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(54) **Arrangement for an adjustable bed**

Anordnung für ein verstellbares Bett

Agencement pour lit réglable

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## Description

### Technical field

**[0001]** The present invention generally relates to the field of adjustable beds and, in particular, to an adjustable bed and an arrangement for an adjustable bed having an articulated mattress support formed from a plurality of hingedly interconnected support sections.

### Background of the invention

**[0002]** Adjustable beds have been known for a long while, in particular, for use in hospitals and nursing homes. However, in recent times the demand for adjustable beds has increased also in the residential market. These types of beds often comprise a mattress supporting structure having pivotable sections which enable adjustment of the mattress. For example, by folding some of the pivotable sections relatively the others, parts of the mattress may be raised or lowered, thereby increasing the comfort for the user. Further, the beds often comprise a bed stand which supports the mattress supporting structure from beneath. Moreover, mechanics enabling adjustment of the pivotable sections of the bed are typically mounted to the bed stand.

**[0003]** A problem with adjustable beds is that there is a risk of squeezing or even crushing hands and fingers between movable parts of the bed when it is adjusted. For example, a hand or a finger may be squeezed between the mattress supporting structure and the bed stand or between the pivotable sections of the mattress supporting structure when the bed is adjusted from a raised to a lowered position. Moreover, there is a risk of injury if the user comes into contact with the mechanics under the bed.

**[0004]** US 7,484,254 discloses an adjustable bed arrangement which to some extent reduces the risk of squeezing hands and fingers. The bed arrangement comprises a support frame and an articulated mattress support. The support frame, to which the mechanics for adjusting the bed is mounted, supports the mattress support from beneath and has a smaller dimension than the mattress support. Due to the difference in size between the mattress support and the support frame, the risk of squeezing a hand or a finger during adjustment of the arrangement is reduced. Moreover, the arrangement comprises an outer frame which supports the support frame. The dimensions comprises an outer frame which supports the support frame. The dimensions of the outer frame relatively the mattress support are such that the distance in a lateral direction from the outside of the mattress support to the inside of the outer frame is larger than the thickness of a finger. In this way the risk of squeezing a finger when inclining the bed to a desired position is reduced.

**[0005]** WO 99/60893 discloses a bed frame having an articulated support deck having head, seat, and foot deck portions that are coupled together for articulation by pivots recessed from edges of the deck portions. The deck portions have radiused corners adjacent to the pivots. The radiused corners reduce the possibility of pinching during articulation of the articulated support deck.

**[0006]** However, although US 7,484,254 provides some measures for reducing the risk of squeezing hands and fingers in an adjustable bed, there is still room for improvement.

### Summary of the invention

**[0007]** In view of the above, an objective of the invention is to provide an arrangement for an adjustable bed having an improved squeeze protection.

**[0008]** According to a first aspect of the invention, there is provided an arrangement for an adjustable bed, as claimed in claim 1.

**[0009]** By "laterally outside" is meant outside in an essentially horizontal direction. Typically, "laterally outside" is to be interpreted in the situation when the bed is in its lowered position, that is, when all support sections are in the horizontal plane.

**[0010]** By "squeeze-preventing spaces" are meant spaces which are formed in order to prevent squeezing and extend over a two-dimensional area.

**[0011]** With the arrangement according to the invention an improved squeeze protection is obtained due to the squeeze-preventing spaces. More precisely, the arrangement reduces the risk of squeezing between the support sections during operation of the bed. In particular, the risk of squeezing at the downwardly exposed areas along the opposite longitudinal sides of the mattress support is reduced. By introduction of squeeze-preventing spaces between adjacent interconnected support sections at the longitudinal sides, preventing spaces. Thereby, objects, such as a finger or a hand, may be located between adjacent support sections without being squeezed, or at least with reduced squeezing, when the bed is adjusted.

**[0012]** A further advantage is that the mutual spacing between adjacent support sections is smaller at locations where they are hingedly interconnected as compared to the mutual spacing at the squeeze-preventing spaces. In this way, the squeeze-preventing spaces do not affect the choice of means for interconnecting the support sections. In particular, connecting or hinging means of a standard type may be used. Further, the squeeze-preventing spaces do not affect the strength of the mattress support at the hinging locations. In particular, the strength of the means used to hingedly interconnect the support sections is not affected by the squeeze-preventing spaces.

**[0013]** In connection to this, it is to be noted that the scope of the invention also covers the alternative when the larger mutual spacing extends over a part of the means used to hingedly interconnect the support sections.

**[0014]** According to a preferred feature one embodiment, the squeeze-preventing spaces extend along a distance laterally from said longitudinal sides of the mattress support. Thereby, the risk of squeezing is reduced along a distance laterally from the longitudinal sides. In this way, the squeeze protection is further improved.

**[0015]** According to the invention, the squeeze-preventing spaces present an essentially constant width in the direction of the longitudinal sides. In this way, an object having a dimension smaller than the essentially constant width is protected from squeezing along the squeeze-preventing spaces.

**[0016]** According to a preferred feature, all or at least some of the squeeze-preventing spaces extend from the longitudinal sides at least to the support stand.

**[0017]** Here the extension from the longitudinal sides at least to the support stand is to be interpreted when the adjustable bed is in its lowered position, that is, when the interconnected support sections are in a substantially horizontal plane.

**[0018]** An advantage with this preferred feature is that the squeeze protection is further improved. More specifically, as the support stand by itself provides a protection for squeezing between support sections laterally inside of the support stand, at least when the bed is in its lowered or close to its lowered position, the risk of squeezing is highest at the downwardly exposed areas laterally outside of the support stand. Thus, by letting the squeeze-preventing spaces extend all the way from the longitudinal sides at least to the support stand, the risk of squeezing may be significantly reduced, in particular at the downwardly exposed areas.

**[0019]** According to a preferred feature, the dimensions of the squeeze-preventing spaces are large enough to prevent squeezing of a finger. For example the width of the squeeze-preventing spaces may be at least 2.5 cm. Further, the length of the squeeze-preventing spaces, that is, the distance they extend from the longitudinal sides of the mattress support, may be larger than 10 cm. Preferably the length of the squeeze-preventing spaces is larger than 12.5 cm.

**[0020]** An advantage with this preferred feature is that the risk of squeezing a finger, which is the part of the body that most often is squeezed in an adjustable bed, may be reduced.

**[0021]** According to a preferred feature , the squeeze-preventing spaces are formed by at least one edge profile of at least one of the adjacent interconnected support sections. Thereby, an easy and flexible way of forming the squeeze-preventing spaces is provided. In particular, it is advantageous from a manufacturing point of view since the edge profile(s) may be formed in the support sections prior to assembling the mattress support.

**[0022]** According to a preferred feature of the invention the squeeze-preventing spaces are formed by at least one edge profile in each of the adjacent support sections. In this way, an easy, flexible and symmetric way of forming the squeeze-preventing spaces is provided.

**[0023]** According to a second aspect of the invention, there is provided an adjustable bed comprising an arrangement according to the first aspect and a mattress supported by the mattress support.

**[0024]** The features, advantages and preferred features of the first aspect generally apply to the second aspect.

**[0025]** Other objectives, features and advantages of the present invention will appear from the following detailed disclosure, from the attached claims as well as from the drawings.

**[0026]** Generally, all terms used in the claims are to be interpreted according to their ordinary meaning in the technical field, unless explicitly defined otherwise herein. All references to "a/an/the [element, device, component, means, step, etc]" are to be interpreted openly as referring to at least one instance of said element, device, component, means, step, etc., unless explicitly stated otherwise. The steps of any method disclosed herein do not have to be performed in the exact order disclosed, unless explicitly stated.

## Brief description of the drawings

**[0027]** The above, as well as additional objects, features and advantages of the present invention, will be better understood through the following illustrative and non-limiting detailed description of preferred embodiments of the present invention, with reference to the appended drawings, where the same reference numerals will be used for similar elements, wherein:

Fig. 1 is a bottom perspective view of an adjustable bed when in an upwardly adjusted position according to an embodiment of the invention;

Fig. 2 is a bottom perspective view of the adjustable bed when in a lowered position;

Fig. 3 is a bottom view of an articulated mattress support.

Fig. 4 is a bottom view of an articulated mattress support.

## Detailed description of embodiments

**[0028]** Fig. 1 illustrates an adjustable bed 1 comprising a mattress 2 and an arrangement for an adjustable bed 1 according to an embodiment of the invention. The arrangement for the adjustable bed 1 comprises an articulated mattress support 3 which supports the mattress 2, and a support stand 4 which supports the mattress support 3. In Fig. 1, the bed is shown in an upwardly adjusted position, meaning that parts of the mattress support 3 are upwardly adjusted to be in a non-horizontal plane.

**[0029]** The mattress support 3 comprises a plurality of support sections 3a-d which are hingedly interconnected. The number of support sections 3a-d is at least two. For example, and as illustrated in the figure, the mattress

support 3 may comprise four support sections 3a-d; a head-end section 3a, two mid-sections 3b and 3c, and a foot-end section 3d. Adjacent interconnected support sections, such as support sections 3a and 3b, 3b and 3c, or 3c and 3d, may pivot relatively each other during operation of the bed 1 in such a way that the bed 1 may be adjusted to a desired position. In particular, some of the support sections 3a-d may be movable with respect to the support stand 4 and some of the support sections 3a-d may be stationary with respect to the support stand 4. Typically, at least the head-end section 3a and the foot-end section 3d are movable with respect to the support stand 4, and at least one of the mid-sections 3b and 3c, such as support section 3b, is stationary with respect to the support stand 4. In the illustrated example, only support section 3b is stationary. Further, the mattress support 3 is attached to the support stand 4 at the stationary support section 3b.

**[0030]** The support sections 3a-d may be made from a stiff material. For instance, they may be made of wood.

**[0031]** Further, the support sections 3a-d has a thickness. For example, the support sections 3a-d may have a thickness of about 15 mm. Due to this fact, the mutual spacing between adjacent interconnected support sections may vary as the support sections 3a-d are pivoted relatively each other. For instance, the mutual spacing between adjacent interconnected support sections may decrease as these are pivoted relatively each other, starting from a non-pivoted position.

**[0032]** In the illustrated example, the dimensions of the mattress support 3 essentially match the dimensions of the mattress 2. However, the dimensions of the mattress 2 may be larger than the dimensions of the mattress support 3, such that the mattress 2 extends over the mattress support 3 in a lateral direction. Further, the mattress support 3 and the mattress 2 may be formed as two separate units which are attached together. More specifically, the mattress 2 may be placed on the mattress support 3 and attached to the same. Alternatively, the mattress support 3 may be integrated with the mattress 2.

**[0033]** Further, the mattress 2 may be formed in two parts; a bottom part which may be attached to or integrated with the mattress support 3, and an upper detachable part (not shown). In this way a user may easily change the upper part of the mattress 2 by detaching it from the bottom part.

**[0034]** The support sections 3a-d are hingedly interconnected at a number of locations 6. In the illustrated example, each pair of adjacent support sections are hingedly interconnected at two locations. The number of such locations may vary, for example depending on the dimensions of the support sections 3a-d. However, each pair of adjacent support sections 3a-d are hingedly interconnected at at least one location. For example the support sections 3a-d may be interconnected by hinges known in the art.

**[0035]** Each pair of adjacent support sections 3a-d presents a mutual spacing, such as the mutual spacing 7 between adjacent support sections 3a and 3b. The mutual spacing 7 extends from one longitudinal side 8a of the mattress support 3 to the opposite longitudinal side 8b of the mattress support 3. For beds known in the art, there is a risk of squeezing of objects, such as fingers or hands, between adjacent support sections 3a-d along the mutual spacing 7 as the bed 1 is adjusted. In particular, the risk of squeezing is high at the longitudinal sides 8a and 8b of the mattress support 3. This is due to the reason that a user of the bed 1 is more likely to reach the support sections 3a-d, and thereby the mutual spacings, at the longitudinal sides 8a and 8b than closer to the center of the bed in a latitudinal direction. In order to reduce the prevalent risk of squeezing, squeeze-preventing spaces 16 are formed between adjacent interconnected support sections 3a-d. The squeeze-preventing spaces 16 will be described in more detail below with reference to Figs 2 and 3.

**[0036]** The support stand 4, which supports the articulated mattress support 3, may comprise stationary as well as movable parts. Specifically, the stationary parts of the support stand 4 may comprise a frame 9. The frame 9 may have an essentially rectangular shape. Further, the stationary parts of the support stand 4 may comprise a plurality of legs 10 which support the frame 9. The legs 10 may for instance may be attached to or integrated with the frame 9. In the illustrated example, four legs 10 which are attached at the corners of the essentially rectangular frame 9 are shown. As an alternative to legs, the support stand 4 may comprise runners or a supporting frame serving the purpose of supporting the frame 9.

**[0037]** Further, the movable parts of the support stand 4 may comprise movable elements 11 for supporting the support sections 3a-d during adjustment of the bed. The movable elements 11 may comprise one or more arms 12 extending from the support stand 4. For example, the arms 12 may extend from one or more beams 13 which are attached to opposite sides of the frame 9. One end of the one or more arms 12 may further be attached to a movable support section, such as support section 3a, 3c and 3d. In the illustrated example, the support arm 12b is attached to the movable foot-end section 3d. Alternatively one end of the one or more arms 12 may abut a movable support section 3a, 3c and 3d without being attached to it. Here, the arm 12a is abutting the movable head-end section 3a. More precisely, at the ends of the arms 12 there may be supporting wheels 14 which may roll or slide against the support section 3a during adjustment of the bed 1.

**[0038]** The support stand 4 may further comprise electrical drive means (not shown) for operating the movable elements 11 to adjust the bed 1. The electrical drive means may typically be supported by the frame 9 of the support stand 4 and be operatively connected to the beams 13.

**[0039]** Fig. 2 is a bottom perspective view of the adjustable bed 1 of Fig.1 when in a lowered position, meaning that the mattress support 3 is in an essentially hori-

zontal position.

**[0040]** As described with reference to Fig. 1, squeeze-preventing spaces 16 are formed between adjacent interconnected support sections 3a-d in order to reduce the risk of squeezing during adjustment of the bed 1. In the illustrated example, squeeze-preventing spaces 16a and 16b are for instance formed between adjacent support sections 3a and 3b. As the squeeze-preventing spaces partly increase the mutual spacing between adjacent interconnected support sections 3a-d, the risk of squeezing is reduced. The squeeze-preventing spaces are at least formed at the longitudinal sides 8a-b of the mattress support 3. In this way, the risk of squeezing is reduced at the longitudinal sides 8a-b where the risk of squeezing is particularly high. However, in general, the squeeze-preventing spaces may extend from one longitudinal side 8a to the other longitudinal side 8b, with exception for the locations where the support sections 3a-d are interconnected. For instance, the squeeze-preventing spaces may also extend between the hinging locations, such as between hinging locations 6a and 6b.

**[0041]** Further, due to the squeeze-preventing spaces 16, the mutual spacing 7 between adjacent support sections is larger at the squeeze-preventing spaces and smaller at the locations 6 where the support sections 3a-d are hingedly interconnected. For example, the mutual spacing 7 between adjacent support sections 3a and 3b is larger at the squeeze-protecting spaces 16a and 16b than at the hinging locations 6a and 6b. This does not exclude that the larger mutual spacing may extend under parts of the connecting means used to interconnect the support sections 3a-d. Further, the smaller mutual spacing at the locations 6 where the support sections 3a-d are hingedly interconnected may vary between different locations 6. For example, the mutual spacing 7 at hinging location 6a may be smaller than the mutual spacing 7 at hinging location 6b.

**[0042]** With this arrangement, the squeeze-preventing spaces 16 do not affect the mutual spacing 7 at the locations 6 where the support sections 3a-d are hingedly interconnected. This implies for instance that the same connecting means may be used to interconnect the support sections 3a-d regardless of whether there are squeeze-preventing spaces or not. In other words, the choice of connecting means is not affected by the existence of the squeeze-preventing spaces and, in particular, standard connecting means known in the art may be chosen. Moreover, as the mutual spacing 7 is smaller at the hinging locations 6, the strength of the connecting means is not affected by the squeeze-preventing spaces and hence an improved squeeze-protection may be obtained at the same time as the strength of the connecting means is unaffected.

**[0043]** As further illustrated in Fig. 2, the mattress support 3 extends laterally outside of the support stand 4, here meaning that the mattress support 3 extends laterally outside of the frame 9 when the bed 1 is in a lowered position. The part of the mattress support 3 which extends laterally outside of the support stand 4 presents downwardly exposed areas 15 along opposite longitudinal sides 8a and 8b of the mattress support 3. As the support stand 4 to some extent protects hands from reaching and squeezing between support sections 3a-d laterally inside of the support stand 4, the risk of squeezing in the absence of squeeze-preventing spaces 16 is considerably higher at the downwardly exposed areas 15 outside of the support stand 4 than inside of the support stand 4.

**[0044]** The squeeze-preventing spaces 16 extend along a distance laterally from the longitudinal sides 8a and 8b of the mattress support 3. In the embodiment shown in Fig. 2 the squeeze-preventing spaces 16 extend from one of the longitudinal sides 8a and 8b at least to the support stand 4. In other words, the distance along which the squeeze-preventing spaces 16 extend is at least as long as the lateral distance from the longitudinal sides 8a-b to the support stand when the bed is in a lowered position. In this way, the mutual spacing between adjacent interconnected support sections 3a-d is increased at the downwardly exposed areas 15, and hence the risk of squeezing at the downwardly exposed areas 15 is reduced.

**[0045]** Fig. 3 illustrates an articulated mattress support 3 which comprises a plurality of hingedly interconnected support sections 3a-d, which are interconnected at locations 6. Further, the mattress support 3 comprises squeeze-preventing spaces 16a-f which are formed between adjacent interconnected support sections 3a-d at longitudinal sides 8a and 8b of the mattress support 3. The squeeze-preventing spaces 16a-f may be empty or covered by, or filled, with some, preferably soft, material.

**[0046]** The squeeze-preventing spaces 16a-f extend laterally from the longitudinal sides 8a and 8b along a distance. The distance may vary between different squeeze-preventing spaces 16a-f. For example, the distance Df of the squeeze-preventing space 16f between adjacent support sections 3c and 3d may be larger than the distance Dd of the squeeze-preventing space 16d between support sections 3b and 3c. Preferably, the distance is larger than 10 cm, and more preferably larger than 12.5 cm.

**[0047]** Further, the squeeze-preventing spaces present a width in the direction of the longitudinal sides 8a and 8b. The width may be essentially constant, meaning that the width is essentially the same along the distance from the longitudinal sides 8a and 8b that the squeeze-preventing spaces 16a-f laterally extend. Alternatively, the width may be variable along the squeeze-preventing space. For example, the width may be larger at the longitudinal sides 8a and 8b than at a distance from the longitudinal sides 8a and 8b. Moreover, the width may differ between different squeeze-preventing spaces. For example, the width Wd of the squeeze-preventing space 16d may be larger than the width Wf of the squeeze-preventing space 16f.

**[0048]** As described above, the distances and widths of the squeeze-preventing spaces 16a-f may vary. Pref-

erably, however, the dimensions of the squeeze-preventing spaces are large enough to prevent squeezing of a finger. For instance, the width of the squeeze-preventing spaces may be at least 2.5 cm, which is approximately the size of a finger.

**[0049]** In the illustrated example there are two squeeze-preventing spaces 16a-f between each pair of adjacent support sections 3a-d, one at each longitudinal side 8a and 8b. For example, squeeze-preventing spaces 16a and 16b are formed between support sections 3a and 3b. However, this does not exclude that the mattress support 3 comprises more or fewer than two squeeze-preventing spaces between each pair of adjacent support sections 3a-d. For example, there may be no squeeze-preventing spaces 16a-f between some of the support sections 3a-d or there may only be squeeze-preventing space 16a-f between some of the adjacent support sections 3a-d. Further, there may only be squeeze-preventing spaces 16a-f at one of the longitudinal sides 8a or 8b. Further, in addition to squeeze-preventing spaces 16a-f at the longitudinal sides 8a and 8b, there may be squeeze-preventing spaces at other places between the adjacent support sections 3a-d. For instance, there may be additional squeeze-preventing spaces (not shown) laterally inside of the locations 6 where the support sections 3a-d are hingedly interconnected.

**[0050]** The squeeze-preventing spaces 16a-f may be formed by at least one edge profile 17 of at least one of the adjacent interconnected support sections 3a-d. By edge profile is meant a profile which is cut out at an edge of a support section. Here, an edge profile typically extends essentially laterally from one of the longitudinal sides 8a-b of the mattress support 3. In Fig. 3, each squeeze-preventing space 16a-f is formed by one edge profile 17 in each of the adjacent support sections 3a-d. In the illustrated example, the squeeze-preventing space 16b is for example formed by one edge profile 17 in each of the adjacent support sections 3a and 3b.

**[0051]** Preferably, the profiles 17 have rounded smooth edges and corners as sharp edges and corners may cause injury. In particular, it is preferred if the profiles 17 have rounded corners at the longitudinal sides 8a-b as illustrated in Fig. 3.

**[0052]** Fig. 4 shows an alternative embodiment of a mattress support 3 in which each squeeze-preventing space 16a-f is formed by one edge profile 17 in one of the adjacent support sections 3a-d between which the squeeze-preventing space is formed. For instance, the squeeze-preventing space 16b is formed by an edge profile 17 in support section 3b, whereas no edge profile is cut out in the adjacent support section 3a. Alternatively, the squeeze-preventing space 16b could be formed by an edge profile 17 in support section 3a and no edge profile 17 in support section 3b. As shown in Fig. 4 no edge profiles at all are cut out in some of the support sections. More precisely, no edge profiles are cut out in support sections 3a and 3d. This may be advantageous from a manufacturing point of view as support sections 3a and 3d may be left out from the processing step when edge profiles are cut out.

**[0053]** The embodiments of Figs 3 and 4 may be combined in that some squeeze-preventing spaces 16a-f may be formed by an edge profile 17 in only one support section 3a-d, and some squeeze-preventing spaces 16a-f may be formed by edge profiles 17 in both adjacent interconnected support sections 3a-d. For example, squeeze-preventing spaces 16a and 16b may be formed by only one edge profile 17 as shown in Fig. 4, and the remaining squeeze-preventing spaces 16c-f may be formed by edge profiles 17 in both adjacent support sections 3a-d as shown in Fig. 3.

## Claims

1. An arrangement for an adjustable bed (1), comprising:

   a plurality of hingedly interconnected support sections (3a-d) forming an articulated mattress support (3) for supporting a mattress (2), and
   a support stand (4) for supporting the articulated mattress support (3),
   wherein said mattress support (3), laterally outside the support stand (4), presents downwardly exposed areas (15) along opposite longitudinal sides (8a, 8b) of the mattress support (3), and
   wherein squeeze-preventing spaces (16) are formed between adjacent interconnected support sections (3a-d) at said longitudinal sides (8a,8b), wherein said support sections (3a-d) present a larger mutual spacing at said squeeze-preventing spaces (16) and a smaller mutual spacing at locations (6) where they are hingedly interconnected
   **characterized in that** said squeeze-preventing spaces (16) present an essentially constant width in the direction of the longitudinal sides (8a, 8b).

2. An arrangement according to claim 1, wherein said squeeze-preventing spaces (16) extend along a distance laterally from said longitudinal sides (8a, 8b) of said mattress support (3).

3. An arrangement according to any of the preceding claims, wherein all or at least some of said squeeze-preventing spaces (16) extend from said longitudinal sides (8a, 8b) at least to the support stand (4).

4. An arrangement according to any of the preceding claims, wherein the dimensions of said squeeze-preventing spaces (16) are large enough to prevent squeezing of a finger.

5. An arrangement according to any of the preceding

claims, wherein said squeeze-preventing spaces (16) are formed by at least one edge profile (17) of at least one of said adjacent interconnected support sections (3a-d).

**6.** An arrangement according to any of the preceding claims, wherein said squeeze-preventing spaces (16) are formed by at least one edge profile (17) in each of said adjacent support sections (3a-d).

**7.** An adjustable bed (1) comprising an arrangement according to any of the preceding claims and a mattress (2) supported by said mattress support (3).

**Patentansprüche**

**1.** Anordnung für ein verstellbares Bett (1), umfassend:

mehrere gelenkig miteinander verbundene Auflageabschnitte (3a-d), welche eine gelenkige Matratzenauflage (3) zum Tragen einer Matratze (2) bilden, und
ein Traggestell (4) zum Tragen der gelenkigen Matratzenauflage (3),
wobei die Matratzenauflage (3) seitlich außerhalb des Traggestells (4) nach unten hin freiliegende Bereiche (15) entlang entgegengesetzten Längsseiten (8a, 8b) der Matratzenauflage (3) aufweist, und
wobei an den Längsseiten (8a, 8b) Einquetschverhinderungsräume (16) zwischen benachbarten miteinander verbundenen Auflageabschnitten (3a-d) ausgebildet sind, wobei die Auflageabschnitte (3a-d) an den Einquetschverhinderungsräumen (16) eine größere Beabstandung voneinander und an Orten (6), wo sie gelenkig miteinander verbunden sind, eine kleinere Beabstandung voneinander aufweisen,
**dadurch gekennzeichnet, dass** die Einquetschverhinderungsräume (16) in Richtung der Längsseiten (8a, 8b) eine im Wesentlichen konstante Breite aufweisen.

**2.** Anordnung nach Anspruch 1, wobei sich die Einquetschverhinderungsräume (16) von den Längsseiten (8a, 8b) der Matratzenauflage (3) eine Strecke entlang seitwärts erstrecken.

**3.** Anordnung nach einem beliebigen der vorhergehenden Ansprüche, wobei sich alle oder mindestens einige der Einquetschverhinderungsräume (16) von den Längsseiten (8a, 8b) bis mindestens zu dem Traggestell (4) erstrecken.

**4.** Anordnung nach einem beliebigen der vorhergehenden Ansprüche, wobei die Abmessungen der Einquetschverhinderungsräume (16) groß genug sind, um das Einquetschen eines Fingers zu verhindern.

**5.** Anordnung nach einem beliebigen der vorhergehenden Ansprüche, wobei die Einquetschverhinderungsräume (16) durch mindestens ein Kantenprofil (17) von mindestens einem der benachbarten miteinander verbundenen Auflageabschnitte (3a-d) gebildet werden.

**6.** Anordnung nach einem beliebigen der vorhergehenden Ansprüche, wobei die Einquetschverhinderungsräume (16) durch mindestens ein Kantenprofil (17) in jedem der benachbarten Auflageabschnitte (3a-d) gebildet werden.

**7.** Verstellbares Bett (1), umfassend eine Anordnung nach einem beliebigen der vorhergehenden Ansprüche und eine Matratze (2), welche durch die Matratzenauflage (3) getragen wird.

**Revendications**

**1.** Arrangement pour un lit réglable (1), comprenant :

une pluralité de sections de support (3a-d) interconnectées de façon articulée, formant un support de matelas articulé (3) pour supporter un matelas (2), et
un montant de support (4) pour supporter le support de matelas articulé (3),
dans lequel ledit support de matelas (3), situé latéralement à l'extérieur du montant de support (4), présente des zones exposées vers le bas (15), le long de côtés longitudinaux opposés (8a, 8b) du support de matelas (3), et
dans lequel des espaces anti-coincement (16) sont formés entre des sections de support interconnectées adjacentes (3a-d) sur lesdits côtés longitudinaux (8a, 8b), où lesdites sections de support (3a-d) présentent un espacement réciproque plus grand dans lesdits espaces anti-coincement (16) et un espacement réciproque plus petit à des endroits (6) où elles sont interconnectées de façon articulée,
**caractérisé en ce que** lesdits espaces anti-coincement (16) présentent une largeur essentiellement constante dans la direction des côtés longitudinaux (8a, 8b).

**2.** Arrangement selon la revendication 1, dans lequel lesdits espaces anti-coincement (16) s'étendent latéralement le long d'une distance à partir desdits côtés longitudinaux (8a, 8b) dudit support de matelas (3).

**3.** Arrangement selon l'une quelconque des revendications précédentes, dans lequel tous les espaces

anti-coincement (16) ou au moins certains d'entre eux s'étendent à partir desdits côtés longitudinaux (8a, 8b), au moins jusqu'au montant de support (4).

**4.** Arrangement selon l'une quelconque des revendications précédentes, dans lequel les dimensions desdits espaces anti-coincement (16) sont assez grandes pour empêcher le coincement d'un doigt.

**5.** Arrangement selon l'une quelconque des revendications précédentes, dans lequel lesdits espaces anti-coincement (16) sont formés par au moins un profil de bord (17) d'au moins l'une desdites sections de support adjacentes interconnectées (3a-d).

**6.** Arrangement selon l'une quelconque des revendications précédentes, dans lequel lesdits espaces anti-coincement (16) sont formés par au moins un profil de bord (17) dans chacune desdites sections de support adjacentes (3a-d).

**7.** Lit réglable (1) comprenant un arrangement selon l'une quelconque des revendications précédentes, et un matelas (2) supporté par ledit support de matelas (3).

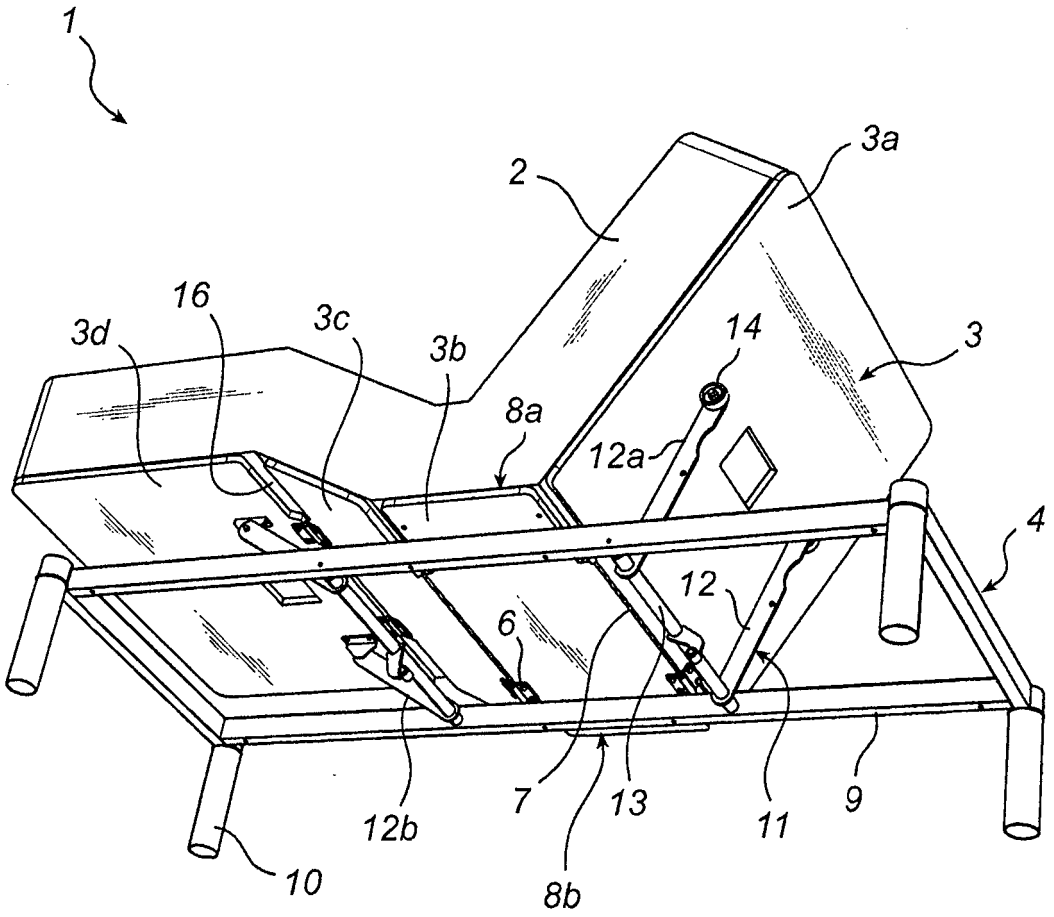


Fig. 1

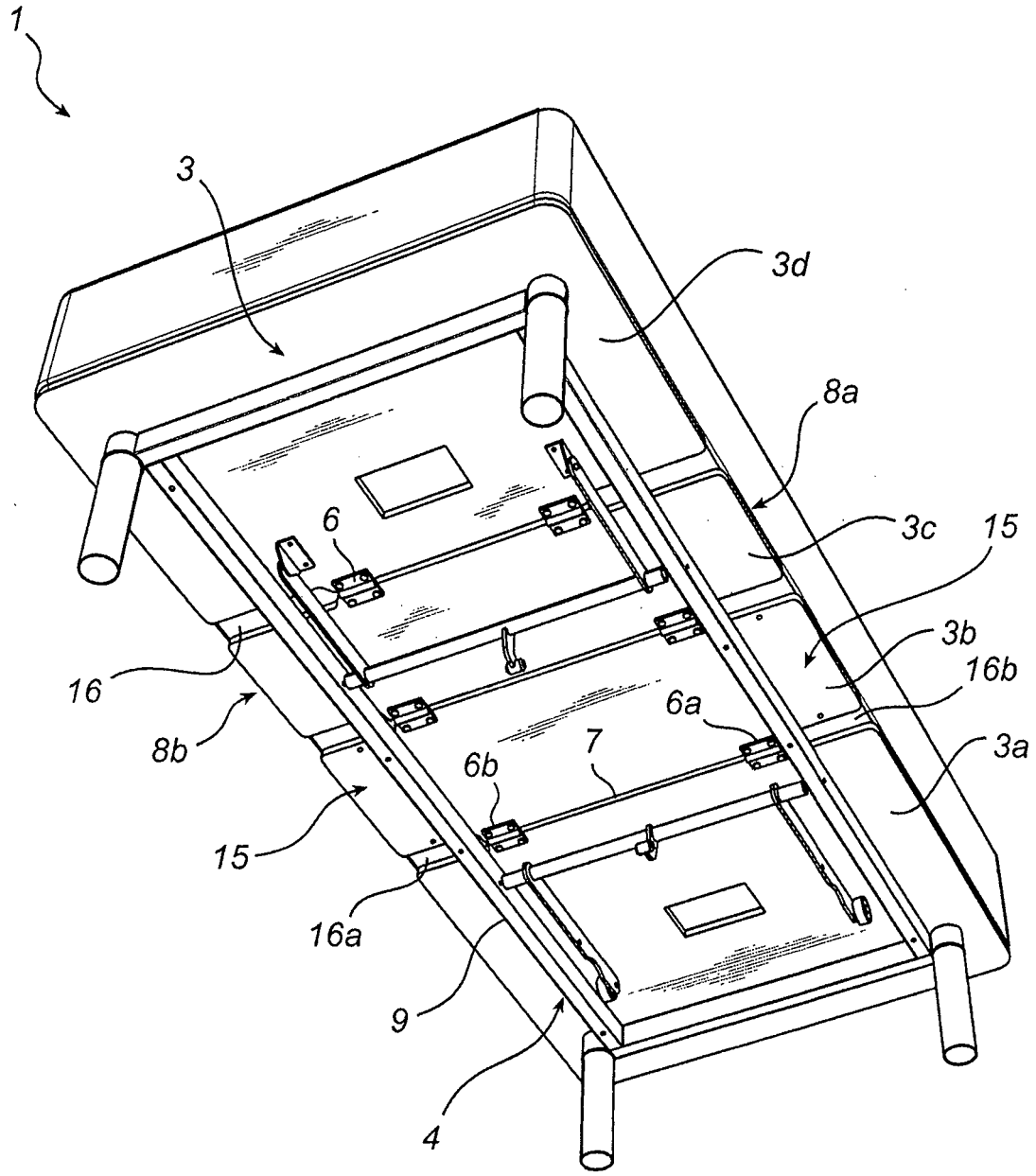


Fig. 2

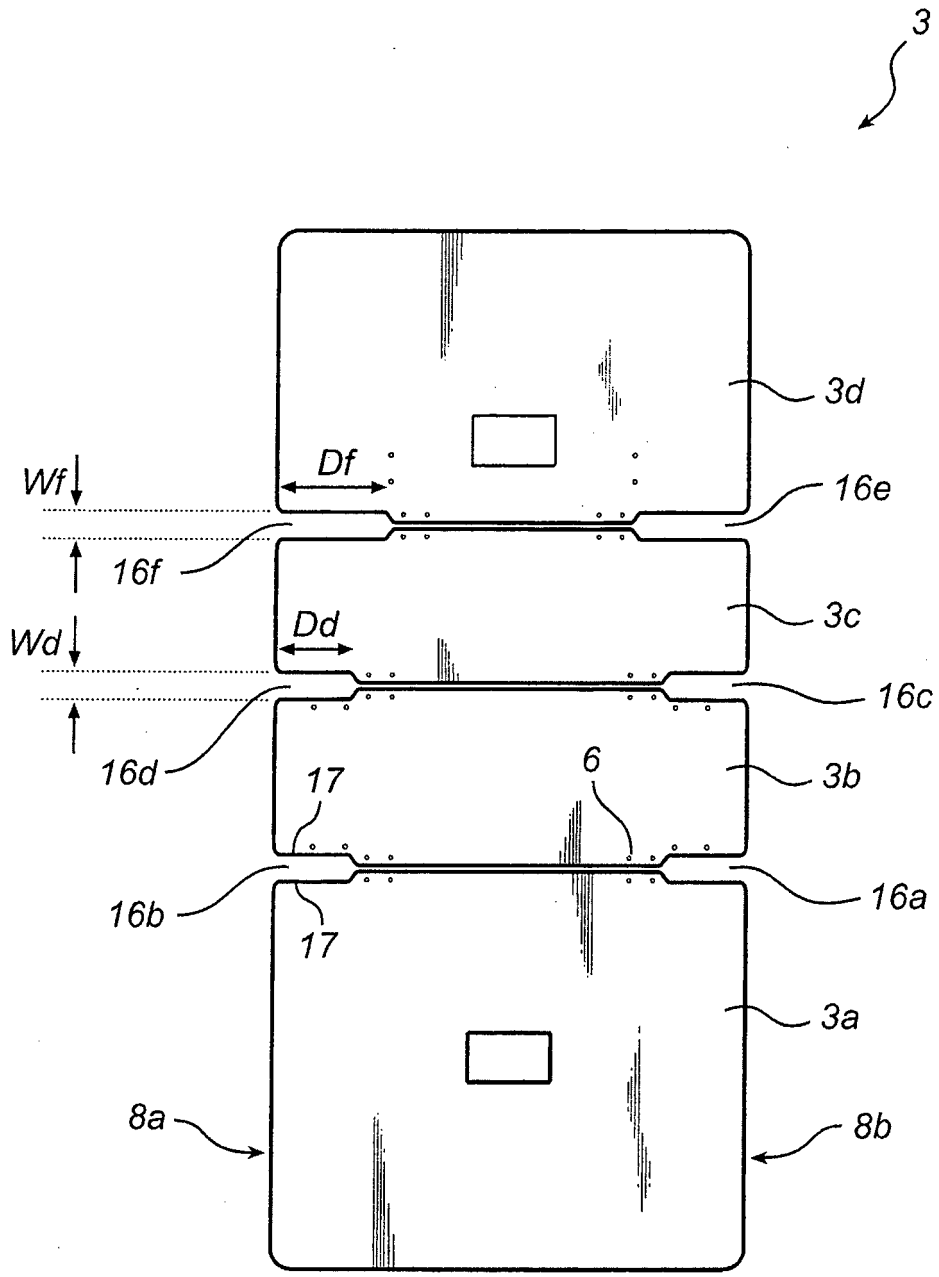


Fig. 3

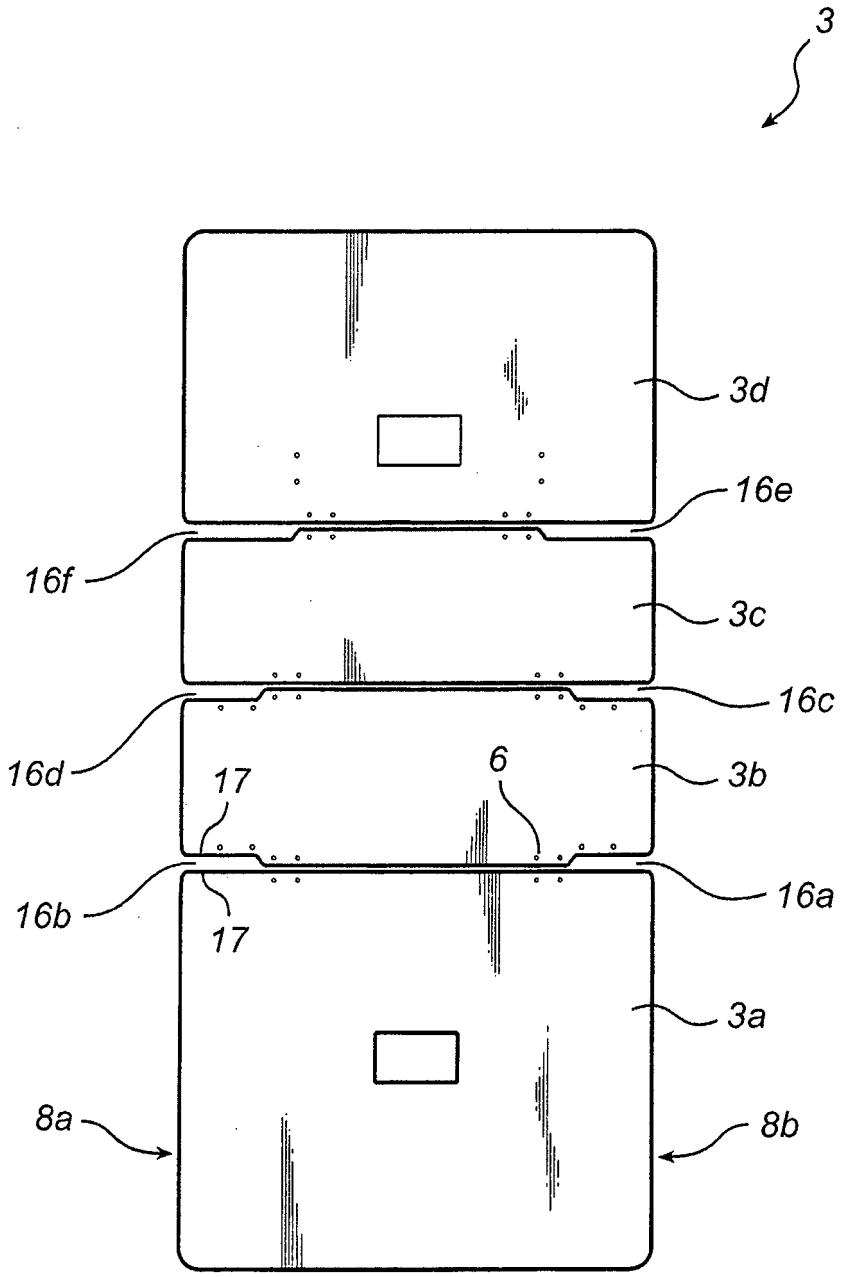


Fig. 4

## REFERENCES CITED IN THE DESCRIPTION

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### Patent documents cited in the description


- US 7484254 B **[0004] [0006]**
- WO 9960893 A **[0005]**