(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 2 191 747 A2**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
02.06.2010 Bulletin 2010/22

(51) Int Cl.:
A47C 20/04 *(2006.01)*

(21) Application number: **09176581.8**

(22) Date of filing: **20.11.2009**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR
Designated Extension States:
AL BA RS

(30) Priority: **26.11.2008 NL 2002256**

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(54) **Adjustable sleeping system**

(57) The invention relates to an adjustable sleeping system, comprising a box-like support frame (3,4,5,6) with a head end (3) and a foot end (4) which are mutually connected by means of two longitudinal sides (5,6). An adjustable sprung bed base (11) is arranged in the support frame (3,4,5,6). On three sides the height of the support frame (3,4,5,6) and the height of the bed base (11) are adapted to each other such that in the lowest position the bed base (11) is substantially received in the support frame (3,4,5,6). The support frame (3,4,5,6) takes a lowered form on one longitudinal side and the bed base (11) takes an at least partially widened form on one longitudinal side such that the widened part of the bed base (11) supports on the lowered part of the support frame (3,4,5,6).

The invention also relates to a two-person sleeping system comprising two adjustable sleeping systems according to the invention, wherein the lowered longitudinal sides are placed adjacently.

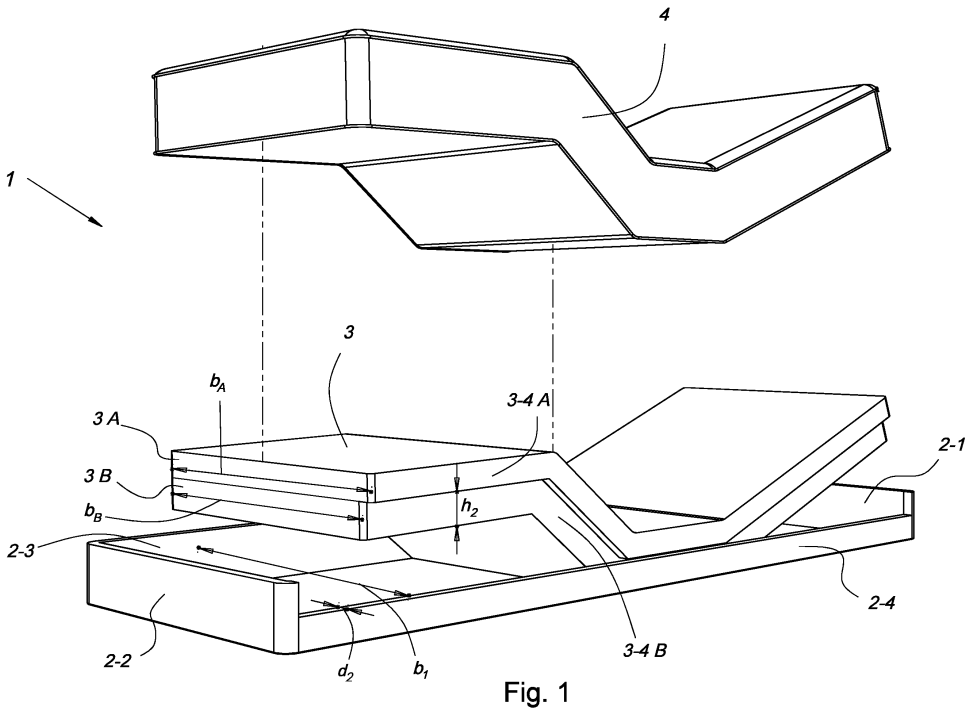

Fig. 1

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Description

[0001] The present invention relates to an adjustable sleeping system, comprising a box-like support frame with a head end and a foot end which are mutually connected by means of two longitudinal sides, in which support frame an adjustable sprung bed base is arranged.

[0002] Such an adjustable sleeping system is better known in practice under the name of box spring. A box spring is a comfortably sprung and ventilating sleeping system, often referred to by the term □ hotel bed□ , since it many hotels.

[0003] Diverse types of adjustable sleeping system as according to the preamble are known in the field, some of which are marketed by applicant himself.

[0004] In a first known adjustable sleeping system the adjustable bed base in the lowest position lies wholly above the box-like support frame. The widths of the box-like support frame, the adjustable bed base and a mattress for placing thereon are substantially the same.

[0005] The known adjustable sleeping system provides a high lying comfort, since the mattress is fully supported by the sprung bed base. However, potential purchasers of the sleeping system find it off-putting in practice that three layers, i.e. support frame, bed base and mattress, are visible, this being perceived as untidy. In addition, many technical components in the support frame are visible each time the bed base is adjusted from the lowest position.

[0006] The invention has for its object to obviate the above stated drawbacks of the known adjustable sleeping system.

[0007] The adjustable sleeping system according to the invention has for this purpose the feature that on three sides the height of the support frame and the height of the bed base are adapted to each other such that in the lowest position the bed base is substantially received in the support frame, that the support frame takes a lowered form on one longitudinal side and that the bed base takes an at least partially widened form on one longitudinal side such that the widened part of the bed base supports on the lowered part of the support frame.

[0008] In the adjustable sleeping system according to the invention the bed base is concealed from view on the three visual sides in the lowest position. Potential purchasers see only two layers in the lowest position, i.e. the support frame and the mattress for placing thereon, just as in the case of a non-adjustable box spring. The lying comfort of the adjustable sleeping system according to the invention is comparable here to the lying comfort of the known adjustable sleeping system, since the mattress is supported by the whole bed base.

[0009] It is noted for the sake of completeness that applicant markets a second sleeping system in which the bed base in the lowest position is wholly received in the support frame. The width of the bed base is therefore less than the width of the box-like support frame as measured from the outer side of the longitudinal sides. A mattress for placing thereon is however as wide as the box-like support frame as measured from the outer sides of the longitudinal sides. This second known sleeping system has the advantage that a potential purchaser sees only two layers in the lowest position of the bed base, i.e. the support frame and the mattress for placing thereon. When however two such known adjustable sleeping systems are placed adjacently in order to thus form a two-person box spring, this results in a reduced lying comfort in the middle of the two-person box spring. This is caused because the mattress is not supported over the full surface area by the bed base.

[0010] In a first preferred embodiment the bed base comprises two parts lying one above the other, wherein the width of the upper-lying part is substantially equal to the width of the underlying part plus the width of the lowered longitudinal side of the support frame. According to a further development of this first preferred embodiment, the width of the underlying part substantially corresponds to the width of the support frame as measured between the longitudinal sides. According to yet another preferred embodiment, the height of the upper-lying part is substantially equal to the height difference between the longitudinal sides of the support frame. The height of the underlying part preferably corresponds substantially to the height of the lowered longitudinal side of the support frame. Each of these technical measures separately as well as the combination of these technical measures contribute toward concealing the bed base from view on the three visual sides. In the lowest position of the adjustable sleeping system only the support frame with a mattress for placing thereon is then visible. The adjustable sleeping system according to the invention hereby acquires the desired appearance of a two-layer box spring.

[0011] The invention also relates to a two-person sleeping system comprising two adjustable sleeping systems according to the invention, wherein the adjustable sleeping systems take a mirrored form and wherein the lowered longitudinal sides are placed adjacently. Adjacent placing of the lowered longitudinal sides results in a two-person sleeping system having on all visual sides the appearance of a two-layer box spring. The lowered longitudinal sides are situated in the middle and support the widened part of the bed bases, so that optimum lying comfort is here also achieved.

[0012] The invention will now be further elucidated on the basis of the accompanying figures, in which

Figure 1 is a schematic view of a preferred embodiment of the adjustable sleeping system according to the invention in a first position;

Figure 2 is a schematic view of the adjustable sleeping system of figure 1 in a second position;

Figure 3 is a schematic view of a two-person embodiment of the adjustable sleeping system according to the invention in a first position; and

Figure 4 is a schematic view of the two-person embodiment of figure 3 in a second position.

[0013] Figure 1 shows an adjustable sleeping system according to the invention in a first preferred embodiment. The adjustable sleeping system 1 comprises a box-like support frame 2. Box-like support frame 2 consists of a head end 2-1 and a foot end 2-2 which are mutually connected by means of two longitudinal sides 2-3 and 2-4. A bed base 3 is arranged in support frame 2. Bed base 3 is a sprung bed base and preferably comprises Bonell springs. Bed base 3 is adjustable in different positions. One of these positions is shown in figure 1. In figure 2 the adjustable sleeping system 1 is shown with bed base 3 in the lowest position.

[0014] For adjustment purposes the adjustable sleeping system 1 is provided with a drive, electrical or manual, and box-like support frame 2 comprises a guide for bed base 3. Such a driving and guiding are known in the field and for the sake of clarity are not included in the figures. The adjustable sleeping system 1 is also referred to in the field with the term □ box spring□ which is only shown in figure 1, serves to complete the box spring.

[0015] According to the invention sleeping system 1 takes an asymmetrical form. Box-like support frame 2 takes an asymmetrical form and adjustable bed base 3 likewise takes an asymmetrical form. The asymmetry relates to only one longitudinal side of the sleeping system.

[0016] Figures 3 and 4 show a two-person adjustable sleeping system according to the invention, consisting of two adjustable asymmetrical sleeping systems 1 of figures 1 and 2 which take a mirrored form and are placed adjacently. The thus formed two-person box spring combination is mirror-symmetrical, wherein the asymmetrical part is concealed from view.

[0017] The asymmetry of box-like support frame 2 is manifest in the different heights. The height h_1 of head end 2-1, foot end 2-2 and longitudinal side 2-3 is adapted to the full height of bed base 3 such that in the lowest position thereof bed base 3 is received substantially wholly in support frame 2. Longitudinal side 2-4 takes a lowered form with height $h_2 < h_1$. This is shown in figures 2 and 4.

[0018] The asymmetry of bed base 3 is manifest in the width. Bed base 3 takes an at least partially widened form on one longitudinal side 3-4. The widened side 3-4 of bed base 3 supports on the lowered longitudinal side 2-4 of support frame 2.

[0019] Bed base 3 comprises two parts 3A and 3B lying one above the other. The width b_A of the upper-lying part 3A is substantially equal to the width b_B of the underlying part 3B plus the thickness d_2 of longitudinal side 2-4. The width b_B of the underlying part 3B substantially corresponds to the dimensions of box-like support frame 2 as measured from the inner side of longitudinal side 2-3 to the inner side of the lowered longitudinal side 2-4, and designated b_1. The underlying part 3B of bed base 3 can therefore be received fittingly between longitudinal sides 2-3 and 2-4 of support frame 2. The height h_B of the underlying part 3B is smaller than or equal to the height h_2 of the lowered longitudinal side 2-4. The height h_A of the upper-lying part 3A is substantially equal to the height difference between longitudinal side 2-3 and lowered longitudinal side 2-4, i.e. $h_A = h_1 - h_2$. In the shown preferred embodiment longitudinal side 2-4 supports widened part 3-4A of the upper-lying part 3A of bed base 3. It is preferably the case that $b_A - b_B = d_2$.

[0020] The adjustable sleeping system according to the invention combines an increased lying comfort in the middle in a two-person embodiment with an attractive appearance, and thereby meets the wishes of potential purchasers. This is realized in inventive manner by embodying the two parts of the two-person sleeping system in asymmetrical and mirrored form and concealing the asymmetry from view.

[0021] It is noted for the sake of completeness that the present invention is not limited to the shown and described preferred embodiment, but extends to any embodiment falling within the scope of protection of the appended claims as seen in the light of this description and the drawings.

Claims

1. Adjustable sleeping system, comprising a box-like support frame with a head end and a foot end which are mutually connected by means of two longitudinal sides, in which support frame an adjustable sprung bed base is arranged, **characterized in that** on three sides the height of the support frame and the height of the bed base are adapted to each other such that in the lowest position the bed base is substantially received in the support frame, that the support frame takes a lowered form on one longitudinal side and that the bed base takes an at least partially widened form on one longitudinal side such that the widened part of the bed base supports on the lowered part of the support frame.

2. Sleeping system as claimed in claim 1, wherein the bed base comprises two parts lying one above the other, wherein the width of the upper-lying part is substantially equal to the width of the underlying part plus the width of the lowered longitudinal side of the support frame.

3. Sleeping system as claimed in claim 2, wherein the width of the underlying part substantially corresponds to the width of the support frame as measured between the longitudinal sides.

4. Sleeping system as claimed in claim 2 or 3, wherein the height of the upper-lying part is substantially equal to the height difference between the longitudinal sides of the support frame.

5. Sleeping system as claimed in claim 2 or 3, wherein the height of the underlying part substantially corre-

sponds to the height of the lowered longitudinal side of the support frame.

6. Two-person sleeping system, comprising two adjustable sleeping systems as claimed in any of the foregoing claims, wherein the adjustable sleeping systems take a mirrored form and wherein the lowered longitudinal sides are placed adjacently.

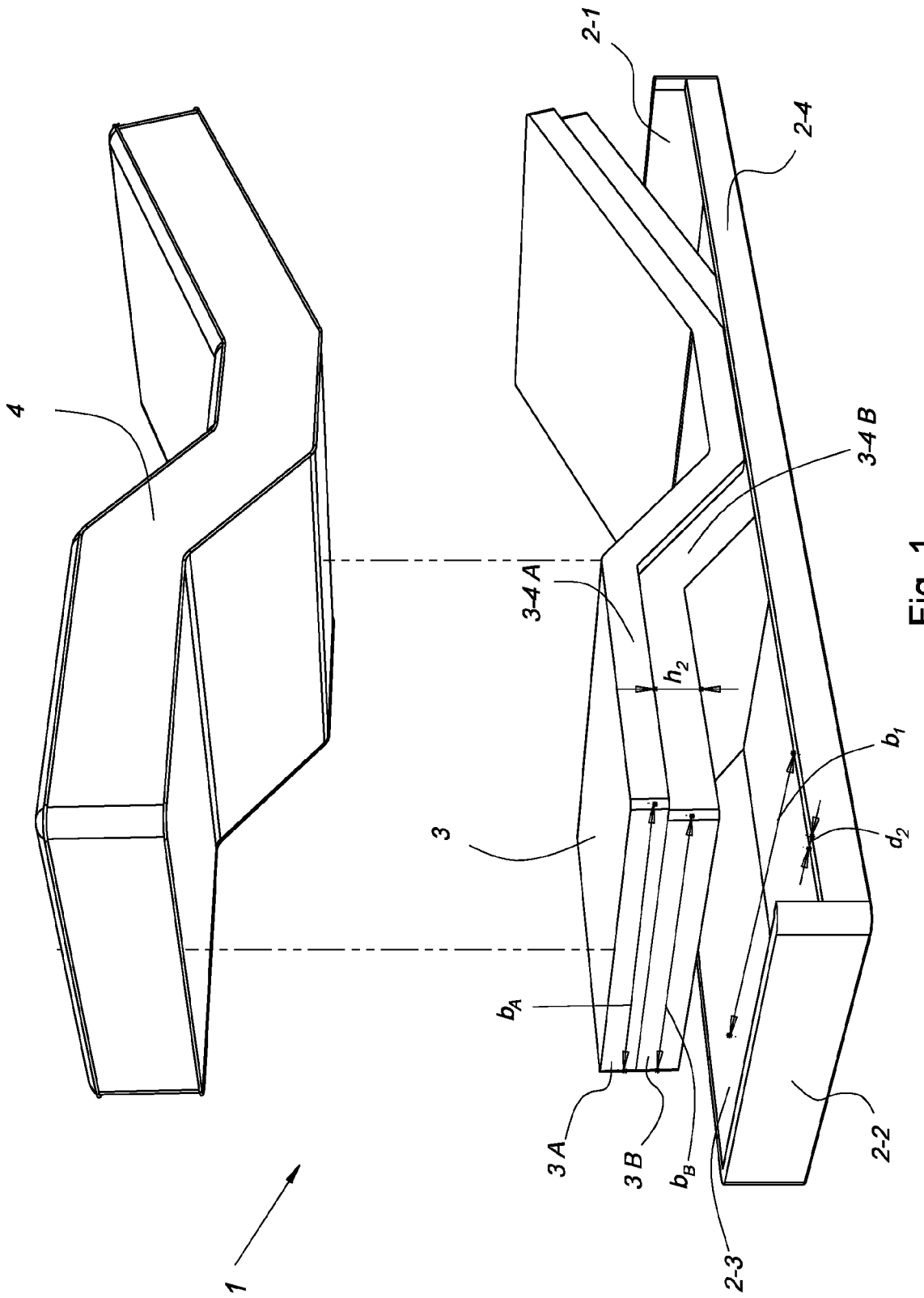

Fig. 1

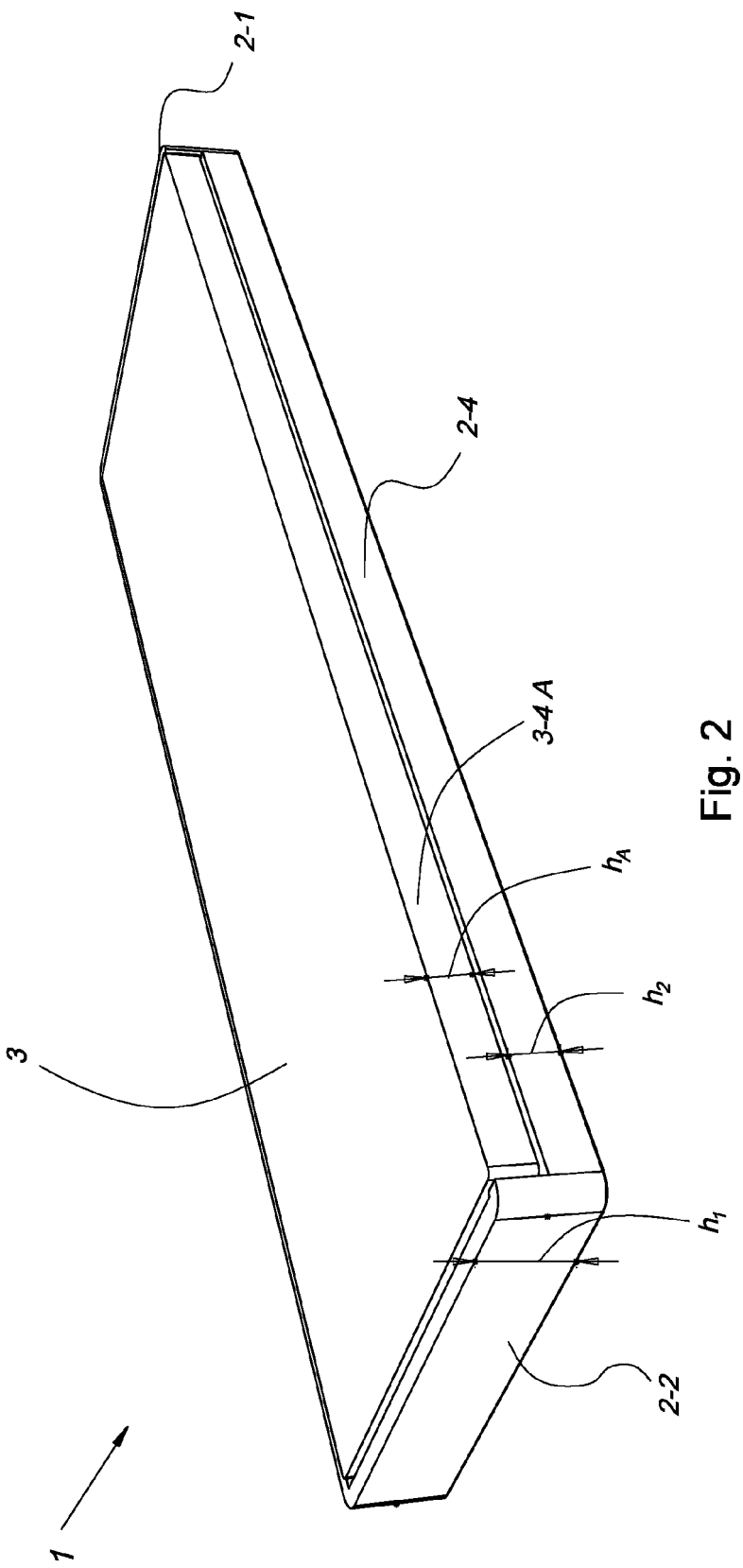

Fig. 2

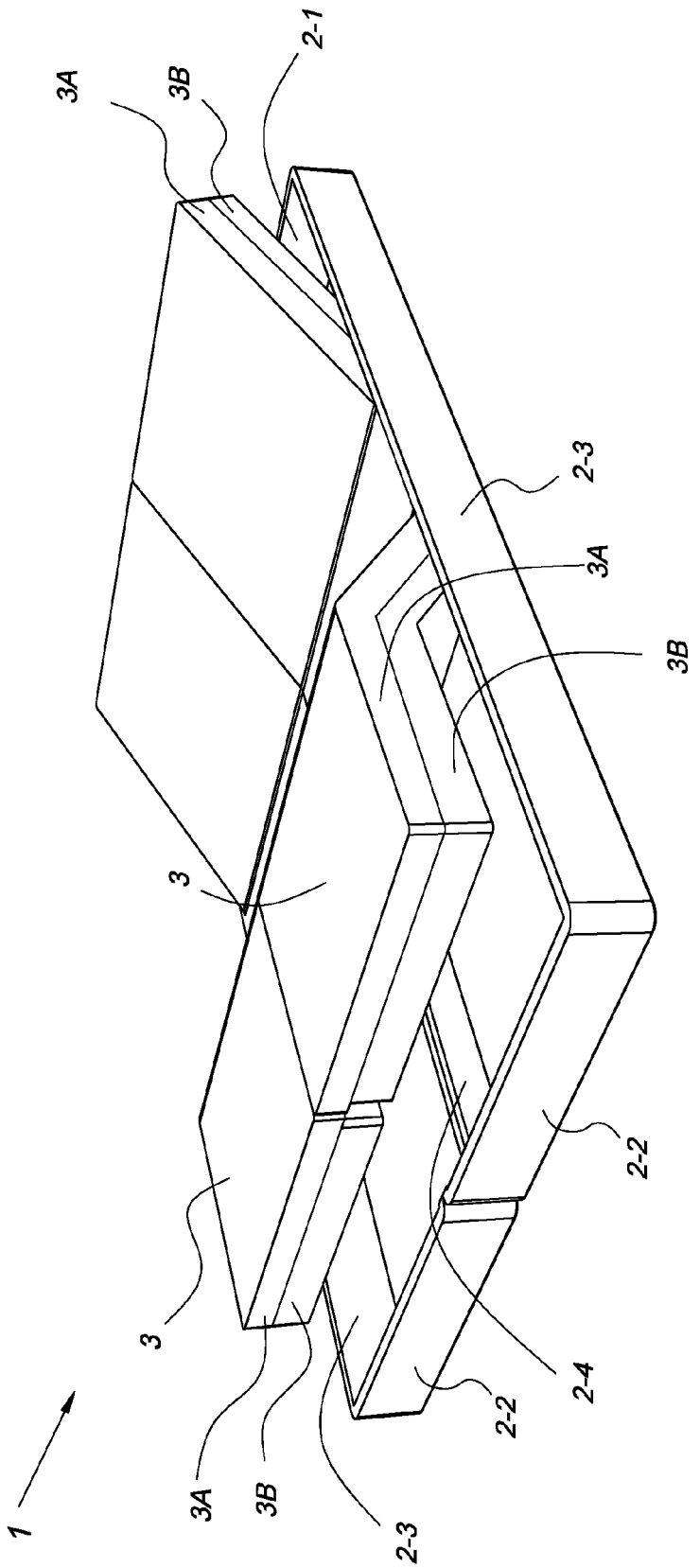

Fig. 3

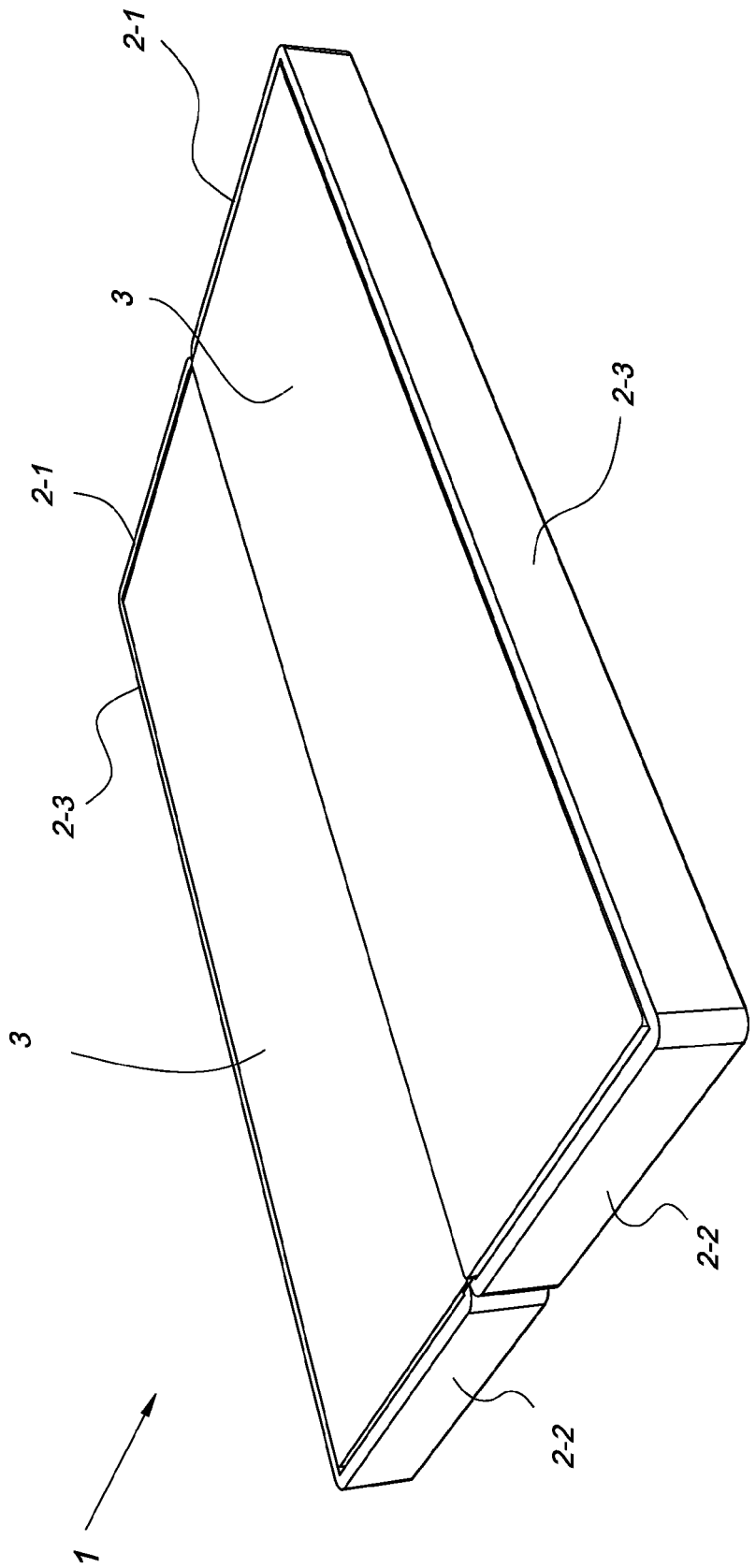

Fig. 4