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(54) A bed base structure for a bed
Bettgestell
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Description

[0001] The present invention relates to a base structure for an adjustable bed having at least one base portion which can be raised to a position in which it is inclined to the horizontal and can support a user in a position other than the normal supine position on the bed.

[0002] Many recent beds are adjustable and equipped with an adjustment mechanism; various mechanisms are available. A simple form of adjustable bed has a head-end portion for supporting the user's back and head connected by a hinge to a central portion for supporting the user's buttocks and thighs which is in turn connected to a foot portion. When the portion is raised the hinge between the head and central portions acts as a pivot while, when the leg portion is raised the hinge between the waist and leg portions also acts as a pivot.

[0003] It will be appreciated that, as the head portion is raised, the angular space between the head and central portions is narrowed and unless the angle fits the body of the user, the user's waist and abdomen may be compressed uncomfortably by the mattress, with similar problems occurring when the foot portion is raised.

[0004] Various solutions have been proposed to overcome this disadvantage. The applicant has proposed various bed base structures which can be bent in appropriate curves to provide gentle curvature at the bent portions of the bed so as to minimise any displeasing pressure points for the user, cf. for example EP-A-0 604 241 corresponding to the preamble of claim 1. Other proposals by the present applicant are described in JP 6-343533, JP 7-75657, JP 7-124038 and JP 9-577; proposals by other applicants include, for example JP 10-234523.

[0005] One method for achieving the object of obtaining a base structure capable of being curved to suit the bending posture of a human body lying on the bed at the bendable portion between the back region and the waist region or between the waist region and the leg region is to increase the number of relatively movable elements in the region of the waist.

[0006] The extendable and bendable portion consists of three plates which are connected to each other by engagement between connecting shafts and slots, to allow the whole extent of the connected plates to be shortened and extended and to be bent from each other. Of the three connected plates, the plate on one end is connected bendably with the liftable portion by connecting shafts, and the plate at the other end is connected bendably with the waist bottom member by connecting shafts.

[0007] In this embodiment, if the liftable portion of the back base member is lifted to bend at the connection with the waist bottom member, the three plates constituting the extendable and bendable portion are respectively moved to form a curve. Since the entire region is bent at four points, the region from the liftable portion of the back bottom member to the waist bottom member is curved at a moderate curvature while being extended as a whole, the intention being to avoid the bed user becoming displeased by the pressure felt on their abdomen.

[0008] It is effective to increase the number of bending points of the bending portion of a base structure as one way of achieving the object of obtaining a base structure curved at a moderate curvature. However, the use of adjacent plates which are engaged with each other using connecting shafts and slots to form a curve in any direction by simple pivotal rotation, as adopted in the above extendable and bendable portion, has the following problems.

[0009] First, the extendable and bendable portion has a high degree of freedom since the number of bending points is as many as four. However, because it can be bent in any direction at the respective bending points, the respective plates do not always move evenly in the transfer from a shortened flat state to an extended curved state or vice versa, and any local load causes the corresponding plate to be displaced downward to change the overall shape of the curve, reducing its stability. In the extended state, therefore, the extendable and bendable portion is not always curved uniformly, and the bed user may feel unstable.

[0010] Secondly, the extendable and bendable portion cannot have a desired overall shape unless the length of the portion in the shortened, flat state and the extended curved state are adapted to the actual distances between the liftable portion of the back base member and the waist base member. If for example, the extended length of the extendable and bendable portion is longer than the length between the liftable portion of the back base member and the waist base member, the portion will hang down, and if shorter the portion is raised more than necessary. Furthermore, if the shortened length is longer than the distance between the liftable portion of the back bottom member and the waist bottom member, distortions can occur.

[0011] According to the present invention therefore there is provided a bed base structure for an adjustable bed, including at least one flexible portion comprising a plurality of elongate support strips connected together along juxtaposed parallel faces thereof, each strip having at least one projection and/or at least one recess for interengagement with a corresponding recess and/or projection on the facing face of an adjacent strip, where-in the shapes of the projection and recess are such that the interconnection of two adjacent strips thereby, allows both relative turning and relative separation and approach movements of one strip with respect to the other, and wherein there are provided means for preventing disengagement of the said projection from the said recess, whereby to allow the bed base structure to be adjusted to include curved portions for supporting curved parts of the body of a user, whereby each strip has a plurality of projections and/or recesses for en-
gagement with corresponding recesses and/or projections, at least one co-operating projection and recess pair comprising the said means for preventing disengagement.

[0012] The relative turning movement is preferably over a limited range, and may be constrained to be substantially about an axis parallel to the length of the strips and contain substantially no relative turning movement about axes transverse the length of the strips.

[0013] The shape of the projection may include a beveled portion which when engaged in a recess forms a clearance for allowing the relative turning movement therewithin.

[0014] Opposite faces of the projection which contact the wall of the recess during the relative turning movement may have beveled portions at opposite ends thereof, the relative positioning of the beveled portions by determining whether the bed base can adopt a convex or concave curvature.

[0015] The inclination of the beveled portion may restrict the range of relative turning movement possible between adjacent strips.

[0016] The means for preventing disengagement may comprise a hook portion formed at the end of the projection, for engaging a shoulder at or around the opening of a corresponding recess.

[0017] Adjacent strips may be releasably interconnected whereby to allow the number of strips to be changed to alter the overall expanded and unexpanded length of the structure.

[0018] The strip disposed at the end of the bendable base structure may have only accepting recesses on one face.

[0019] Beveled portions may be formed on the lower sides at the tips of the connecting protrusions while and on the upper sides at the bases, to use the bendable base as a bendable portion between the back region and the waist region.

[0020] Alternatively beveled portions may be formed on the upper sides at the tips of the connecting protrusions and on the lower sides at the bases, to use the bendable base as a bendable portion between the waist region and the leg region.

[0021] The beveled portions at the bases of the connecting protrusions may be inclined to allow for a desired bending angle with the adjacent strips.

[0022] Hooks may be formed at the tips of the connecting protrusions to serve as disengagement preventing means; shoulders to be engaged by the hooks may be formed in the corresponding accepting recesses.

[0023] The connecting protrusions inserted in the accepting recesses of respectively adjacent strips may be allowed to be relatively inclined only in one direction in the accepting recesses by the clearances formed by the beveled portions; the inclination angles may be limited up to a predetermined angle.

[0024] With the connecting protrusions of the strips inserted into the accepting recesses of respectively adjacent strips it is possible to connect a plurality of strips one after another; the whole extent of the connected strips can thereafter be extended and shortened. A lattice-like base member which can be extended and shortened and can be curved in one direction can therefore be obtained.

[0025] If the beveled portions which form the clearances that allow bending are formed not only at the tips of the connecting protrusions but also at the bases, the connected strips can be bent in a state where the connecting protrusions are most shallowly inserted in the accepting recesses that is to say, when the respectively adjacent strips are farther apart from each other, as well as in a state where the connecting protrusions are most deeply inserted in the accepting recesses i.e. when the respectively adjacent strips are closer to each other.

[0026] Particularly if the beveled portions at the bases of the connecting protrusions are inclined so as to match the inclinations of adjacent strips, the connected strips can be bent up to almost the same angle irrespective of how deeply the connecting protrusions are inserted in the accepting recesses, i.e., irrespective of the distances between the respective adjacent strips.

[0027] Irrespective of whether the base is shortened or extended, adjacent strips can be curved in one direction, guided by the connecting protrusions and the accepting recesses. The length as a whole can be smoothly curved. Furthermore, where the respective bending angles are limited to a predetermined maximum angle, a smooth curvature can be maintained because local load cannot move some strips out of position to change the overall shape.

[0028] The bendable base of this invention as described above may be used as a bendable portion between the back region and the waist region or between the waist region or the leg region as described above. For example, in the former case, it is connected between the end of a back base member and a waist base member when used. In this case the strips can be positioned with either of the connecting protrusions or the accepting recesses on the upper sides.

[0029] In the former case, if the back base member is pivotally rotated to ascend, the strip at the end on the back base member side is first lifted and moved apart from the adjacent strip and in this motion the connecting protrusions are moved to be relatively more shallow in the accepting recesses while being turned relative to the accepting recesses due to the beveled portions at the bases.

[0030] If the distance between adjacent strips is extended to a predetermined maximum the disengagement preventing means come into play, and the strips pull the adjacent strip by means of the connecting protrusions. The next strip then pulls the next adjacent strip, and this action is repeated from strip to strip. The strips are therefore bent one after another while being extended upwards.

[0031] It is not necessary to let the length of the most
extended and curved state accurately agree with the actual distance between the end of the back bottom member and the waist bottom member. It is only required that the length of the most shortened flat state is kept smaller than the actual distance between the end of the back bottom member and the waist bottom member. A high degree of design freedom is therefore assured to avoid mechanical inconsistency.

[0032] A preferred embodiment of the present invention will now be described in more detail, by way of example, with reference to the accompanying drawings, in which:

Figure 1 is a schematic side view showing a bed having a bendable base structure according to the present invention;
Figure 2 is a schematic perspective of the bed of Figure 1;
Figure 3 is a schematic plan view showing a bed having a bendable base structure according to the present invention and is shown in a flat, unextended state;
Figure 4 is a plan view of a base structure in which an extended state is shown on the left side of the centre line and a shortened state is shown on the right side of the centre line;
Figure 5 is a partial sectional view showing a part of a strip forming part of the bendable base structure;
Figure 6 is a section taken along line A-A of Figure 5;
Figure 7 is a partial perspective view of a strip from a face having a plurality of recesses;
Figure 8 is a partial perspective view of a strip showing a face having a plurality of protrusions;
Figure 9 is a plan view showing two interconnected strips;
Figure 10 is a sectional view showing a series of interconnected support strips in flat, unextended state;
Figure 11 is a sectional view showing the series of interconnected support strips of Figure 10, in a curved, unextended state; and
Figure 12 is a sectional view showing the series of interconnected strips of Figures 10 and 11, in an extended, curved state.

[0033] Referring first to Figures 1 to 3 there is shown a bed base structure generally indicated 1 which is supported on a deck support frame 4 in turn supported by lifting mechanism 3 above a base frame 5. The knee member 7 connected between the waist member 6 and the leg member 8 is a bendable member constructed differently from the present invention, for example a bendable base as described in document JP 2700056. The knee member 7 and the leg member 8 can be lifted by pivotally rotatable arms 13 and 16 respectively.

[0036] Referring now to Figures 4 to 12 the bendable base member 9 comprises a plurality of elongate support strips 20 (20, 20, ....) connected together so as to allow the whole extent thereof to be extended and shortened and to be inclined to one another. Adjacent strips are interconnected to allow relative turning and relative separation and approach movement of one strip with respect to the other. Each strip 20 is provided with a plurality of longitudinal connecting protrusions 21 on one face of the strip facing an adjacent strip while recesses 22 for accepting the respective connecting protrusions are formed in a corresponding face of the adjacent strip.

[0037] Disengagement preventing means 23 are formed in some of the connecting protrusions 21. The connecting protrusions indicated by symbol 21b and the corresponding accepting recesses (indicated by 22b) are formed so that they are engaged with each other when the respectively adjacent strips 20 and 20 are farthest away from each other. Hooks 24 which are inclined at their tips are formed at the tips of the connecting protrusions 21b and shoulders 25 are formed in the corresponding accepting recesses 22b, thus constituting the disengagement preventing means 23. The strips 20 formed as described above can be produced, for example, by integral moulding of a plastic material. The connecting protrusions and the accepting recesses not provided with the disengagement preventing means 23 are indicated by symbols 21a and 22a respectively. The connecting protrusions 21a have minimum play in relation with the recesses 22a, but the connecting protrusions 21b are relatively narrow.

[0038] The connecting protrusion 21a has a required minimum play in relation with the accepting recess 22a, and beveled portions 26 for forming clearances to allow rotation in one direction are formed at the tip and the base of the connecting protrusion 21a. In this embodiment a beveled portion 25a is formed on the lower side at the tip of the connecting protrusion 21a, and a beveled portion 26b is formed on the lower side at the tip and forms a gently inclined curved surface, and the beveled portion 26b formed on the upper side at the base forms a gently inclined surface approximately parallel to the beveled portion 26a.

[0039] The connecting protrusions 21 of the strips 20 are inserted into the accepting recesses 22 of the respectively adjacent bars 20 as shown in Figures 9 and 10 to connect the plurality of strips 20 in series for allowing the whole extent of the connected strips to be...
extended and shortened and curved.

[0040] When the respectively adjacent bars 20 are so connected the connecting protrusions 21b are forced into the narrow openings formed before the shoulders 25, being elastically deformed at the inclinded portions at the tips, and are released into the wider openings formed beyond the shoulders 25 to restore their original forms elastically, thus causing the hooks 24 to be positioned to face the shoulders 25 in a disengagement preventing position. Thereafter, because the hooks 24 are caught by the shoulders 25, the connecting protrusions 21b cannot be disengaged from the accepting recesses 22b.

[0041] Symbol 27 denotes a strip located at one end of the bendable base member 9. The strip is not provided with connecting protrusions and is only provided with accepting recesses 22a and 22b, unlike the other strips 20.

[0042] At both the ends of each of the strips 20, extensions 28 project and extend in the same direction as the connecting protrusions 21. The distance from one extension 28 to the other is slightly greater than the length of the bar 20, so that the extensions 28 extend to cover the space between the ends of two adjacent bars 20.

[0043] In this embodiment the plurality of strips 20 are connected one after another by the connecting protrusions 21 and the accepting recesses 22 to allow the whole extent of the connected bars to be extended and shortened, and the strip 27 is connected at the end to form the lattice-like bendable base 9 which can be extended and shortened and can also be curved.

[0044] The connecting protrusions 21a inserted in the accepting recesses 22a of respectively adjacent strips 20 are allowed to bend in one direction relatively to the accepting recesses 22a by the clearances formed by the beveled portions 26a and 26b, and the bending angles are limited to a predetermined angle.

[0045] Because the beveled portions which form the clearances for allowing bending are formed not only at the tips 26a but also at the bases 26b, the connecting protrusions 21a can be bent relative to the accepting recesses 22a due to the clearances formed by the beveled portions 26a and 26b, not only in a state where the connecting protrusions 21a are shallowly inserted in the accepting recesses 22a, that is, when the respectively adjacent bars 20 are farther away from each other as shown in Figure 12, but also in a state where the connecting protrusions 21a are deeply inserted in the accepting recesses 22a, that is, when the respectively adjacent bars 20 are closer to each other as shown in Figure 11.

[0046] In this embodiment, the beveled portions 26b at the bases of the connecting protrusions 21a are inclined proportional to the desired bending angle with the adjacent strips and in this embodiment, the respectively adjacent strip can be bent up to almost the same angle irrespective of how deeply the connecting protrusions 21a are inserted in the accepting recesses 22a, that is, irrespective of the distances between the respectively adjacent bars 20. In other embodiments the bending angles can be changed as required in response to how deeply the connecting protrusions 21a are inserted in the accepting recesses 22a, that is, the distances between the respectively adjacent strips 20.

[0047] In the bendable base member 9 of this invention, irrespective of whether it is shortened or extended, the connected bars 20 can be curved in one direction, that is, in the direction shown in Figures 11 and 12, being guided by the connecting protrusions 21a provided with the beveled portions 26a and 26b. The connected strips as a whole can therefore be curved smoothly, and since the respective inclination angles are limited up to a predetermined maximum angle, it does not happen that local load moves some of bars downward out of the curve to change the overall smoothly curved shape.

[0048] The bendable base member 9 of the present invention can be used as the bendable portion between the back region and the waist region and/or the waist region and the leg region of a bed as described above. If it is used between the back region and the waist region, the bar 27 forming one end of the bendable bottom member 9 is connected to the end of the back bottom member 5, and the strip 20 forming the other end of the bendable bottom member 9 is connected to the end of the waist bottom member 6. Symbols 29a and 29b denote connection fittings.

[0049] In the above embodiment, when the back member 5 and the waist member 6 are flat, the bendable bottom member 9 is shortened, and the bendable bottom member 9 in this state is supported on a support frame (not shown) provided there below.

[0050] If the lifting mechanism 12 is actuated to pivotally rotate the back bottom member 5, to lift it, the strip 27 at the end on the side of the back bottom member 5 is lifted first and moves apart from the adjacent strip 20; in this motion the connecting protrusions 21a are moved to be more shallow in the accepting recesses 22a while being evenly bent as conceptually shown in Figure 11, as guided by the beveled portions 26b at the bases.

[0051] If the distance between the adjacent bars 20 is extended to a predetermined distance, the disengagement preventing means 23 act, that is, the shoulders 25 of the connecting protrusions 22b contact the hooks 24 of the connecting protrusions 21b. The bar 27 pulls the adjacent strip 20 through the connecting protrusions 26a, and the bar 20 acts similarly on the next adjacent strip 20. Thus, as shown in Figure 12, the respectively adjacent strip 20 are moved upward one after another, to be extended upward as a whole.

[0052] If the back bottom member 5 is pivotally rotated to be lifted, the bendable base member 9 of this invention is also extended and curved accordingly.

[0053] As described above, in the bendable bottom member 9 of this invention, irrespective of whether it is shortened or extended, the respectively adjacent bars 20 can be curved in one direction, being guided by the
A bed base structure (1) for an adjustable bed, in- 

1. claims 

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A degree of freedom is assured in design to avoid me-

2. A bed base structure (1) according to Claim 1, characterised in that the said relative turning movement is over a limited range.

3. A bed base structure (1) according to Claim 1 or Claim 2, characterised in that the said relative turning movement is constrained to be substantially about an axis parallel to the length of the strips (20) and contains substantially no relative turning movement about axes transverse the length of the strips.

4. A bed base structure (1) according to any preceding claim, characterised in that the shape of the projection (22) includes a bevelled portion (26) which when engaged in a recess forms with it a clearance for allowing the said relative turning movement therewithin.

5. A bed base structure (1) according to Claim 4, characterised in that opposite faces of the projection (21) which contact the wall of the recess (22) during the relative turning movement have bevelled portions (26) at opposite ends thereof, the relative positioning of the beveled portions (26) thereby determining whether the bed base (1) can adopt a convex or concave curvature.

6. A bed base structure (1) according to Claim 4 or Claim 5, characterised in that the inclination of the beveled portion (26) restricts the range of relative turning movement possible between adjacent strips (20).

7. A bed base structure (1) according any preceding claim, characterised in that the said means (24) for preventing disengagement comprise a hook portion (24) formed at the end of the projection, for engaging a shoulder (25) at or around the opening of a corresponding recess.

Claims

1. A bed base structure (1) for an adjustable bed, including at least one flexible portion (9) comprising a plurality of elongate support strips (20) connected together along juxtaposed parallel faces thereof, each strip (20) having at least one projection (21) and/or at least one recess (22) for interengagement

with a corresponding recess and/or projection on the facing face of an adjacent strip, wherein the shapes of the projection and recess are such that the interconnection of two adjacent strips thereby, allows both relative turning and relative separation and approach movements of one strip with respect to the other, and wherein there are provided means (24) for preventing disengagement of the said projection from the said recess, whereby to allow the bed base structure to be adjusted to include curved portions for supporting curved parts of the body of a user, characterised in that each strip (20) has a plurality of projections (21) and/or recesses (22) for engagement with corresponding recesses and/or projections, at least one co-operating projection and recess pair comprising the said means (24) for preventing disengagement.

So, in the bendable base member of this invention, if it is used between the back region and the waist region, it is not essential for the length of the most extended curved state to equal the actual distance between the end of the back bottom member and the waist bottom member, and it is only required that at least the length of the most shortened flat state is shorter than the actual distance between the end of the back bottom member and the waist bottom member. So, a high degree of freedom is assured in design to avoid mechanical inconsistency.

[0055] The bendable base member of this invention can be a lattice-like member capable of being extended and shortened and being curved in one direction by inserting connecting protrusions of strips into accepting recesses of respectively adjacent strips to connect a plurality of strips one after another and allow the whole extent of the base to be extended and shortened.

[0056] In the bendable base member of this invention, irrespective of whether it is shortened or extended, the respectively adjacent bars can be curved in one direction, being guided by the connecting protrusions and the accepting recesses, and in this case, since the respective bending angles are limited up to a predetermined angle, local load cannot move only some strips downward to change the entire form. Thus, irrespective of whether the bottom member is shortened or extended, it can be stably curved at a proper angle, hence can be curved at a moderate curvature as a whole.

[0057] So, in the bendable base member of this invention, if it is used between the back region and the waist region, it is not essential for the length of the most extended curved state to equal the actual distance between the end of the back bottom member and the waist bottom member, and it is only required that at least the length of the most shortened flat state is shorter than the actual distance between the end of the back bottom member and the waist bottom member. So, a high degree of freedom is assured in design to avoid mechanical inconsistency.

2. A bed base structure (1) according to Claim 1, characterised in that the said relative turning movement is over a limited range.

3. A bed base structure (1) according to Claim 1 or Claim 2, characterised in that the said relative turning movement is constrained to be substantially about an axis parallel to the length of the strips (20) and contains substantially no relative turning movement about axes transverse the length of the strips.

4. A bed base structure (1) according to any preceding claim, characterised in that the shape of the projection (22) includes a bevelled portion (26) which when engaged in a recess forms with it a clearance for allowing the said relative turning movement therewithin.

5. A bed base structure (1) according to Claim 4, characterised in that opposite faces of the projection (21) which contact the wall of the recess (22) during the relative turning movement have bevelled portions (26) at opposite ends thereof, the relative positioning of the beveled portions (26) thereby determining whether the bed base (1) can adopt a convex or concave curvature.

6. A bed base structure (1) according to Claim 4 or Claim 5, characterised in that the inclination of the beveled portion (26) restricts the range of relative turning movement possible between adjacent strips (20).

7. A bed base structure (1) according any preceding claim, characterised in that the said means (24) for preventing disengagement comprise a hook portion (24) formed at the end of the projection, for engaging a shoulder (25) at or around the opening of a corresponding recess.
8. A bed base structure (1) according to any preceding Claim, characterised in that adjacent strips (20) are releasably interconnected whereby to allow the number of strips (20) to be changed to alter the length of the structure (1).

Patentansprüche

1. Bettgestell (1) für ein verstellbares Bett mit wenigstens einem flexiblen Abschnitt (9) bestehend aus einer Mehrzahl länglicher Stützleisten (20), die entlang gegenüberliegender paralleler Seiten miteinander verbunden sind, wobei jede Leiste (20) wenigstens einen Vorsprung (21) und/oder eine Ausnehmung (2) zum Ineinandergreifen mit einer entsprechenden Ausnehmung und/oder einem entsprechenden Vorsprung an der gegenüber liegenden Seite der benachbarten Leiste besitzt, wobei die Formen des Vorsprungs und der Ausnehmung derart ausgebildet sind, dass die Verbindung zweier benachbarter Leisten dabei sowohl das relative Drehen, als auch relative Trennungs- und Annäherungsbewegungen der einen Leiste gegenüber der anderen Leiste erlauben, und wobei Mittel (24) vorhanden sind, das außer Eingriff kommen des Vor- sprungs mit der Ausnehmung zu verhindern, wobei dem Bettgestell gestattet wird, so verstellte zu wer- den, dass es gekrümmte Abschnitte zum Stützen gekrümmter Körperteile eines Benutzers besitzt, dadurch gekennzeichnet, dass jede Leiste (20) einer Mehrzahl von Vorsprüngen (21) und/oder Ausnehmungen (22) zum Eingriff mit entsprechenden Ausnehmungs- und/oder Vorsprüngen besitzt, wobei wenigstens ein zusammen wirkendes Vorsprungs-/Ausnehmungspaar die Mittel (24) zum Verhindern des außer Eingriff Kommens aufweist.

2. Bettgestell (1) nach Anspruch 1, dadurch gekennzeichnet, dass die Drehbewegung sich über einen begrenzten Bereich erstreckt.

3. Bettgestell (1) nach Anspruch 1 oder 2, dadurch gekennzeichnet, dass die relative Drehbewegung so eingeschränkt ist, dass sie sich im Wesentlichen um eine Achse erstreckt, die parallel zu den Leisten (20) liegt und im Wesentlichen keine relative Drehbewegung quer zu den Lei- stenlänge erlaubt.

4. Bettgestell (1) nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, dass die Form des Vorsprungs (22) einen abgeschragten Abschnitt (26) besitzt, der ihn bei Eingriff in einer Ausnehmung mit einem Spiel ausstattet, der die relative Drehbewegung darin erlaubt.

5. Bettgestell (1) gemäss Anspruch 4, dadurch gekennzeichnet, dass die entgegen gesetzten Sei-
saillie et cavité concourante comprenant lesdits moyens (24) destinés à empêcher le désengrènement ou désengagement.

2. Structure de base d'un lit (1) selon la revendication 1, caractérisée en ce que ledit mouvement de pivotement relatif se fait dans une plage limitée.

3. Structure de base d'un lit (1) selon la revendication 1 ou la revendication 2, caractérisée en ce que ledit mouvement de pivotement relatif est contraint de manière à être essentiellement autour d'un axe parallèle à la longueur des bandes (20) et ne contient pour l'essentiel aucun mouvement de pivotement relatif autour des axes transversaux à la longueur des bandes.

4. Structure de base d'un lit (1) selon l'une quelconque des revendications précédentes, caractérisée en ce que la forme de la saillie (22) comprend une partie en biseau (26) qui, lorsqu'elle est engrenée ou engagée dans une cavité, forme avec celle-ci une claire-voie pour permettre ledit mouvement de pivotement relatif à l'intérieur.

5. Structure de base d'un lit (1) selon la revendication 4, caractérisée en ce que les faces opposées de la saillie (21), qui touchent la paroi de la cavité (22) pendant le mouvement de pivotement relatif, possèdent des parties en biseau (26) sur leurs extrémités opposées, le positionnement relatif des parties en biseau (26) déterminant de cette manière si la base de lit (1) peut adopter une courbure convexe ou concave.

6. Structure de base d'un lit (1) selon la revendication 4 ou la revendication 5, caractérisée en ce que l'inclinaison de la partie en biseau (26) limite la plage du mouvement de pivotement relatif possible entre des bandes adjacentes (20).

7. Structure de base d'un lit (1) selon l'une quelconque des revendications précédentes, caractérisée en ce que lesdits moyens (24) destinés à empêcher le désengrènement ou désengagement comprennent une partie en crochet (24), formée sur l'extrémité de la saillie, pour engrener ou engager un épaulement (25) au niveau ou autour de l'ouverture d'une cavité correspondante.

8. Structure de base d'un lit (1) selon l'une quelconque des revendications précédentes, caractérisée en ce que les bandes adjacentes (20) sont interconnectées de manière détachable afin de permettre le changement du nombre de bandes (20) pour modifier la longueur de la structure (1).