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(54) **High-breathability bed base for supporting a foam matress**

(57) A highly breathable bed base for a foam mattress is described, which comprises: a rigid board (1) or an elastic board (10), adapted to support the foam mattress, and a load-bearing three-dimensional cloth (5, 6, 7) placed over the board. The board comprises a number of apertures.

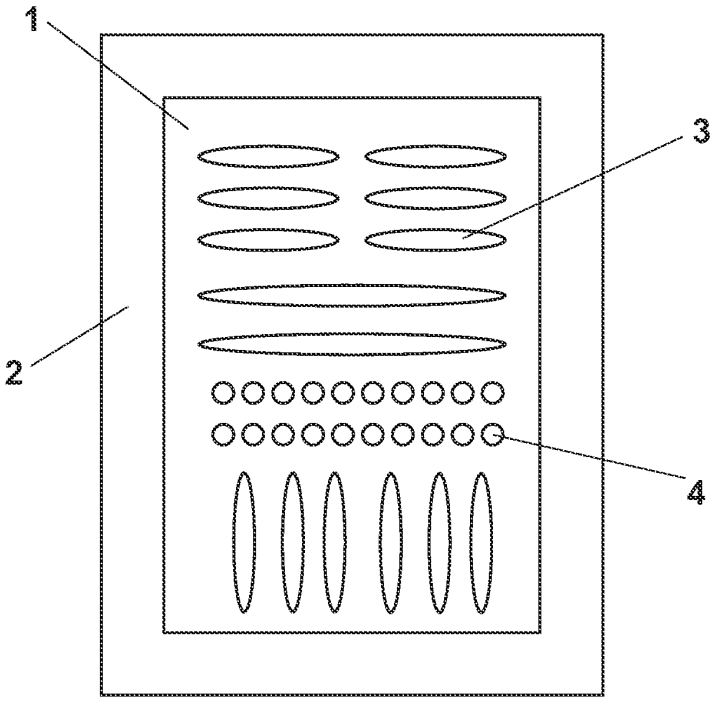

FIG. 2'

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Description

Field of the invention.

[0001] The present invention relates to a highly breathable bed base for a foam mattress.

State of the art.

[0002] A foam mattress, e.g. a latex mattress, must ensure that the body humidity of the person lying thereon is removed and diffused downwards, because, unlike other types of mattresses, e.g. spring ones, it cannot provide lateral breathability.

[0003] For this reason it is normally recommended that a foam mattress be not laid onto a rigid base, in that the humidity would otherwise tend to stagnate between the mattress and the base, leading to the risk of mould creation. It is therefore recommended to use slat-type bases directly supporting the mattress, so that body humidity can properly return into the environment through the base itself.

Summary of the invention.

[0004] The present invention therefore aims at overcoming all of the above-mentioned drawbacks by providing a highly breathable bed base for a foam mattress which prevents humidity stagnation.

[0005] The object of the present invention is a highly breathable bed base for a foam mattress which comprises: a rigid or elastic board comprising a number of breathing apertures; a three-dimensional load-bearing cloth placed over the rigid or elastic board.

[0006] In particular, the present invention relates to a highly breathable bed base for a foam mattress as described in detail in the claims appended to the present description.

Brief description of the drawings.

[0007] Further objects and advantages of the present invention will become apparent from the following detailed description of a preferred embodiment (and variants) thereof and from the annexed drawings, which are only supplied by way of non-limiting example, wherein:

Fig. 1 shows a rigid bed base according to the prior art;

Fig. 2' shows a rigid board according to a first variant of the invention;

Fig. 2" shows an elastic board according to a second variant of the invention;

Figs. 3 and 4 are two views, respectively a plan view and a side view, of a three-dimensional cloth used in the bed base according to the invention.

Detailed description of embodiments of the invention.

[0008] Fig. 1 shows a rigid bed base, by way of example and without limitation a sommier bed base, on which a foam mattress can be laid.

[0009] According to the invention, with reference to Fig. 2', a bed base consists of a rigid board 1, possibly inserted in a frame 2, adapted to support the mattress. In the rigid board there are a number of apertures, e.g. consisting of milled openings 3 or holes 4 having various shapes and dimensions. The milled openings may extend along almost the entire length or width of the rigid board, or they may be provided in pairs or as a number of elements aligned together or following geometrical patterns or fancy writings or logos.

[0010] The apertures are preferably obtained in a considerable part of the surface of the rigid board, in a manner such as to avoid weakening the structure thereof.

[0011] The rigid board may be made of wood or another material, e.g. plastic or fibreglass or other load-bearing materials.

[0012] Still according to the invention, with reference to Figs. 3 and 4, a perforated three-dimensional load-bearing cloth is placed over the rigid board and is secured thereto. The cloth is made up of three layers, comprising two side layers of perforated mesh 5, 7, e.g. made of plastic material, and a filling intermediate layer 6 consisting of a web of continuously wound spiralled polyamide threads. One possible thickness of the cloth is 1.5 cm.

[0013] Having load-bearing characteristics, the three-dimensional cloth keeps the mattress separated from the support board, thus ensuring breathability because of the air circulating within it.

[0014] In this way, the body humidity diffusing from the underside of the foam mattress can move towards the lower part of the bed base by passing through the three-dimensional cloth and the apertures in the rigid board, without stagnating.

[0015] Optionally, especially in the case of a sommier bed base, an additional load-bearing breathable three-dimensional cloth may be provided under the support board, thus further facilitating the downward dispersion of humidity.

[0016] The above-described embodiment example may be subject to variations without departing from the protection scope of the present invention, including all equivalent designs known to a man skilled in the art.

[0017] For example, with reference to Fig. 2", the board may be elastic instead of rigid, provided that it is perforated and breathable, e.g. a slat bed frame 10 consisting of a plurality of wooden slats, covered with the same breathable cloth (5, 6, 7) secured thereto.

[0018] The advantages deriving from the application of the present invention are apparent, which are essentially due to the fact that a rigid board can be used for supporting a foam mattress while at the same time ensuring breathability and avoiding humidity stagnation.

[0019] A support base of this kind allows to obtain a

firmer and more rigid bed as a whole (i.e. base plus mattress), thus making it also suitable for heavy people, for whom foam mattresses are generally not recommended.

[0020] From the above description, those skilled in the art can produce the object of the invention without introducing any further construction details.

Claims

1. A highly breathable bed base for supporting a foam mattress, comprising:

   - a rigid board (1) or an elastic board (10), comprising a number of breathing apertures;
   - a load-bearing breathable three-dimensional cloth (5, 6, 7) placed over the rigid or elastic board.

2. A bed base according to claim 1, wherein said apertures in the rigid board comprise milled openings (3) or holes (4) or fancy writings or logos.

3. A bed base according to claim 2, wherein said milled openings extend along almost the entire length or width of the rigid board, or they are arranged in pairs or more elements aligned together.

4. A bed base according to claim 1, wherein the rigid board is made of wood or plastic or fibreglass or other load-bearing materials.

5. A bed base according to claim 1, wherein said three-dimensional cloth comprises three layers including:

   - two side layers of perforated mesh (5, 7), preferably made of plastic material;
   - one filling intermediate layer (6) consisting of a web of continuously wound spiralled polyamide threads.

6. A bed base according to claim 1, wherein the elastic board (10) is a slat bed frame.

7. A bed base according to any one of the preceding claims, comprising a load-bearing breathable three-dimensional cloth under said rigid or elastic board.

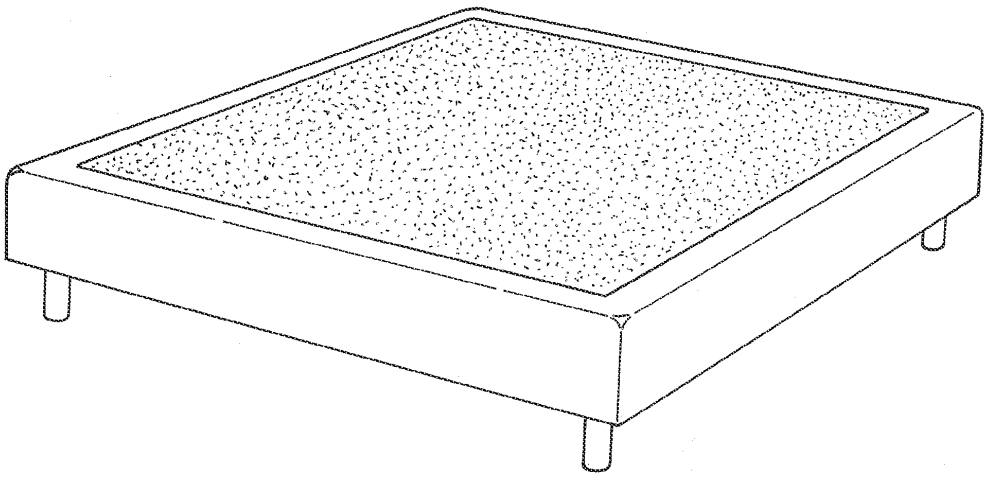


FIG. 1

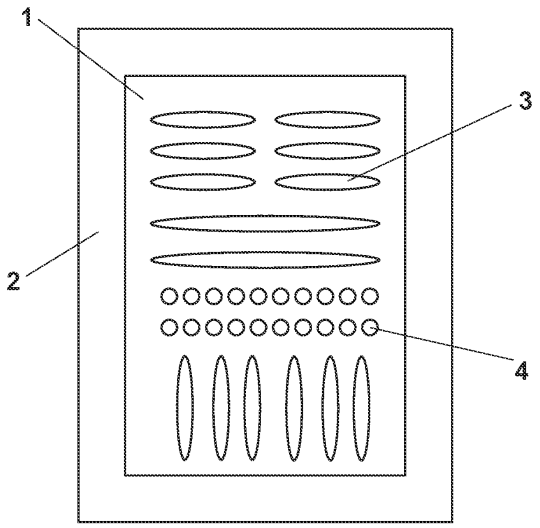


FIG. 2'

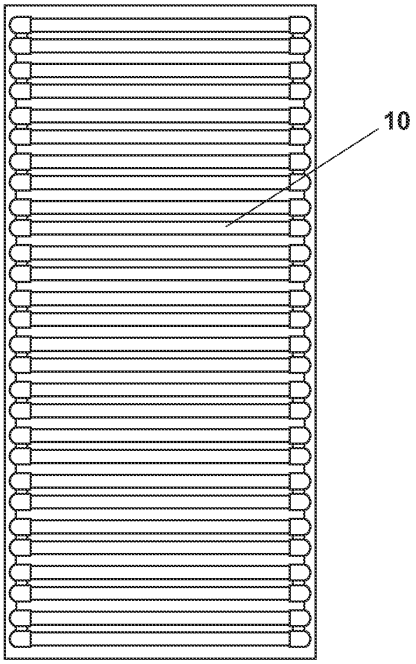


FIG. 2''

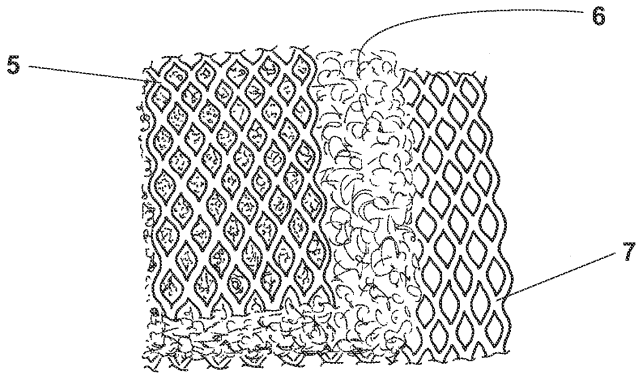
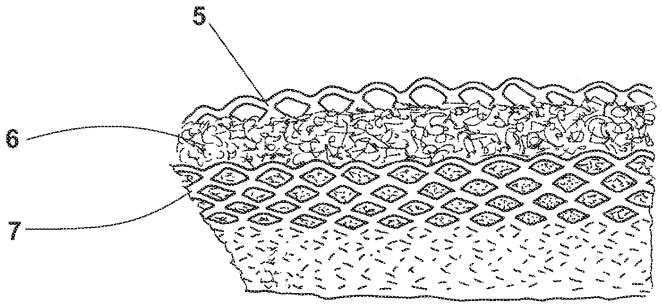


FIG. 3

FIG. 4



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EUROPEAN SEARCH REPORT

Application Number
EP 11 16 2092

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 4 112 529 A (GOLEMBECK GERALD A ET AL) 12 September 1978 (1978-09-12) * column 2, line 24 - column 2, line 39 * * figures 1-3 *	1,4,6	INV. A47C23/00
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A	GB 2 436 062 A (HARRISON A [GB]) 19 September 2007 (2007-09-19) * abstract; figures *	1-7	
A	DE 33 07 435 A1 (LIEBERKNECHT A) 6 September 1984 (1984-09-06) * abstract; figures *	1-7	TECHNICAL FIELDS SEARCHED (IPC) A47C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	11 July 2011	MacCormick, Duncan

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 11 16 2092

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11-07-2011

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82