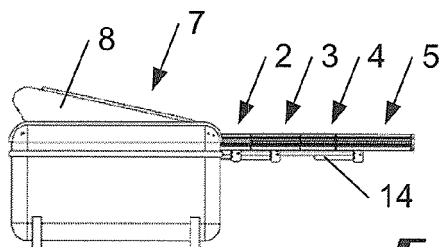
**Fig. 3 b**



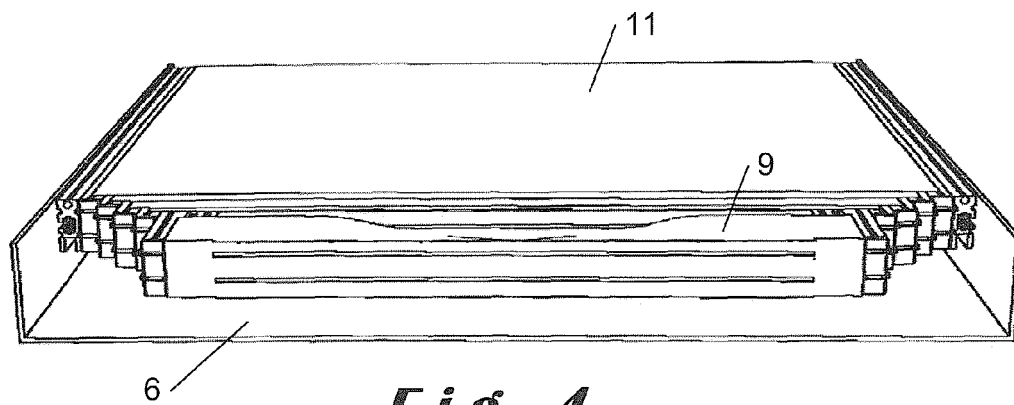
**Fig. 3 c**



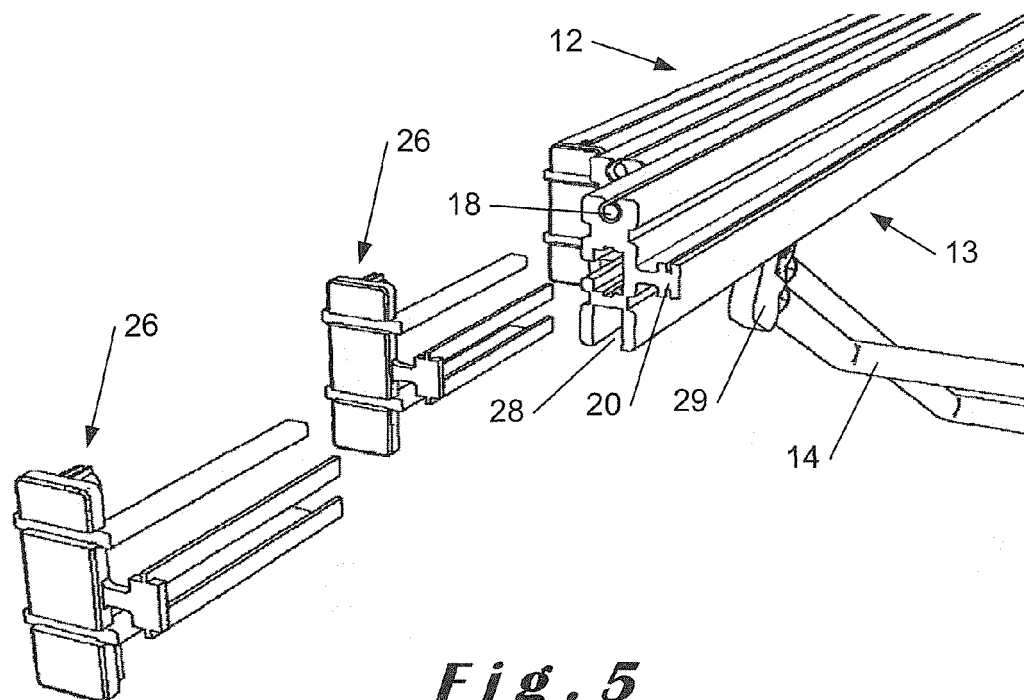
**Fig. 3 d**



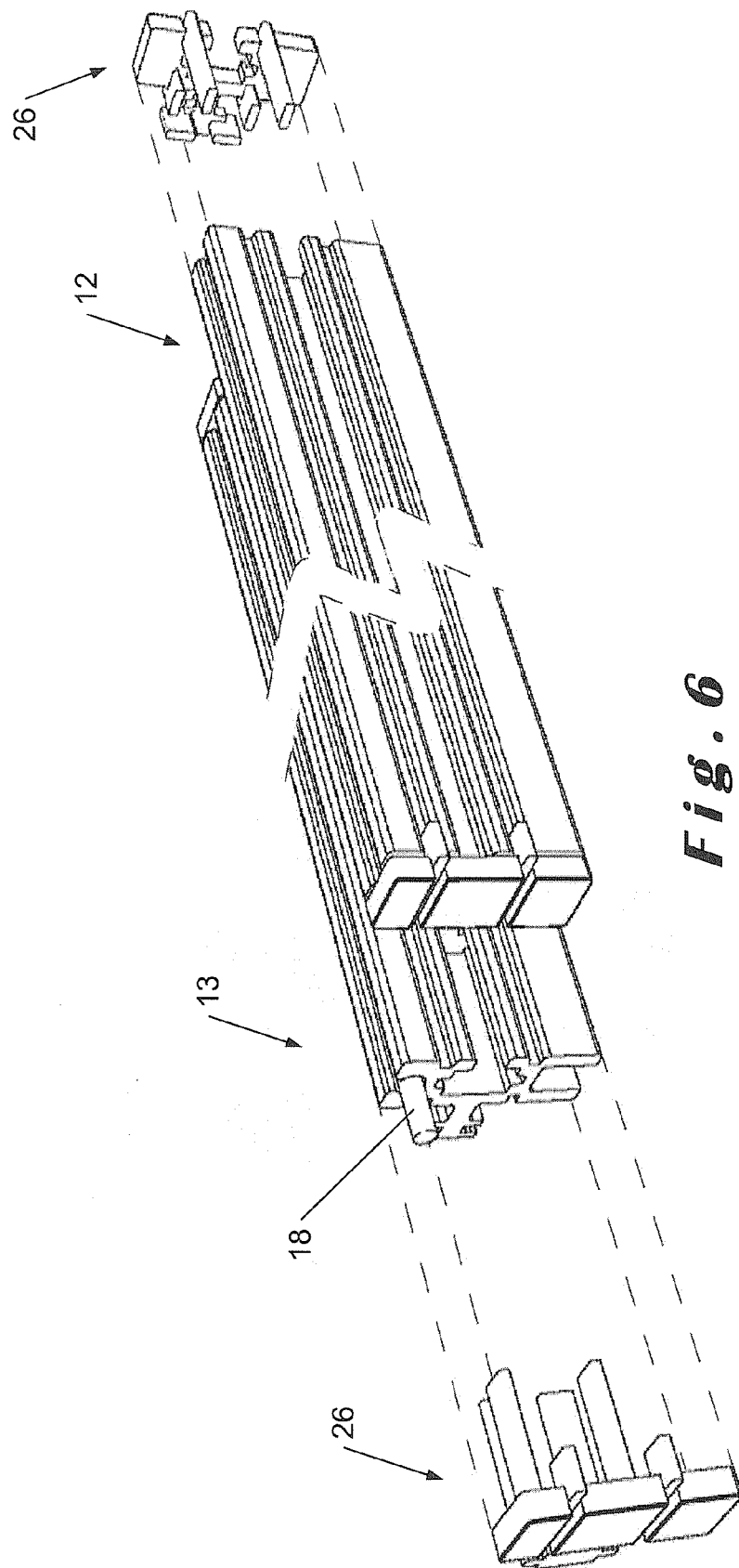
**Fig. 3 e**



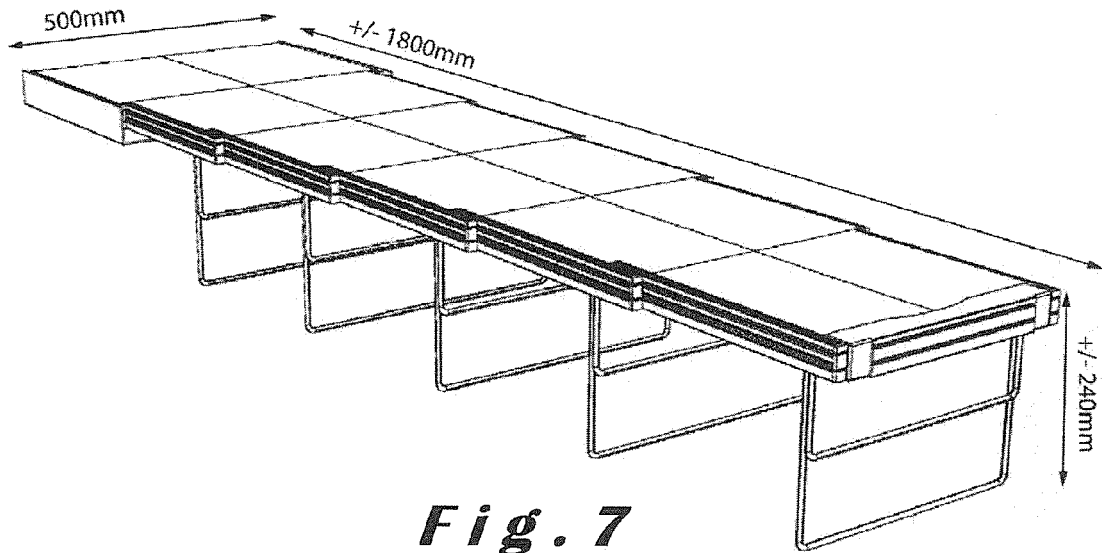
**Fig. 4**



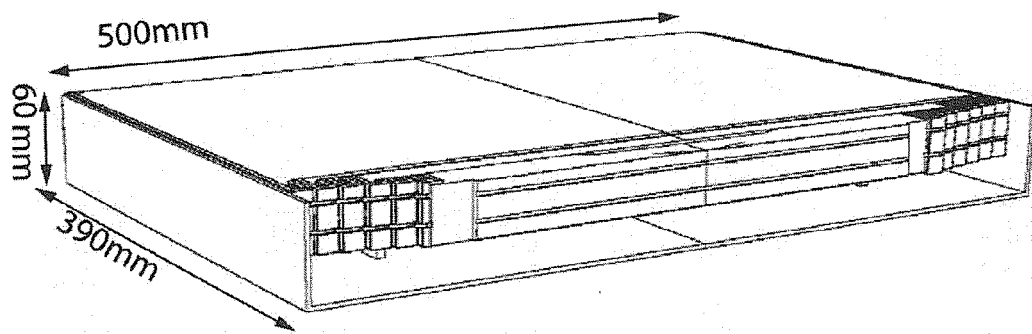
**Fig. 5**



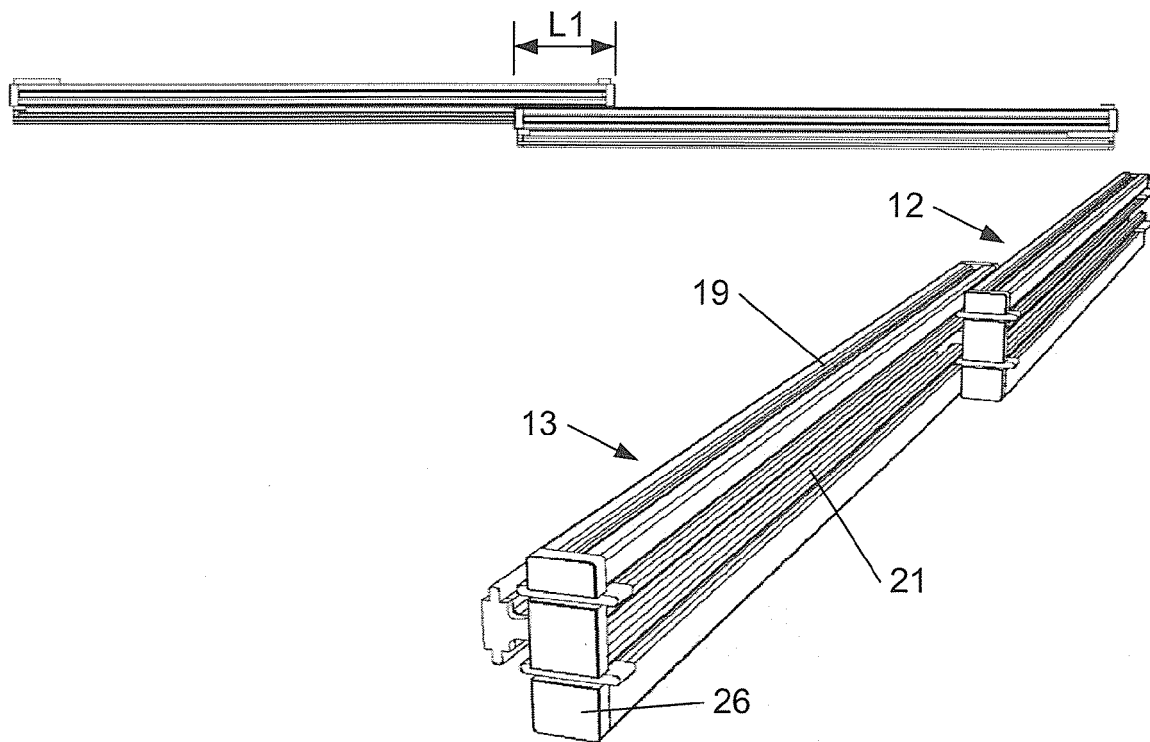
*Fig. 6*



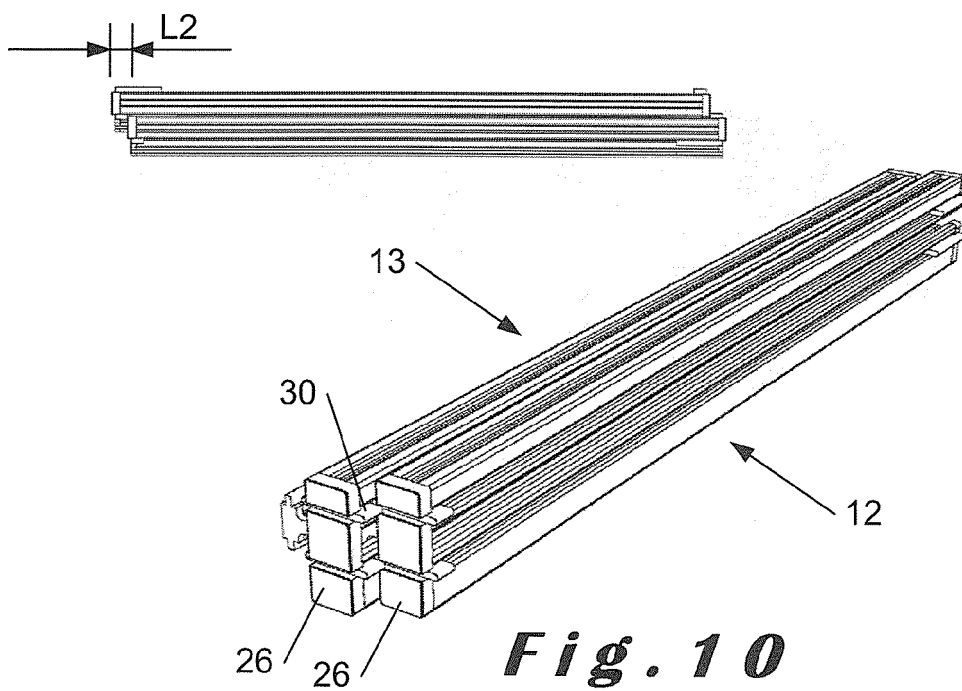
**Fig. 7**



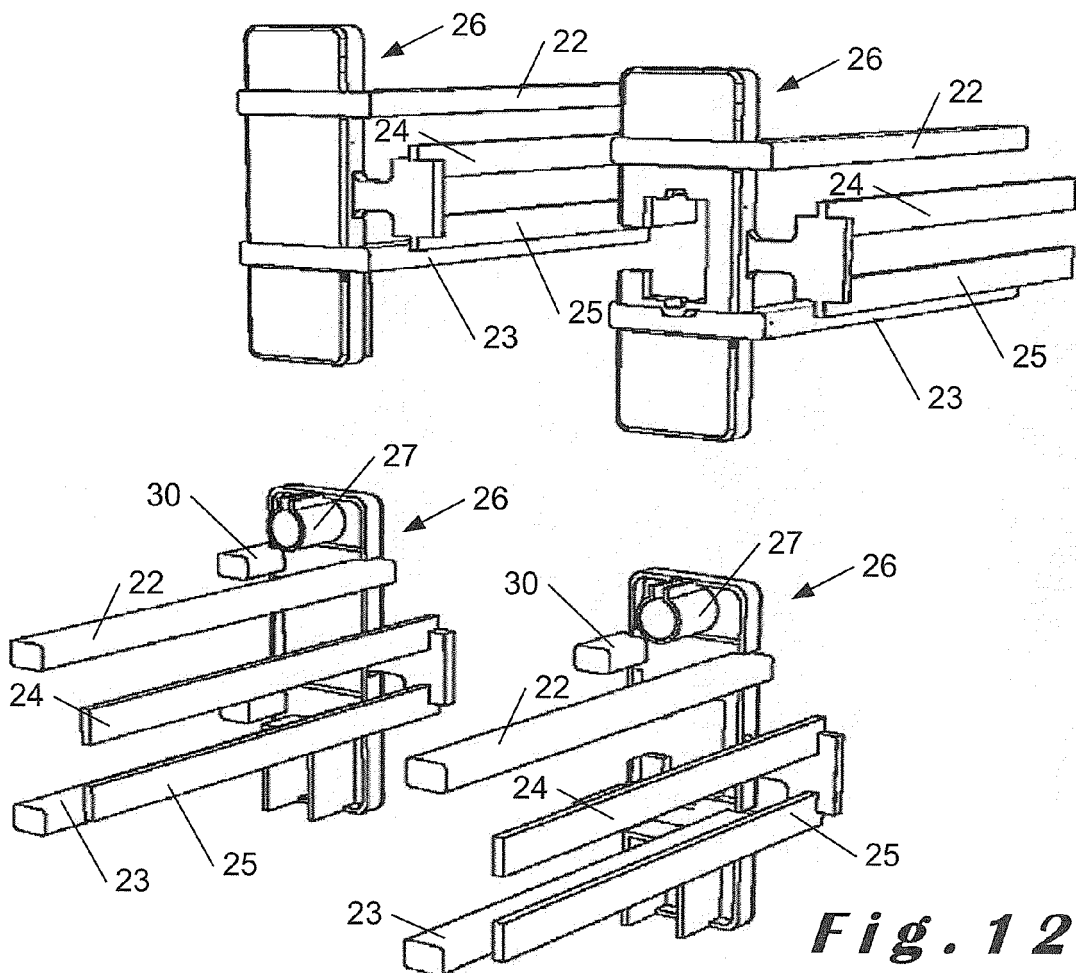
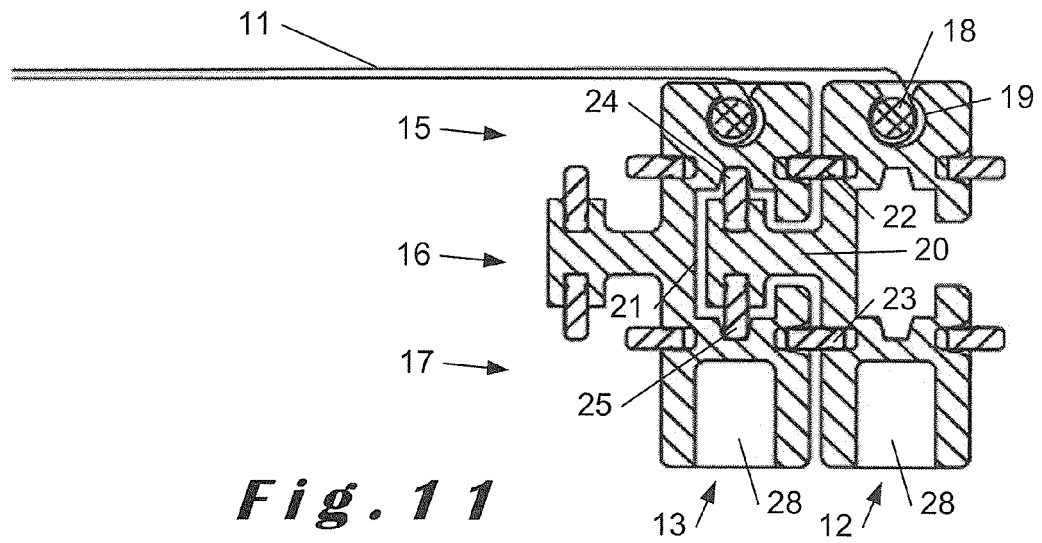
**Fig. 8**

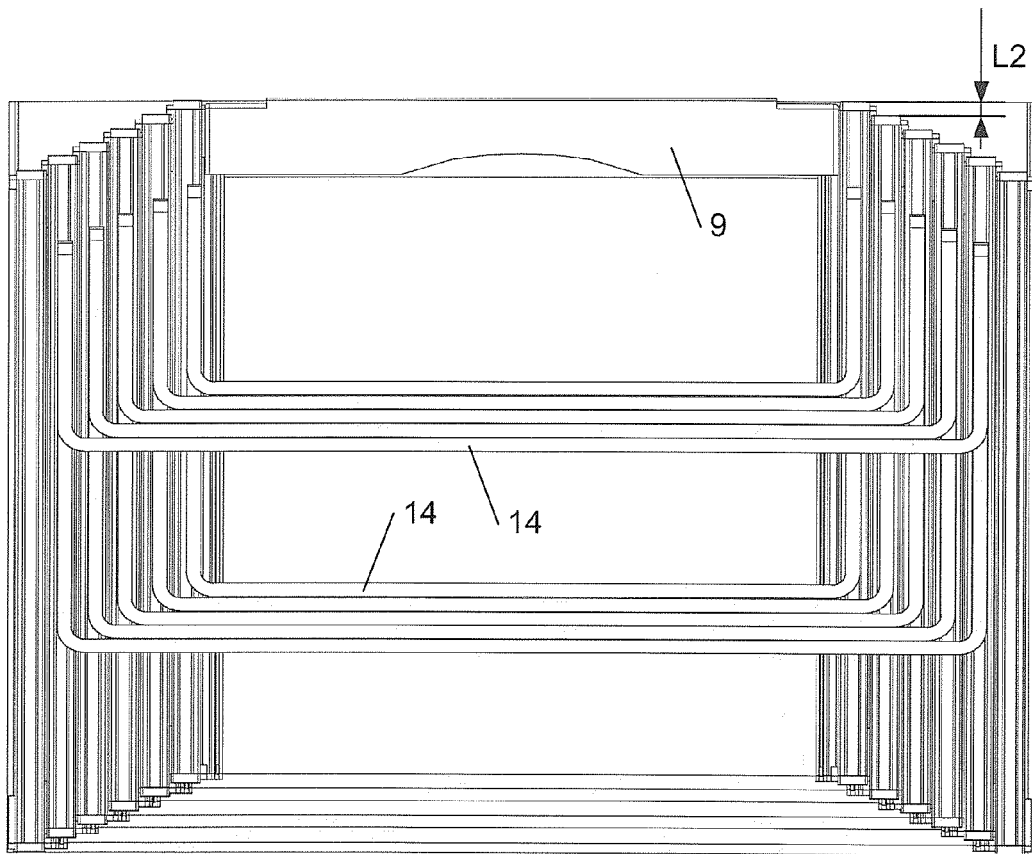


**Fig. 9**

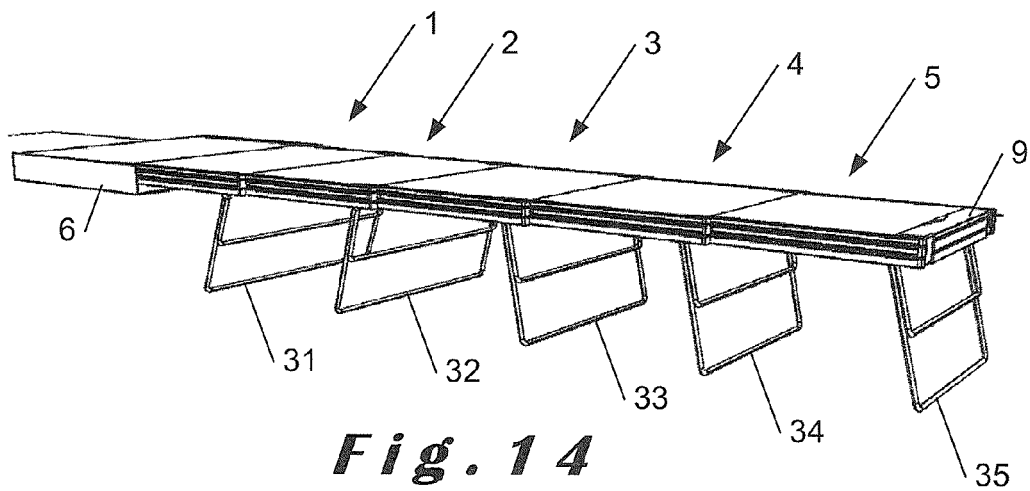


**Fig. 10**





**Fig. 13**



**Fig. 14**



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# EUROPEAN SEARCH REPORT

Application Number  
EP 07 10 1343

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<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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</p> <p>&amp; : member of the same patent family, corresponding document</p>			

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