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54 **A piece of seating and/or reclining furniture, as well as a base suitable for such a piece of seating and/or reclining furniture.**

57 A piece of seating and/or reclining furniture provided with a base (1) and with a slatted board supported by said base, said slatted board comprising a plurality of parallel slats (7,8) extending in a transverse direction, whereby the base (1) is provided with a plurality of supports (4,5) arranged in a longitudinal direction transversely to the transverse direction, and with a flexible band (3) abutting against the supports (4,5) and being detachably con-

nected with at least the first and the last support (4), seen in longitudinal direction, which is movable over supports (5) positioned between the first and the last support (4), whereby the slats (7) abut against a side of the band remote from the supports (4,5). The band (3) is also detachably connected with at least one support (5) positioned between the first and the last support.

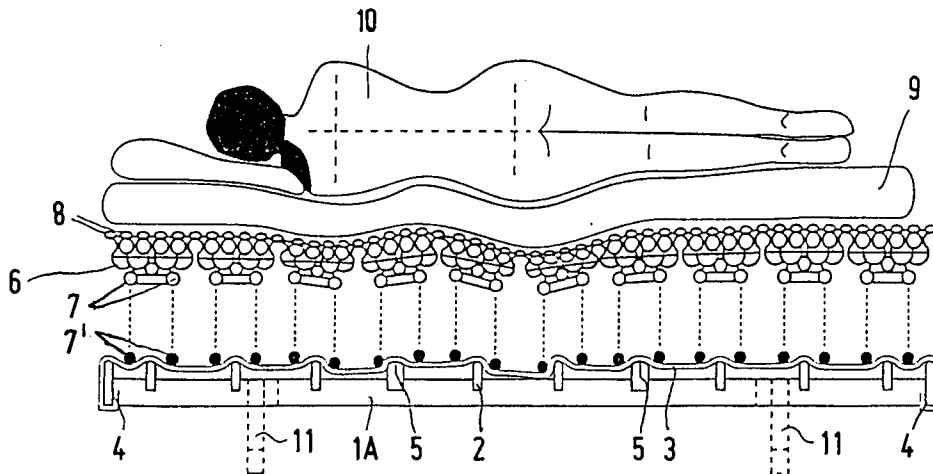


FIG. 1

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The invention relates to a piece of seating and/or reclining furniture provided with a base and with a slatted board supported by said base, said slatted board comprising a plurality of parallel slats extending in a transverse direction, whereby the base is provided with a plurality of supports arranged in a longitudinal direction transversely to the transverse direction, and with a flexible band abutting against the supports and being detachably connected with at least the first and the last support, seen in longitudinal direction, which is movable over supports positioned between the first and the last support, whereby the slats abut against a side of the band remote from the supports.

A base of this type is for example known from FR-A-2.664.143, DE-C1-34.39.275 or WO 85/02987.

When a person sits or lies down on the piece of seating and/or reclining furniture, the band will sag in those places where the mechanical load is relatively great and rise in those places where the mechanical load is relatively small, in such a manner that the band and the slats supported by said band adjust themselves to the mechanical load exerted on the slatted board. The irregular mechanical load is caused by the manner in which the weight is distributed and the anthropometric shape of that person's body. The band is movable, by sliding or rolling, over the supports positioned between said first and said last support, as a result of which the band as well as the slats abutting against said band can readily adjust themselves in dependence on the mechanical load being exerted.

A drawback of the known bases is, however, that a local mechanical load, for example on the slats near the first support, causes a movement of the belt over the entire base and thus of the slats present thereon.

The object of the invention is to provide a piece of seating and/or reclining furniture wherein a local mechanical load only causes a movement of the belt over part of the base.

This objective is accomplished with the piece of seating and/or reclining furniture according to the invention in that the band is also detachably connected with at least one support positioned between the first and the last support.

As a result of this the band can sag or rise between two successive supports to which the band is secured, independently of the movements of the other parts of the band. By securing the band to for example two intermediate supports, the band is divided into three independently movable segments, which for example function to support the upper, middle and lower part of the body respectively.

Another embodiment of a piece of seating and/or reclining furniture according to the invention is characterized in that it is possible to adjust the

mechanical prestress in the band between two successive supports with which the band is connected.

The maximum deflection of the band may be adjusted by stretching the band more tightly or less tightly between two successive supports with which the band is connected.

Yet another embodiment of a piece of seating and/or reclining furniture according to the invention is characterized in that said slats are coupled together in pairs by means of a supporting body, whereby the interconnected slats abut against said band on either side of a support, while said supporting body tilts to one side with respect to said support.

Thus an adequate support of a slatted board known from European Patent EP-B1-0 444 731 is obtained. Preferably each support is positioned centrally between two slats interconnected by means of a supporting body.

Yet another embodiment of a piece of seating and/or reclining furniture according to the invention is characterized in that said supporting body comprises at least one other slat on a side remote from said supports.

A slatted board comprising a lower row of slats supported by the base according to the invention and an upper row of slats on which a person may sit or lie provides an optimum support for that person's body, whereby the shape of the slatted board adjusts itself to the individual weight distribution and the anthropometric shape of that person's body.

Yet another embodiment of a piece of seating and/or reclining furniture according to the invention is characterized in that said base comprises two rows of supports and two bands each abutting against a row of supports, said bands being positioned near the ends of said slats.

In this way the slatted board is adequately supported. The rows of supports may be relatively narrow, seen in transverse direction, as a result of which the amount of material required for the base is limited and the supports may be relatively inexpensive. By adjusting the distance between the rows, the base is rendered suitable for use in a piece of furniture having a different dimension crosswise.

The invention will be explained in more detail below with reference to the drawing, in which:

Figure 1 is a side view of a piece of reclining furniture according to the invention;

Figure 2 is a perspective view of the piece of reclining furniture illustrated in Figure 1;

Figure 3 is a side view of a second embodiment of a piece of reclining furniture according to the invention;

Figure 4 is a perspective view of the piece of reclining furniture illustrated in Figure 3; and

Figure 5 is a front elevational view of the piece of reclining furniture shown in Figure 3.

In the Figures like parts are numbered alike.

The piece of reclining furniture shown in Figures 1 and 2 is provided with a base 1 comprising four beams 1a, 1b, 1c, 1d, which are interconnected at perpendicular angles. Beams 1a and 1c extend in a longitudinal direction of the piece of reclining furniture indicated by arrow P1, and beams 1b and 1d extend in a transverse direction of the piece of reclining furniture indicated by arrow P2, which direction extends transversely to the longitudinal direction. The parallel beams 1a and 1c are each provided with a row of regularly spaced-apart supports 2, said supports having a length of ± 6 cm crosswise and a height of 3 - 5 cm in a direction perpendicularly to the longitudinal and transverse directions.

A band 3 is stretched over each row of supports 2, said band being detachably secured to the first and the last support 4, seen lengthwise, and to two supports 5 located therebetween. The supports 4, 5 are provided with hook-shaped elements (not shown), which are in engagement with the recesses (not shown) provided in band 3. By bringing other recesses of the band in engagement with said hook-shaped elements the mechanical prestress in the band between two successive supports 4, 5 may be changed. Three segments I, II, III of the band are formed between the various supports 4, 5 to which the band 3 is secured, whereby the band may be secured with different mechanical prestress for each individual segment. As a result of this the maximum deflection of the band will be larger or smaller in the one segment than in the other segment, dependent on the individual wishes of the person 10 with regard to the maximum deflection at the shoulder, hip and leg parts.

The piece of reclining furniture furthermore comprises a slatted board, for example as described in European Patent EP-B1-0.444.731, which is provided with two parallel rows of interconnected plastic or rubber supporting elements 6, whereby ends of slats 7, 8 are inserted in supporting elements positioned opposite each other. Ends of two lower slats 7 and five upper slats 8 are inserted in each supporting element 6. The slatted board is described in detail in the aforesaid patent and is therefore not further explained herein.

For the sake of clarity the slatted board is illustrated above the base in Figure 1, whereby the actual positions of the lower slats 7 on the base 1 are illustrated at 7'. The slats 7 interconnected by a supporting element 6 are positioned on either side of a support 2, 5.

It is possible to use the slatted board without a mattress. If it is considered desirable to place a mattress 9 on the slatted board in order to obtain

an adequate insulation or even more comfort, it will suffice to use a relatively thin, flexible mattress. When a person 10 lies down on the mattress 9, a mechanical load is exerted on the slatted board and the slats 7 press down on the band 3. The band 3 adjusts itself to the mechanical load, whereby the band 3 is moved over the supports 2 positioned between the supports 4, 5, and whereby the band 3 is moved towards the base 1 in those places where the mechanical load is largest and away from the base in those places where the mechanical load is relatively small. When the band 3 is moved the slats 7 are likewise moved, whereby the supporting elements 6 tilt to one side with respect to the supports 2, 5.

Figures 3, 4 and 5 show a second embodiment of a piece of reclining furniture according to the invention, which largely corresponds with the piece of reclining furniture shown in Figures 1 and 2. The base 1 comprises an additional cross beam 1e, which further enhances the strength of the base 1. Each support 2 comprises a roller 12, which is rotatable about an axis extending parallel to the transverse direction. As a result of the presence of the rollers 12 the band 3 is quite readily movable. In contrast to the piece of reclining furniture shown in Figure 1, two interconnected slats 7 are positioned between two supports 2, 4, 5 located nearby. Also with this piece of reclining furniture the slats 7, 8 and the band 3 adjust themselves to the mechanical load exerted by a person present on the piece of reclining furniture.

Figure 5 is a side view of the piece of reclining furniture, wherein the various parts can be clearly distinguished. The base and the slatted board are bounded by finishing plates 13 on their sides.

The base 1 is supported by legs 11, which keep the base 1 spaced apart from the ground.

The supports 2, 4, 5 and the band 3 may also extend over the entire width of the slatted board, seen in transverse direction.

The slats may also be coupled together in a different manner known per se.

Furthermore it is possible that more than two slats are supported on the band between two successive supports.

The band may for example be made of cotton, rubber or plastic material, whilst furthermore said band may be extensible.

Furthermore it is possible to use a slatted board which is not provided with an upper and a lower layer of slats, but which consists of only one layer of slats.

The base according to the invention is also suitable for being used in seating furniture.

The base and the slats may be made of wood, metal or plastic material.

Claims

1. A piece of seating and/or reclining furniture provided with a base and with a slatted board supported by said base, said slatted board comprising a plurality of parallel slats extending in a transverse direction, whereby said base is provided with a plurality of supports arranged in a longitudinal direction transversely to said transverse direction, and with a flexible band abutting against said supports and being detachably connected with at least the first and the last support, seen in longitudinal direction, which is movable over supports positioned between said first and said last support, whereby said slats abut against a side of said band remote from said supports, characterized in that said band is also detachably connected with at least one support positioned between said first and said last support. 5
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2. A piece of seating and/or reclining furniture according to claim 1, characterized in that it is possible to adjust the mechanical prestress in the band between two successive supports with which the band is connected. 25
3. A piece of seating and/or reclining furniture according to any one of the preceding claims, characterized in that said slats are coupled together in pairs by means of a supporting body, whereby the interconnected slats abut against said band on either side of a support, while said supporting body tilts to one side with respect to said support. 30
35
4. A piece of seating and/or reclining furniture according to claims 1 and 2, characterized in that said slats are coupled together in pairs by means of a supporting body, whereby the interconnected slats abut against said band between two successive supports, while said supporting body tilts to one side with respect to said support. 40
45
5. A piece of seating and/or reclining furniture according to claim 3 or 4, characterized in that said supporting body comprises at least one other slat on a side remote from said supports. 50
6. A piece of seating and/or reclining furniture according to any one of the preceding claims, characterized in that said base comprises two rows of supports and two bands each abutting against a row of supports, said bands being positioned near the ends of said slats. 55
7. A base suitable for a piece of seating and/or reclining furniture according to any one of the preceding claims.

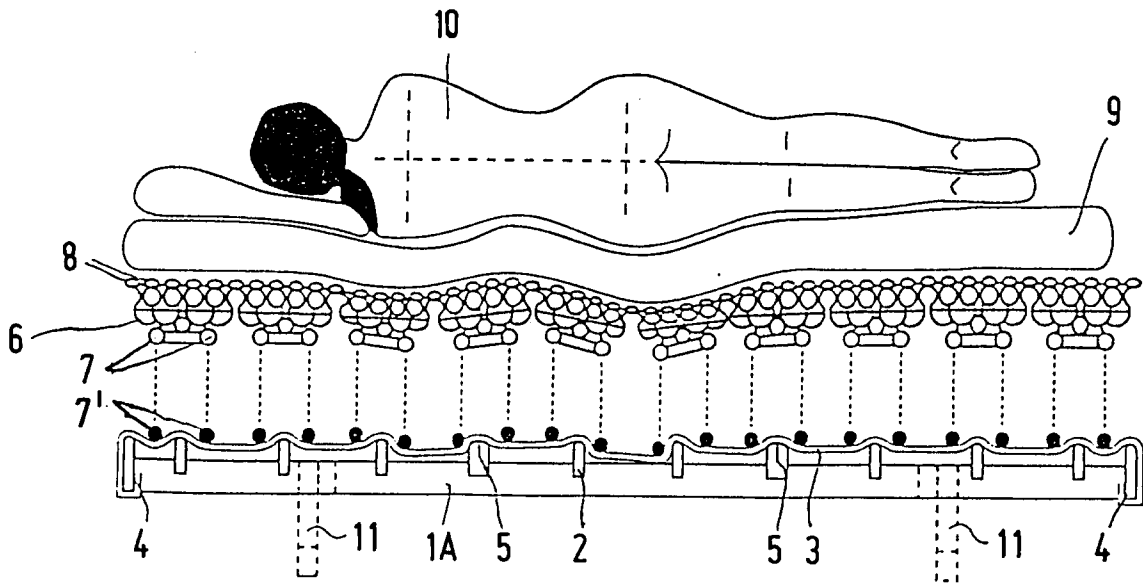


FIG. 1

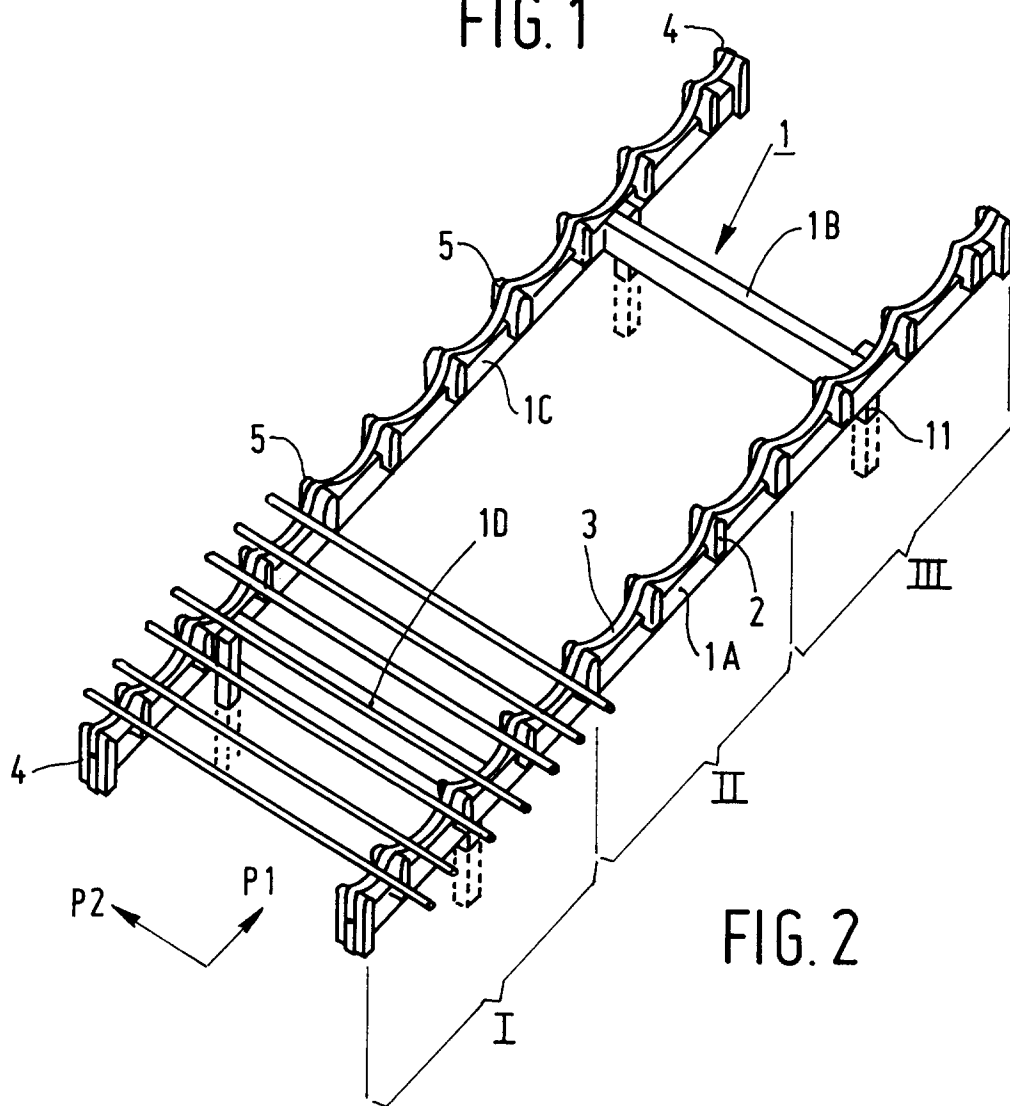


FIG. 2

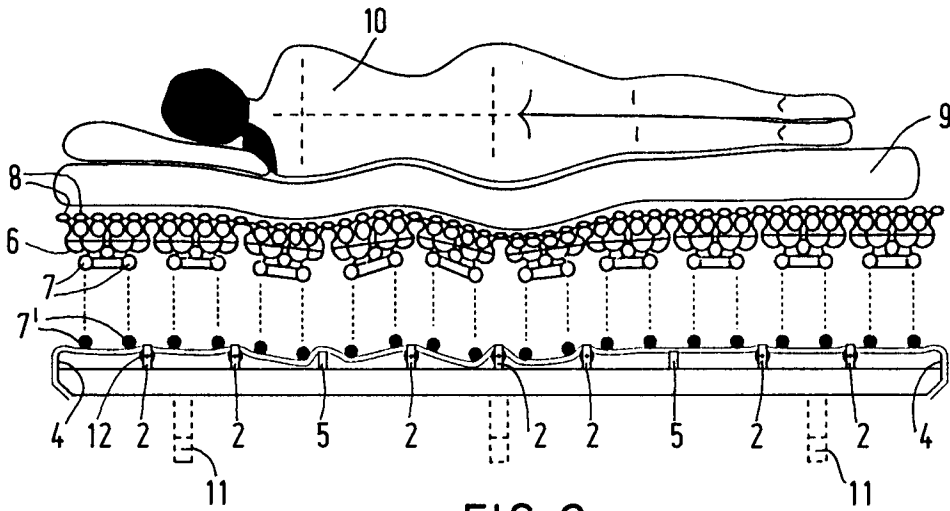


FIG. 3

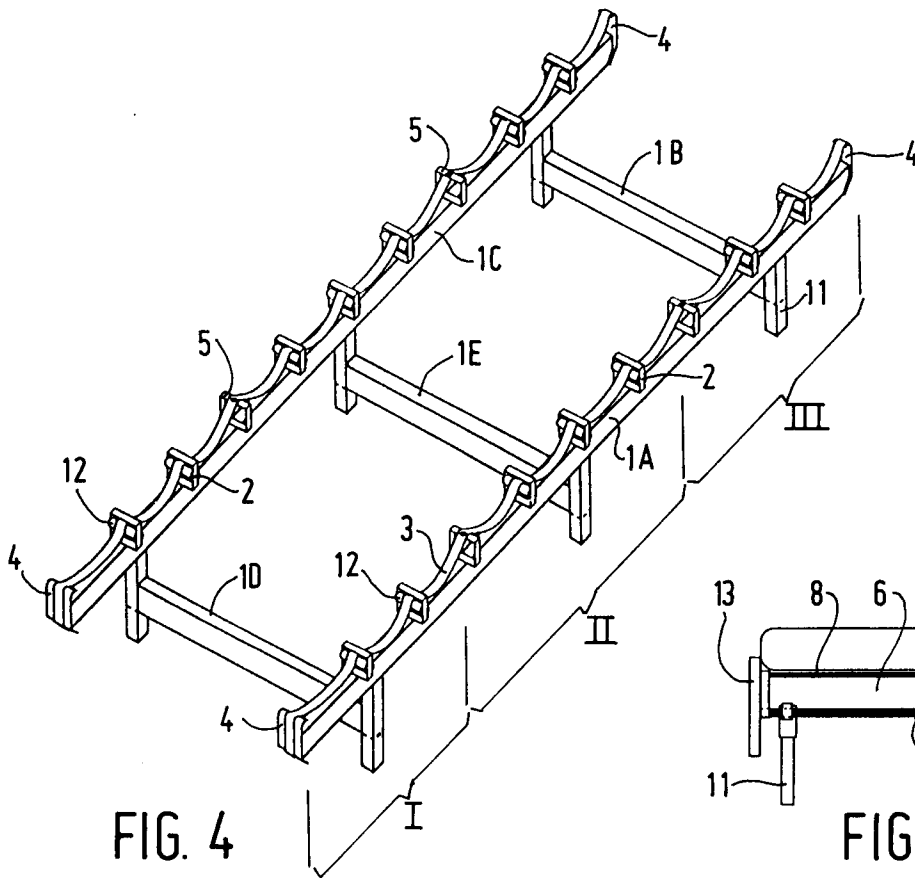


FIG. 4

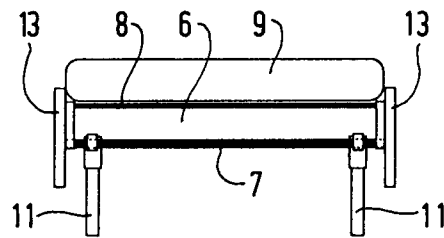


FIG. 5



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
D,Y	FR-A-2 664 143 (REAU) * claims 1,2; figures * ---	1,2,6,7	A47C23/06
Y	EP-A-0 236 292 (RIEDL) * column 3, line 47-52; figures * ---	1,2,6,7	
D,A	DE-C-34 39 275 (HÜLSTA) * the whole document * -----	1-4,6,7	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			A47C
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		17 August 1995	VandeVondele, J
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	