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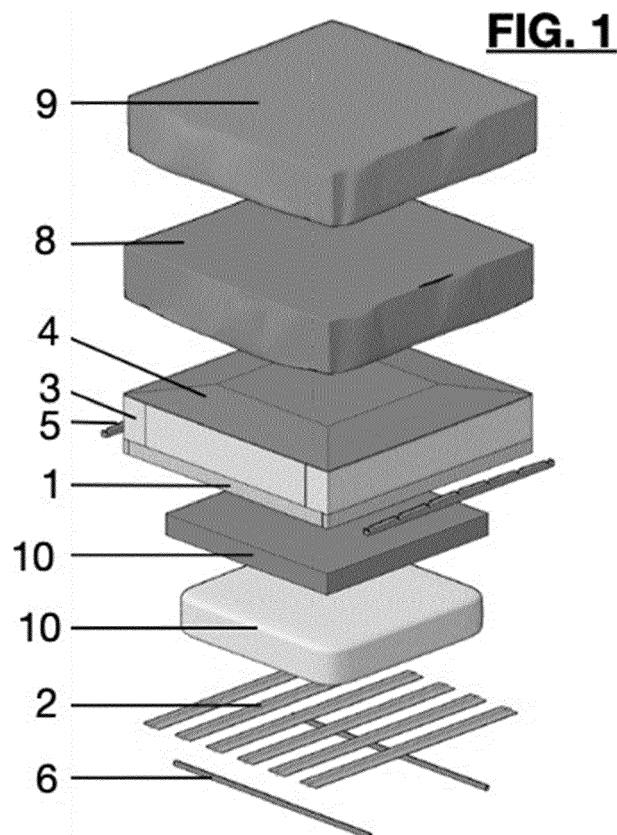
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(54) **INTERCHANGEABLE SEAT CUSHION UNIT**

(57) The present invention describes an interchangeable seat cushion unit comprising a frame (1) which comprises a plurality of slats (2), strips or bands.



Description

Technical field of the invention

[0001] The object of this invention is a seating unit for an armchair, sofa or similar that has an interchangeable cushion, i.e., a cushion that can be housed inside the frame that makes up the seating unit which can be changed at the whim of the user.

State of the prior art

[0002] There are many types of sofas on the market with different cushion seats, some harder and some softer. Generally, softer sofa or armchair seats are liked by a wide range of people, but are often overlooked because, with use, these softer seats are more prone to deformation.

[0003] Seats are made up of a cushion made of fibre-lined rubber or a cover filled with fibre, feathers or a combination of rubber and fibre or rubber and feathers. With use, cushions tend to lose their original properties of hardness and resilience. The fillings of these cushions are usually made of a piece of rubber covered with fibre or a kind of duvet made of fibre, fibre and feathers or all feathers. With soft seating options, with use, the covers tend to twist and the filling deforms.

[0004] The objective of the project is to design and build a seat cushion for sofas wherein it is possible for it to be very soft, but which deforms as little as possible, and which can also extend the life of these sofas by allowing the user to exchange the seat core easily and economically. These problems are solved by the seating unit of claim 1.

Explanation of the invention

[0005] One object of the invention is an interchangeable seat cushion unit, in such a way that the frame, upholstery and cushion are independent of each other and can be freely interchanged by the user. This object is achieved with the seating unit of claim 1.

[0006] A further objective of the invention is to achieve an environmentally sustainable seat, so that its useful life can be multiplied simply by replacing the inner core of the cushion, it being possible to offer users a combination of different cores with different construction and hardness.

[0007] The objective of this invention is to build a sustainable seat cushion wherein only the component inside the seat can be easily replaced -i.e., the component that actually deforms with use- in order to enable the useful life of the cushion to be multiplied. To this end, this invention describes a more complex cushion structure, which makes it practically undeformable, wherein the core of the cushion can be easily replaced, while the more expensive and complex part of the seat remains operational for a large number of years.

[0008] To achieve this result, different elements have been combined. So that the replacement core can be removed from the lower part of the cushion without having to remove the upholstery cover. In the construction of the seat, a rubber layer, which is convex-shaped on all four sides, has been arranged on the upper part. This layer is lined with fibre and then with a TST or cotton pre-cover. This construction system allows us to introduce different types of cushion cores (fibre, rubber, feather) and that no differences in touch or volume be perceived in the seat between the permanent frame of the cushion, which is practically undeformable, and the interchangeable core introduced.

[0009] From the manufacturer's point of view, the manufacture of a seating unit such as the one claimed in this invention has an obvious advantage, since it is possible to have differentiated storage between seating units. Thus, the manufacturer of this type of seating unit will be able to have a stock of different degrees of hardness, a stock of upholstery with different textures and aesthetic appearances and even a stock of frames. The obvious advantage is the versatility of combining these different elements, as well as the possibilities of converting a traditionally limited element into a consumable with infinite aesthetic possibilities.

[0010] From the user's point of view, the advantage in its use is also disruptive compared to traditional seating units. One can easily interchange the cover and filling of the seat by accessing the rear part thereof without having to remove the cover, multiplying the useful life of the sofa by changing only the core of the seat without having to change the entire seat. In addition, the acquisition cost of these replacements is logically much lower than buying a whole seat.

[0011] Last but not least, it is necessary to highlight the environmental sustainability of the configuration of the seating unit claimed. Indeed, in traditional seating units, any breakage, while changing the cushion, would again only involve replacing that element and not the whole, simplifying, as has been mentioned for the rest of the elements, recycling tasks. Last but not least, the core is fully recyclable without the need to separate subcomponents, as it does not contain a mixture of different raw materials, thus facilitating recycling tasks.

Brief description of the drawings

[0012] The following is a very brief description of a series of drawings that help us to understand the invention better and which relate expressly to one embodiment of the invention, which is illustrated as a non-limiting example thereof.

FIG. 1 shows an exploded view of the components of the interchangeable seat cushion unit, which is the object of this invention.

FIG. 2 shows an exploded view of the interchangeable compact rubber core, in one practical embodi-

ment of the invention.

FIG. 3 shows an exploded view of the interchangeable compact rubber core with a row of internal cutouts, in another practical embodiment of the invention.

FIG. 4 shows an exploded view of the interchangeable compact rubber core with two rows of internal cutouts, in another practical embodiment of the invention.

FIG. 5 shows an exploded view of the interchangeable fibre-filled core with cover.

FIG. 6 shows a view of the interchangeable seat cushion unit prior to the insertion of the core (10).

FIG. 7 shows a complete view of the interchangeable seat cushion unit.

FIG. 8 shows a view of the position of the metal tube (6) to obtain an extra soft seat.

FIG. 9 shows a view of the position of the metal tube (6) to obtain a hard seat.

Detailed description of a practical embodiment of the invention

[0013] As can be seen in the attached figures, the interchangeable seat cushion unit consists of a frame (1), preferably made of pine wood, board, metal, or combinations thereof. In this frame (1) a plurality of housings has been made configured for the insertion of a plurality of slats (2), strips or bands, which are flexible elements, preferably made of plastic material and which are configured for the suspension of the seat. The slats (2) are elements that are integrated into the construction system of the seat.

[0014] This invention further comprises a surround (3) for the cushion. This surround (3) is a rigid element that perimetrically frames the set of elements that makes up the cushion, as described below. This surround (3) is manufactured, preferably, in a high-density, hard-touch rubber, as it is configured so as not to deform with use, since it must house the core of the seat.

[0015] An essential element of the present invention is the cover (4) of the cushion. This cover (4) is made from foam rubber and is slightly convex-shaped to prevent wrinkles from forming with use. The thickness of the cover (4) is between 10 mm to 60 mm so that the difference between the surround (3) and the core of the cushion is not noticeable.

[0016] Likewise, this invention can incorporate saw-shaped profiles (5) to regulate the hardness. This is an optional element in which we can incorporate the metal tube (6), and which allows us, moreover and depending on its position, to obtain a very soft seat if it is positioned at the edge of the surround (3) or a harder seat if it is positioned near to the centre.

[0017] The metal tube (6) mentioned above has one or two units. The first one is arranged to hold the slats (2) and the second to regulate the hardness of the seat, by inserting it into the saw-shaped profile (5).

[0018] In addition, the invention has a layer of fibre (7) that covers the surround (3), the cover (4) and the frame (1); as well as a removable fabric cover (9) attached with Velcro® and an inner protective lining (8) to protect the cushion when the fabric cover (9) is removed.

[0019] Finally, the invention has a core (10) in its cushions that allows different hardness in the same depending on whether they are made in solid form or by means of circular or oval-shaped cuts made therein. Furthermore, said core (10) may be made of a single piece of rubber, of several pieces or by combining said piece of rubber with a fibre piece wrapped in a cotton, polyester or fibre cover.

Claims

1. An interchangeable seat cushion unit comprising a frame (1) made up of a perimeter structure in which a plurality of transversal slats (2) are arranged and **characterised in that** the frame (1) comprises a plurality of housings configured for the insertion of a plurality of slats (2), strips or bands, which are flexible elements preferably made of plastic material and which are configured for the suspension of the seat or cushion.
2. An interchangeable seat cushion unit according to claim 1 wherein the frame (1) comprises a surround (3) that houses the core of the seat inside it, and wherein this surround (3) is a rigid element that perimetrically frames the set of elements that makes up the cushion.
3. An interchangeable seat cushion unit according to claims 1 and 2 wherein the cushion comprises a foam rubber cover (4) with a thickness of between 10 millimetres and 60 millimetres.
4. An interchangeable seat cushion unit according to claims 1 to 3 comprising a layer of fibre (7) that covers the surround (3), the cover (4) and the frame (1); as well as a removable fabric cover attached with Velcro® and an inner protective lining (8) to protect the cushion when the fabric cover (9) is removed.

FIG. 1

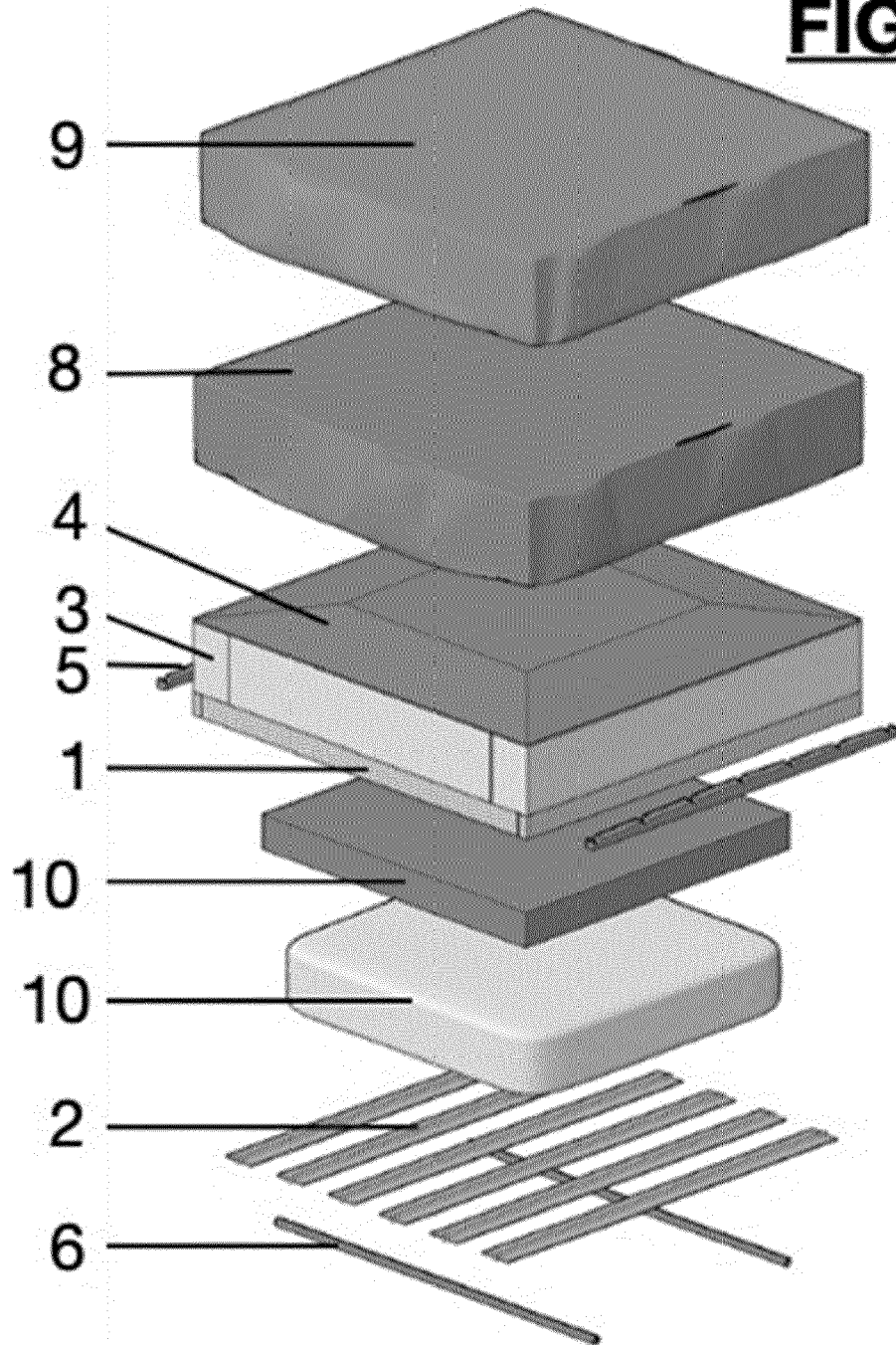


FIG. 2

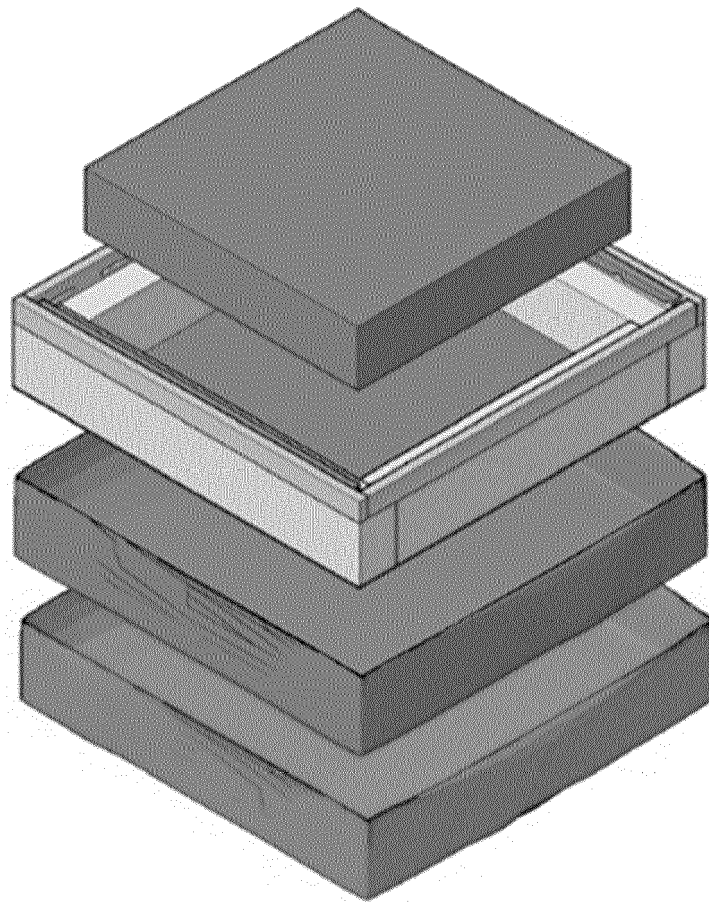


FIG. 3

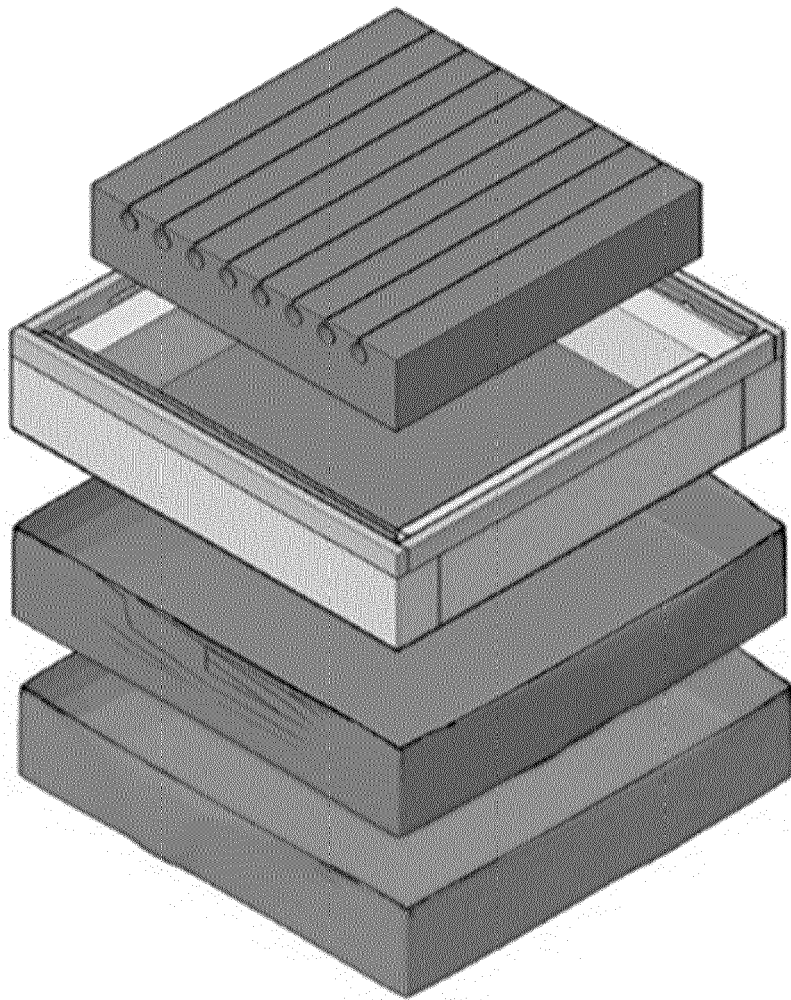


FIG. 4

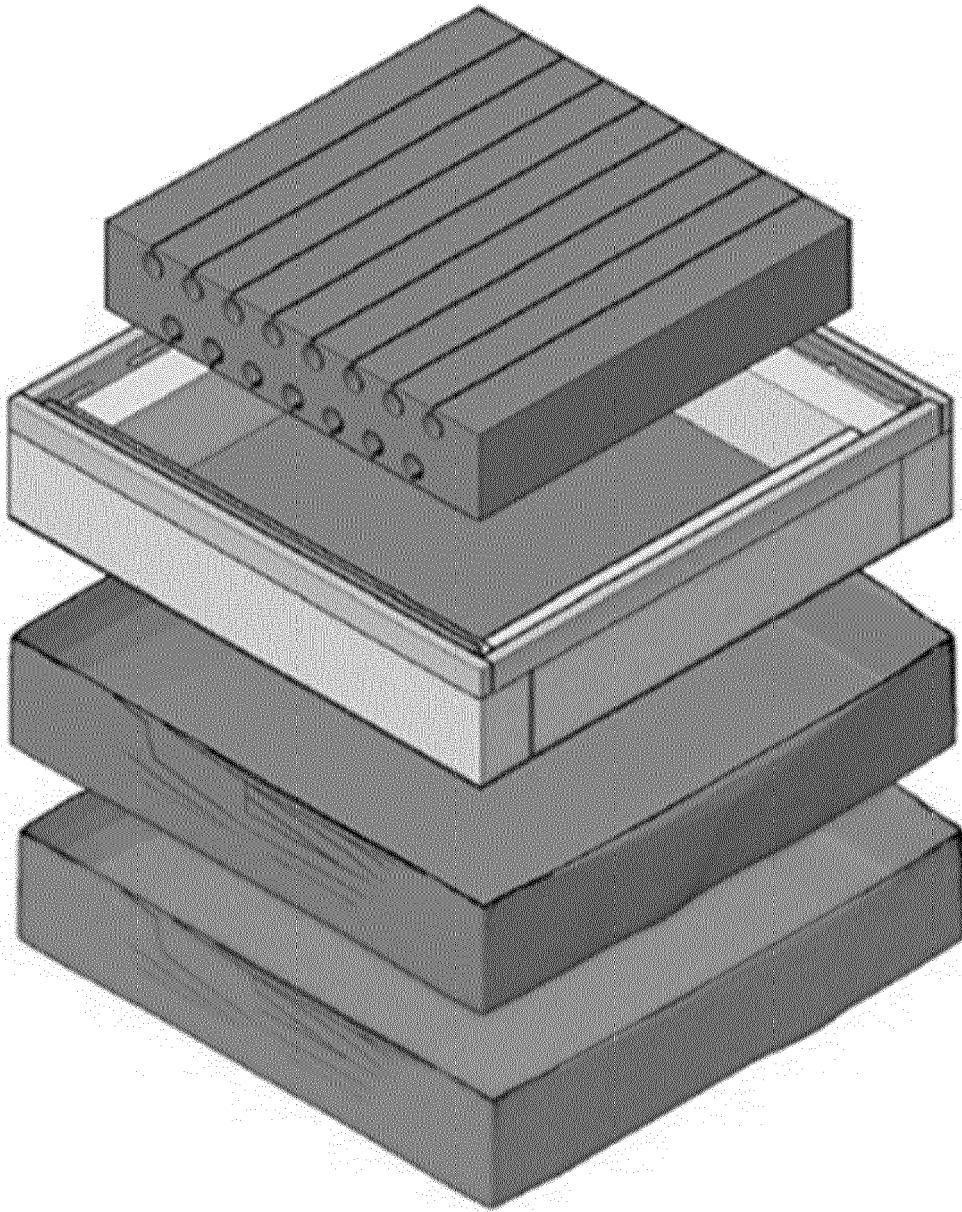


FIG. 5



FIG. 6

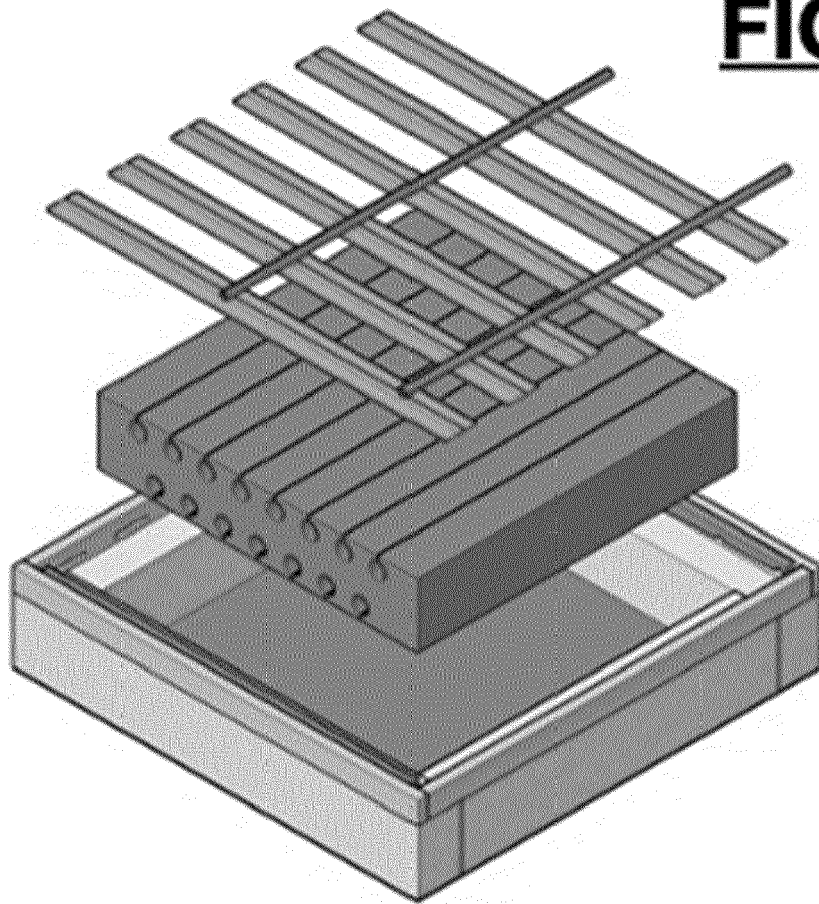


FIG. 7

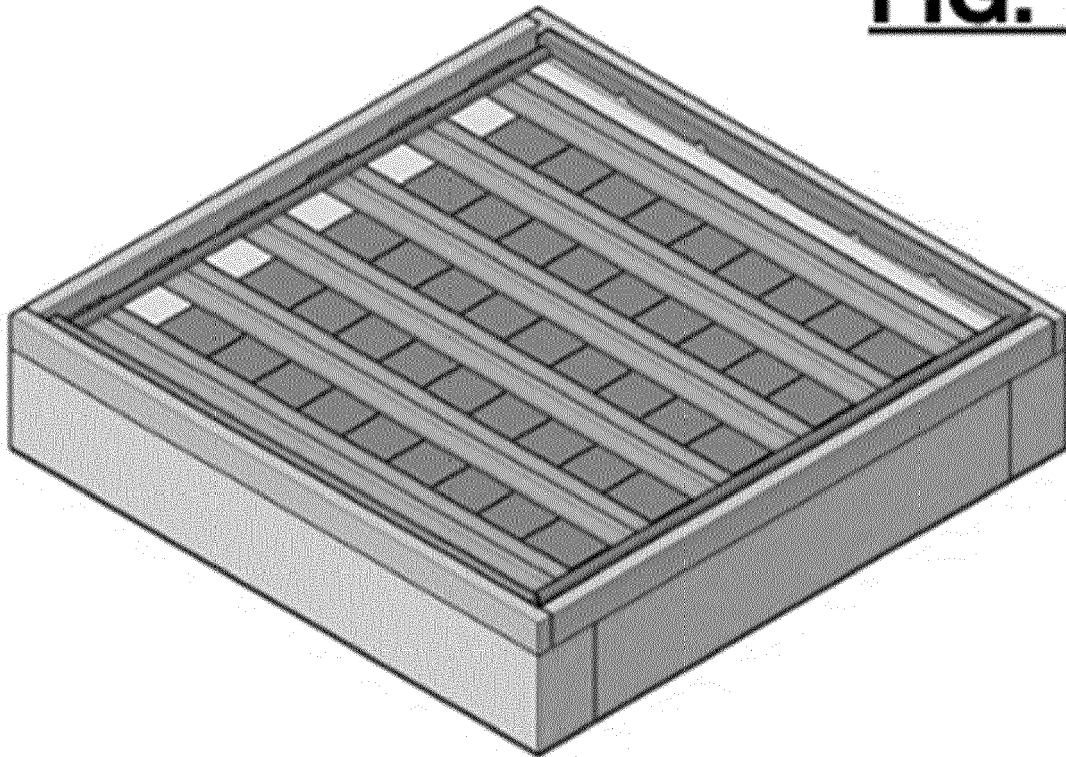


FIG. 8

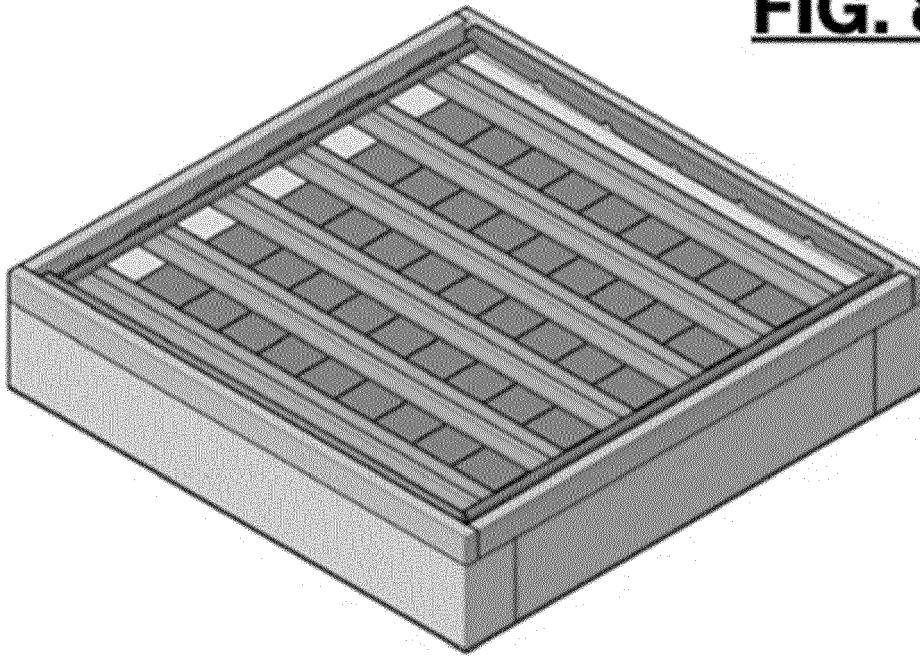
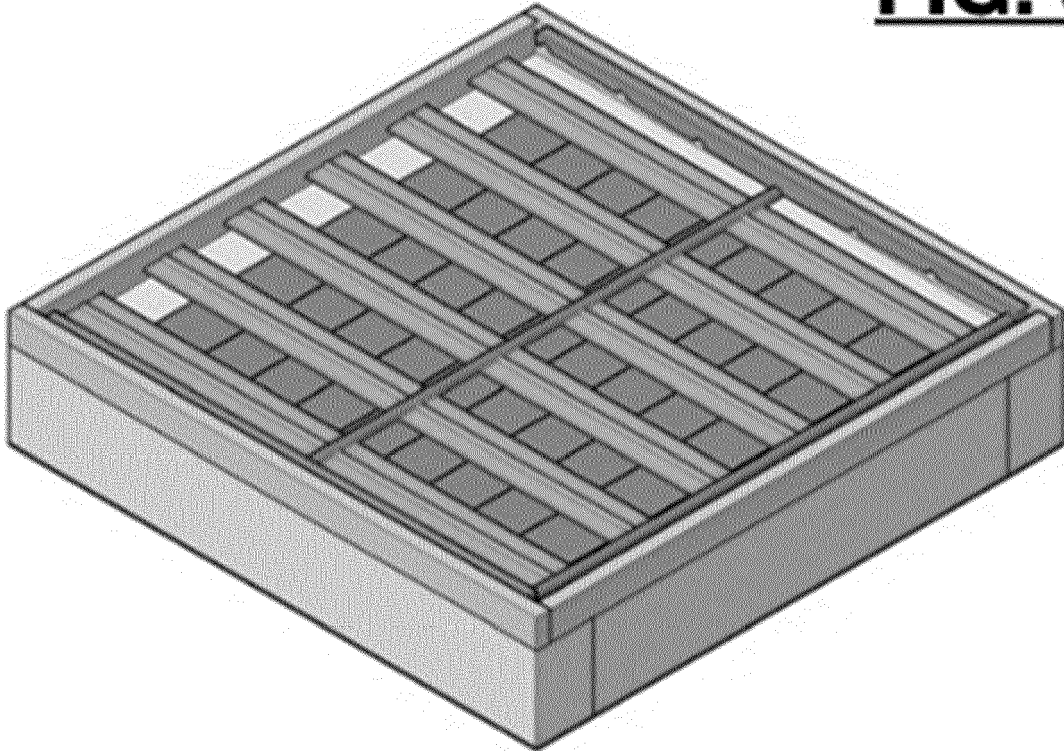


FIG. 9





EUROPEAN SEARCH REPORT

Application Number

EP 22 38 2622

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 2 358 437 A (BEACHLEY DONOVAN R) 19 September 1944 (1944-09-19)	1-3	INV. A47C7/02
A	* paragraphs [0136], [0192]; figures 1-22B *	4	A47C23/06 A47C7/18 A47C31/11
A	US 2020/260880 A1 (NELSON SHAWN D [US] ET AL) 20 August 2020 (2020-08-20) * figures *	1-4	
			TECHNICAL FIELDS SEARCHED (IPC)
			A47C

The present search report has been drawn up for all claims

1

EPO FORM 1503 03.82 (P04C01)

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The Hague

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Examiner

Kis, Pál

CATEGORY OF CITED DOCUMENTS

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

EP 22 38 2622

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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07-12-2022

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2358437	A	19-09-1944	NONE
US 2020260880	A1	20-08-2020	NONE