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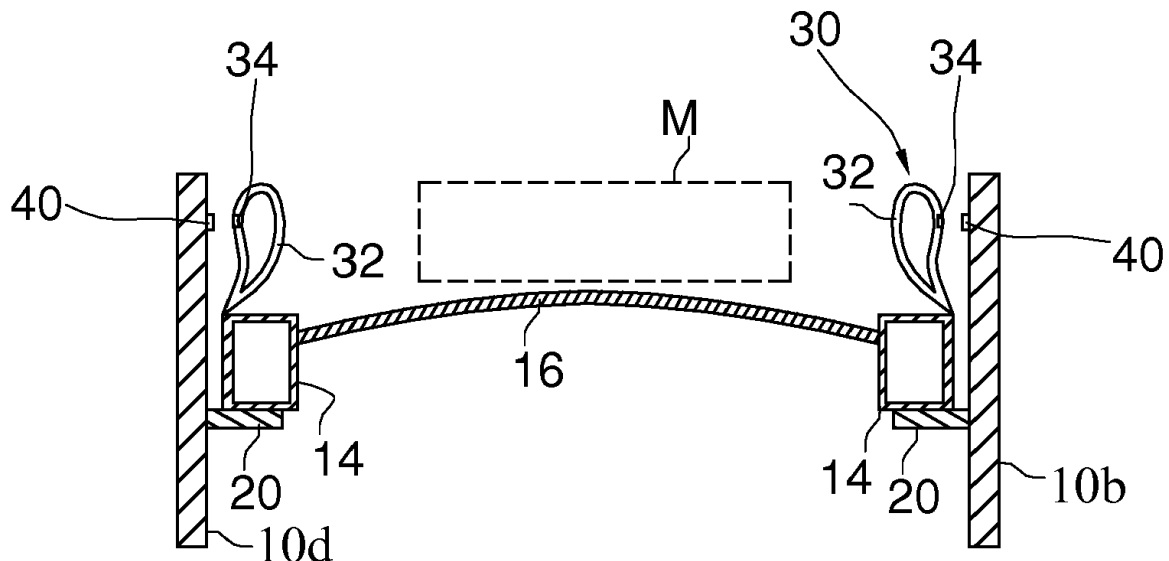
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(54) **IMPROVED BED**

(57) A method of constructing a bed (LT) is described with the step of arranging an element (40, 34) in the bed able to keep the second portion (36) temporarily attached to a part of the bed.



**Fig. 2**

**Description**

**[0001]** The invention refers to an improved bed with a liftable bedspring, and to a construction method for the bed.

**[0002]** In beds, both single and double, formed by a box-shaped container that contains the bedspring supporting the mattress, there is always a handle, made out of fabric or other, for lifting the bedspring, e.g. when one needs to clean under the bed or to move the bedspring arranged on mechanisms. The handle could also be attached to a mechanical release-and-lock device that activates a movement, or to a part of a piece of furniture (flap leaf, etc....).

**[0003]** Usually the handle is rather long, for an easy grip, and soft and flexible, so as not to interfere with the mattress. Being soft and "floppy", the handle is almost inconsistent to be able to find it always ready for use; instead one has to look for it under the mattress or between the bedspring and the box-container.

**[0004]** The discomfort of this operation is evident, even impossible for old people who can't bend too much.

**[0005]** The object of the invention is to improve this state of the art.

**[0006]** A method of constructing a bed is then proposed, with the step of arranging an element in the bed able to maintain a handle, which is attached to a bedspring of the bed, temporarily attached to a part of the bed.

**[0007]** As preferred variant of the bed construction method, the bed comprises

a bedspring, e.g. to support a mattress, for defining a surface to lie on,

a perimeter frame containing the bedspring,

a (for example, flexible) handle comprising

a first portion connected to the bedspring and

a second portion projecting cantilevered from the bedspring to be able to be gripped and pulled in order to lift the bedspring,

and there is the step of arranging an element in the bed able to keep the second portion temporarily attached to a part of the bed.

**[0008]** As preferred variant, said element acts through a magnetic force.

**[0009]** As another preferred variant said element is mounted on or in the second portion.

**[0010]** Another aspect of the invention is a bed comprising:

- a bedspring, e.g. to support a mattress, to define a surface to lie on,

- a (for example, flexible) handle and

- an element able to - or a means for - keep(ing) the

handle temporarily attached and/or fixed to a part of the bed.

**[0011]** As preferred variant, the bed comprises

- a bedspring, e.g. to support a mattress, to define a surface to lie on,

- a perimeter frame containing the bedspring,

- a (for example, flexible) handle comprising

a first portion connected to the bedspring and

a second portion projecting cantilevered from the bedspring to be able to be gripped and pulled to lift the bedspring,

an element capable of - or a means for - maintaining the second portion temporarily attached and/or fixed to a part of the bed.

**[0012]** Said part of the bed may be e.g. the same bedspring, the perimeter frame or a mattress.

**[0013]** Preferably, for greater ease of use, said element or means is an element integral with the frame and adapted for temporarily holding the second portion on the frame.

**[0014]** In this way said integral element allows maintaining the second portion of the handle fixed to the frame, in a certain and stable position, so that the user can easily grip it without rummaging inside the bed.

**[0015]** Another advantage is to prevent the second portion of the handle, which is the graspable one, from inadvertently moving inside the bed, or getting stuck e.g. between the bedspring and the frame, thereby preventing or complicating the fruition of the user.

**[0016]** Another advantage is being able to keep the second portion in a position wherein it is more easily graspable, e.g. to keep it standing upright.

**[0017]** The flexible handle and/or the second portion may take various shapes, such as for example a simple linear string or, preferably, a closed ring.

**[0018]** Said element or said integral element may take many practical embodiments, e.g.

two jaws between which a handle's portion can be clamped (e.g. it can be a clamp or a clothespin),

a segment mounted on a wall of the frame in order to be elastically pushed against the wall yet remaining liftable with respect to it, so as to be able to tighten a portion of handle between the segment and the wall;

a hook or a catcher, for hanging the handle to it.

**[0019]** The handle may have a magnet, e.g. inserted inside it, so it can attach magnetically to all metal parts in its proximity.

**[0020]** For a better holding, the handle comprises a complementary element adapted to cooperate in a complementary manner with the integral element for carrying out or improving a mutual fixing.

**[0021]** The complementary element may take many practical embodiments, including for instance an eyelet in the handle into which said hook or catcher can be inserted, or a hook on the handle to attach to an eyelet or slot fixed on the frame.

a piece of Velcro® that can be attached to another piece of Velcro® that is comprised in - or consisting of - said integral element;

a snap button on the handle that can be hooked to another snap button connected to the frame;

a stud or piece of metal (iron) sewn in or attached to the handle and cooperating with a magnet fixed to the frame (e.g. to a side rail). The position of the magnetically interacting parts can also be exchanged, i.e. if there is a magnet inside the handle that can attach to surrounding metal parts.

**[0022]** If the magnet is integral with the frame, a preferred variant envisages that the frame comprises a metal sheet, on which the magnet is magnetically attachable in various positions. Thus the user can determine in what position to fix the handle.

**[0023]** It should be noted that the handle is fixable in a very easily removable manner through e.g. the magnet or the Velcro.

**[0024]** Preferably the bed comprises a pair of rigid arms capable of supporting the bedspring in a raised position with respect to the perimeter frame. In particular, each pair of arms consists of an articulated parallelogram or quadrilateral.

**[0025]** Another aspect of the invention is the use of a magnet or a magnetic force for temporarily holding a portion of a handle attached to a part of a bed, the handle being connected to a bedspring of the bed adapted to define a surface on which to lie.

**[0026]** The advantages of the invention will be better explained by the following description of exemplary embodiments, illustrated in the attached drawing wherein:

fig. 1 shows an axonometric view of a bed;

fig. 2 shows a side cross-section view of the bed;

fig. 3 shows a handle.

**[0027]** In the drawings equal numerical references indicate same or similar parts, and positional terms such as "horizontal" or "vertical" in the description refer to the bed when in normal use, i.e. e.g. resting on a plane or a floor. The cited technical variants can be used individually and/or combined together, even if not expressly described.

**[0028]** The invention is applicable e.g. to a bed LT as in fig. 1.

**[0029]** The bed LT has a perimeter frame or box-shaped container 10, which is e.g. rectangular or square and/or metallic. In fig. 1 the bed LT is shown with the frame 10 having approximately rectangular or square plan, with vertical walls indicated in counterclockwise or-

der with 10a, 10b, 10c and 10d.

**[0030]** The frame 10 is e.g. a sort of parallelepiped drawer which is empty inside and can be used to hold objects in a compartment VN under a bedspring or platform 12.

**[0031]** The bedspring 12 comprises for example a metal perimeter frame 14 which serves as a support in the center for slats 16 (only some indicated).

**[0032]** The bedspring 12 is supported inside the frame 10 by brackets 20 integral with the inner surface of the walls 10a, 10b, 10c and 10d.

**[0033]** The bedspring 12 in turn supports a mattress M.

**[0034]** To the frame 14 is attached cantilevered a handle 30, formed as a whole by a ring 32, which is e.g. flexible and/or made of fabric or leather. The handle 30 has a first portion and a second portion. The first portion is represented by a base or a point 38 of the ring 32 which is connected to the frame 14, while the second portion is the remaining part 36 of the ring 32. Thus the remaining portion 36 of the ring 32 can be grasped by a hand of the user to lift the bedspring 12.

**[0035]** On the surface or inside the portion 36 there is applied, e.g. with adhesive or stitching, a piece or plate of iron or metal 34.

**[0036]** On the inner surface of the wall 10b, near the handle 30, is mounted a magnet 40, e.g. with adhesive or screws.

**[0037]** The position of the magnet 40 on the frame 10 and/or of the piece 34 in the handle and/or the length of the handle 30 are set so that the piece 34 can reach and be placed on the magnet 40.

**[0038]** In this way the user is able to attach the portion 36 to a wall inside the frame 10. The next time the handle 30 is needed, the user will be able to grasp it comfortably.

**[0039]** By placing the magnet 40 at a higher level than the bedspring 12, it is possible to keep the handle 30 vertical, i.e. facing upwards, i.e. already in optimal position to be grasped.

**[0040]** For comfort, optionally each side of the bedspring 12 can be equipped with one or more handles 30, as in fig. 2. E.g. alternatively or in addition one may lift the bedspring 12 at the side adjacent and parallel to the vertical wall 10a by providing the bedspring 12 with one or more handles 30 as shown in dotted lines in fig. 1.

**[0041]** The handle 30 is particularly advantageous for bed models in which the bedspring 12 can be lifted by a system of articulated arms, which maintain it raised steadily.

## Claims

1. Method of constructing a bed (LT), the bed comprising:

a bedspring (12) for defining a surface to lie on, a perimeter frame (14) containing the bedspring, a handle comprising

a first portion (28) connected to the bed-spring and  
 a second portion (36) projecting from the bedspring able to be gripped and pulled to lift the bedspring,

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with the step of  
 arranging an element (40, 34) in the bed able to keep the second portion (36) temporarily attached to a part of the bed.

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2. Method according to claim 1, wherein said element (34) acts through a magnetic force.

3. Method according to claim 1 or 2, wherein said element (40) is mounted on or in the second portion.

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4. Bed (LT) comprising:

a bedspring (12) to define a surface to lie on,  
 a perimeter frame (14) containing the bedspring,  
 a handle (30) comprising

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a first portion (28) connected to the bed-spring and  
 a second portion (36) projecting from the bedspring able to be gripped and pulled to lift the bedspring,

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an element (40) capable of - or a means for - maintaining the second portion (36) temporarily attached to a part of the bed.

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5. Bed (LT) according to claim 4, wherein said element or means (40) is an element integral with the frame and adapted for temporarily holding the second portion on the frame.

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6. Bed (LT) according to claim 4 or 5, wherein said element or means comprises two jaws between which a handle's portion can be clamped.

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7. Bed (LT) according to claim 4 or 5 or 6, wherein said element or means comprises a hook or a catcher, for hanging the handle to it.

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8. Bed (LT) according to any one of the previous claims, wherein the handle comprises a magnet (34).

9. Bed (LT) according to any one of the previous claims, wherein the handle comprises a complementary element adapted to cooperate in a complementary manner with said integral element for carrying out or improving a mutual fixing.

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10. Use of a magnet (34) or a magnetic force for temporarily holding a portion (36) of a handle (32) attached to a part of a bed (LT), the handle (32) being con-

nected to a bedspring (12) of the bed adapted to define a surface on which to lie.

Fig. 1

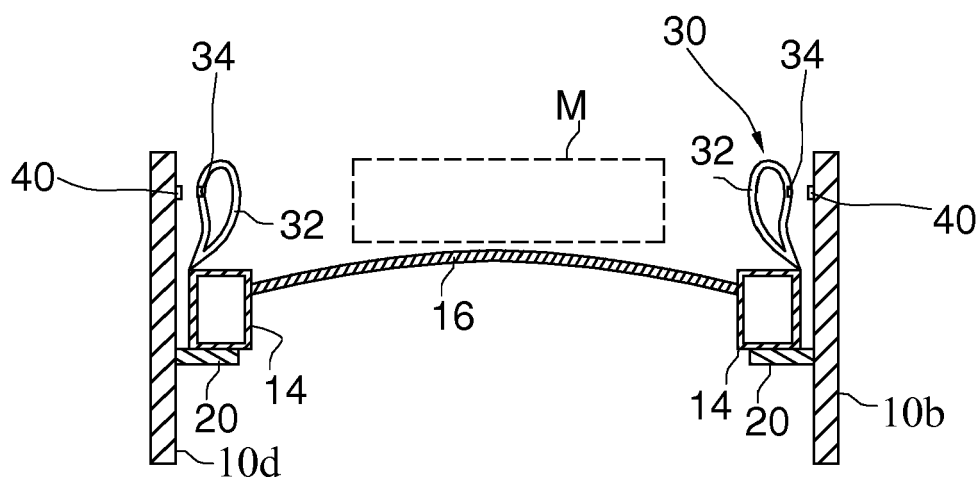
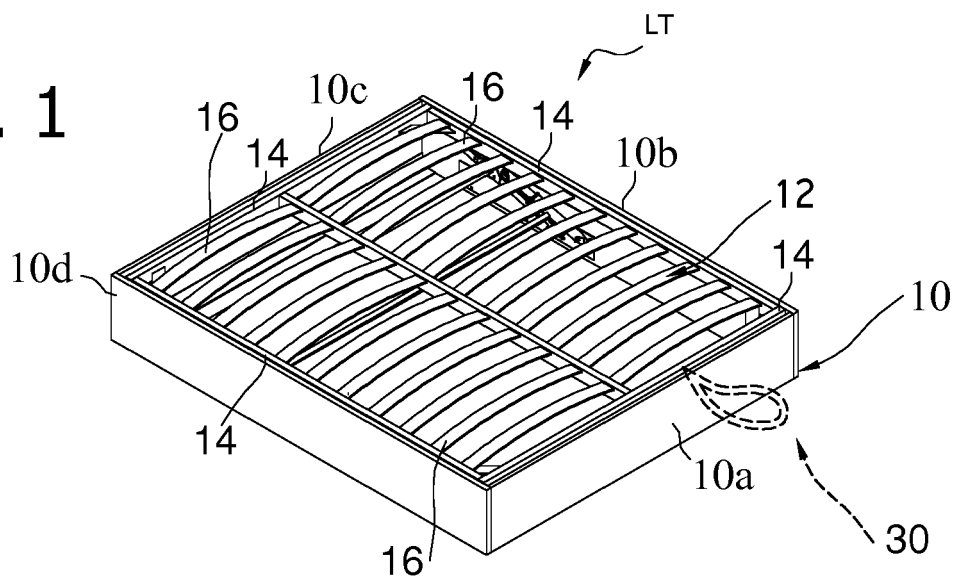


Fig. 2

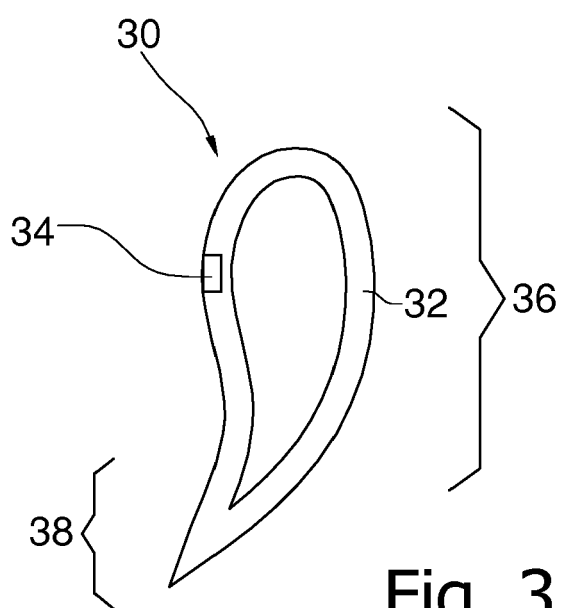


Fig. 3



## EUROPEAN SEARCH REPORT

Application Number  
EP 19 19 3524

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| 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                                                                                                                                                                                                                                                      | DE 27 02 317 A1 (DOERFERT FA)<br>27 July 1978 (1978-07-27)<br>* page 9, paragraph 2; figures 1-4 *<br>-----                                                                                                                                                                                             | 1,4-7,9                                                                                                                                                                                                                                                                      | INV.<br>A47C31/08<br>A47C31/00<br>A47C19/02 |
| X                                                                                                                                                                                                                                                      | DE 298 14 005 U1 (RHEKER JOSEF [DE])<br>29 October 1998 (1998-10-29)<br>* claim 3; figures 1-3 *<br>-----                                                                                                                                                                                               | 1,4-7,9                                                                                                                                                                                                                                                                      | A47C23/06<br>A47C17/86                      |
| X                                                                                                                                                                                                                                                      | DE 20 2014 100558 U1 (SCHMITT STEFANIE [DE])<br>8 May 2015 (2015-05-08)<br>* paragraphs [0035], [0036], [0039], [0040]; figures 2-5 *<br>-----                                                                                                                                                          | 10                                                                                                                                                                                                                                                                           |                                             |
| A                                                                                                                                                                                                                                                      | Dominik Funk: "Application No. 638: Magnetic loop suspension",<br>16 October 2012 (2012-10-16), pages 1-2, XP055560004, supermagnete.de<br>Retrieved from the Internet:<br>URL:https://www.supermagnete.de/eng/project638.pdf<br>[retrieved on 2019-02-21]<br>* page 1 - page 2; figures 1-7 *<br>----- | 2,3,8,10                                                                                                                                                                                                                                                                     | TECHNICAL FIELDS SEARCHED (IPC)<br>A47C     |
| The present search report has been drawn up for all claims                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                              |                                             |
| Place of search<br>The Hague                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                         | Date of completion of the search<br>13 November 2019                                                                                                                                                                                                                         | Examiner<br>Pössinger, Tobias               |
| CATEGORY OF CITED DOCUMENTS<br>X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document |                                                                                                                                                                                                                                                                                                         | T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>& : member of the same patent family, corresponding document |                                             |

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 19 19 3524

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
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13-11-2019

| Patent document<br>cited in search report | Publication<br>date | Patent family<br>member(s)                           | Publication<br>date                    |
|-------------------------------------------|---------------------|------------------------------------------------------|----------------------------------------|
| DE 2702317 A1                             | 27-07-1978          | AT 364110 B<br>CH 624560 A5<br>DE 2702317 A1         | 25-09-1981<br>14-08-1981<br>27-07-1978 |
| DE 29814005 U1                            | 29-10-1998          | NONE                                                 |                                        |
| DE 202014100558 U1                        | 08-05-2015          | DE 202014100558 U1<br>EP 2904944 A1<br>ES 2607722 T3 | 08-05-2015<br>12-08-2015<br>03-04-2017 |