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(54) PALLET FOOT

(57) A foot for a pallet comprises an alveolar central body (1) made of paper and lateral walls (2), made up of at least one layer (2a) of corrugated cardboard, which are suitable for supporting the weight of the goods.

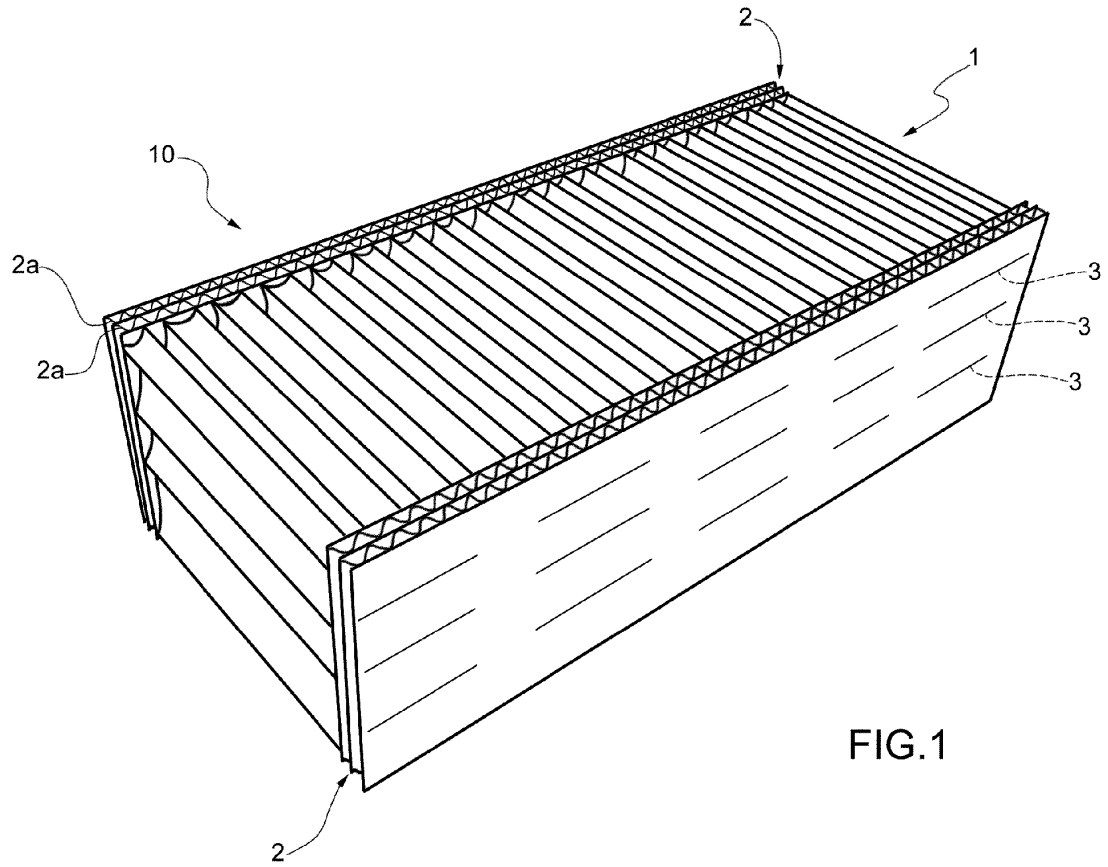

FIG.1

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Description

[0001] The invention relates to a foot for a pallet.

[0002] The enormous spread of pallets, since the 1950s to the present day, has profoundly influenced the ways in which goods are handled and stored.

[0003] As is known, pallets are made up of a flat surface, on which the goods are placed, below which there are feet which are appropriately spaced to allow the forks of operating equipment, such as fork-lift trucks or pallet trucks, to occupy the spaces between the feet and to favour pallet handling.

[0004] Originally, the material used to make pallets was exclusively wood: today, although wood is still the most used material, there are also pallets made of plastic, metal and even cardboard.

[0005] Regarding cardboard pallets, considering the loads to be supported, the feet are a critical factor: there are prior art feet obtained from panels with a "cellular" alveolar structure covered by paperboard sheets, on which paperboard the flat surface which supports the goods is placed. In this way, the weight of the goods is supported by the alveolar structure characterised by good resistance to vertical compression.

[0006] However, the poor resistance of the alveolar structure to lateral crushing means that repeated impacts against the forks of fork-lift trucks or pallet trucks deform the sides of the feet, compromising their effectiveness in a relatively short time.

[0007] Moreover, the feet made with an alveolar structure are not very good at withstanding sliding on roller conveyors and therefore they deform easily.

[0008] A further disadvantage arises when the pallet must be "strapped", that is to say, wrapped in a band (strap) made of appropriately tensioned plastic or metal material.

[0009] In this case too, the resistance of the alveolar structure is unable to withstand the tension applied to the strap without deforming, therefore the strap will have to interact with the foot at non-deformable portions of the latter.

[0010] The aim of this invention is therefore to eliminate the above-mentioned disadvantages.

[0011] The invention, characterised as set out in the claims, achieves the aim thanks to the use of corrugated cardboard.

[0012] The main advantage obtained by means of this invention is basically the fact that there is a considerable increase in the resistance to impacts caused by the forks of operating equipment, but without a reduction in the capacity for supporting the heavy weights of the goods to be transported.

[0013] Moreover, even if the pallets must be strapped, the tension of the strap does not damage the integrity of the packaging.

[0014] Finally, the particular shape of the foot which is the subject of the invention allows easy sliding on roller conveyors thanks to the surface formed by the corrugated cardboard

[0015] Further advantages and features of the invention will be more apparent in the detailed description which follows, with reference to the accompanying drawings, which show an example, non-limiting embodiment, in which:

- Figure 1 illustrates the invention according to a perspective view;
- Figure 2 illustrates the invention according a perspective view in a condition of use;
- Figure 3 illustrates the invention according to a view similar to that of Figure 2, with some parts cut away to better illustrate others.
- Figure 4 illustrates an accessory of the invention according to a perspective side view;
- Figure 5 illustrates the same accessory as Figure 4, according to a perspective top view;
- Figure 6 illustrates an alternative embodiment of the accessory of the preceding figures according to a perspective view;
- Figure 7 illustrates an alternative embodiment of the invention according to a perspective view;
- Figure 8 illustrates a further embodiment of the invention according to a perspective view;
- Figures 9 and 10 illustrate another alternative embodiment of the invention according to a perspective side view and top view;
- Figure 11 illustrates the invention according a perspective top assembly view in a condition of use.

[0016] As can be seen from the figures, the invention relates to a foot for a pallet, comprising an alveolar central body (1), formed by a "cellular" structure with cells having linear dimensions preferably in the range of from 8 to 30 millimetres, and lateral walls (2), made up of at least one layer (2a) of corrugated cardboard, which are suitable for supporting the weight of the goods.

[0017] In this way, in the condition of use shown in Figures 2 and 3, use is made of the high resistance of the corrugated cardboard in the "flute direction", certainly comparable to the resistance of the alveolar structure to compression. Based on the resistance required, with regard to the weight of the goods to be loaded on the pallet (P), the lateral walls (2) have a plurality of layers (2a) of corrugated cardboard, usually not more than three.

[0018] In contrast, the resistance to compression of the alveolar structure of which the central body (1) of the foot (10) is composed is exploited to withstand horizontal impacts mainly caused by the forks of fork-lift trucks and pallet trucks. Moreover, thanks to a particular gluing system, the foot (10) has gluing lines (3) which give it good resistance even in a transversal direction.

[0019] In a preferred embodiment, shown in Figure 4 the foot (10) comprises a protector (20) which prevents it from deforming even in the case of strapping.

[0020] The protector (20) comprises a block (11) composed of a plurality of sheets (11a) of paper which are

glued to each other, the block being suitable for application to at least one end face (10a) of the foot (10) which will have to make contact with a packaging strap. The sheets (11a) of which the block (11) is composed, shown in Figures 4, 5 and 6, may be glued along strips (11b), in such a way as to form a "cellular" alveolar structure, as in Figures 4 and 5, or even completely at the surfaces facing each other, as in Figure 6.

[0021] Figures 7 and 8 show the protector (20) applied respectively to one and two end faces of the foot (10).

[0022] The protector (20) may also be provided with an angular portion (12) made of pressed paperboard, to an inner face (12a) of which the block (11) described above is constrained. The angular portion (12) may adopt an "L" shape, as shown in Figure 9, or a "U" shape, as shown in Figure 10.

[0023] In this way, in the condition of use shown in Figure 11, in addition to the resistance of the corrugated cardboard in the "flute direction", use is made of the resistance of the protector (20) on the wall of the foot (10) where the packaging strap could be applied.

Claims

1. A foot for a pallet, **characterised in that** it comprises an alveolar central body (1) made of paper and lateral walls (2), made up of at least one layer (2a) of corrugated cardboard, which are suitable for supporting the weight of the goods.

2. The foot according to claim 1, **characterised in that** it comprises a protector (20), suitable for being joined to at least one end face (10a) of the foot (10).

3. The foot according to claim 2, **characterised in that** the protector (20) comprises a block (11) composed of a plurality of sheets (11a) of paper which are glued to each other.

4. The foot according to claim 2, **characterised in that** the sheets (11a) are glued along strips (11b), in such a way as to form a "cellular" alveolar structure.

5. The foot according to claim 2, **characterised in that** the sheets (11a) are completely glued on the surfaces facing each other.

6. The foot according to claim 3, **characterised in that** the protector (20) comprises an angular portion (12) made of pressed paperboard, to at least one inner face (12a) of which said block (11) is constrained.

7. The foot according to claim 1 or 2, **characterised in that** the lateral walls (2) have a plurality of layers (2a) of corrugated cardboard.

8. The foot according to claim 1 or 2, **characterised in that** it has gluing lines (3) suitable for providing resistance even in a transversal direction.

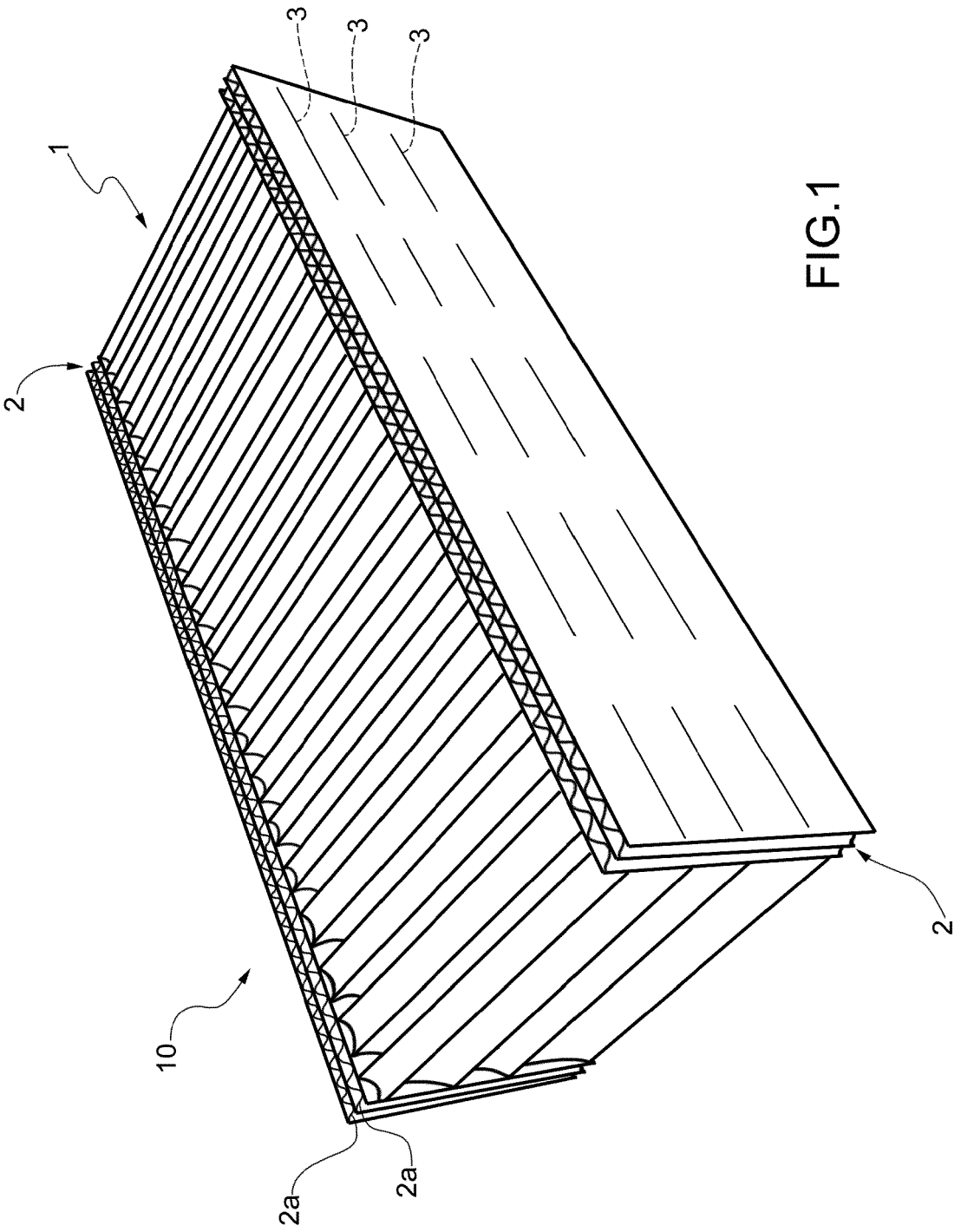


FIG.1

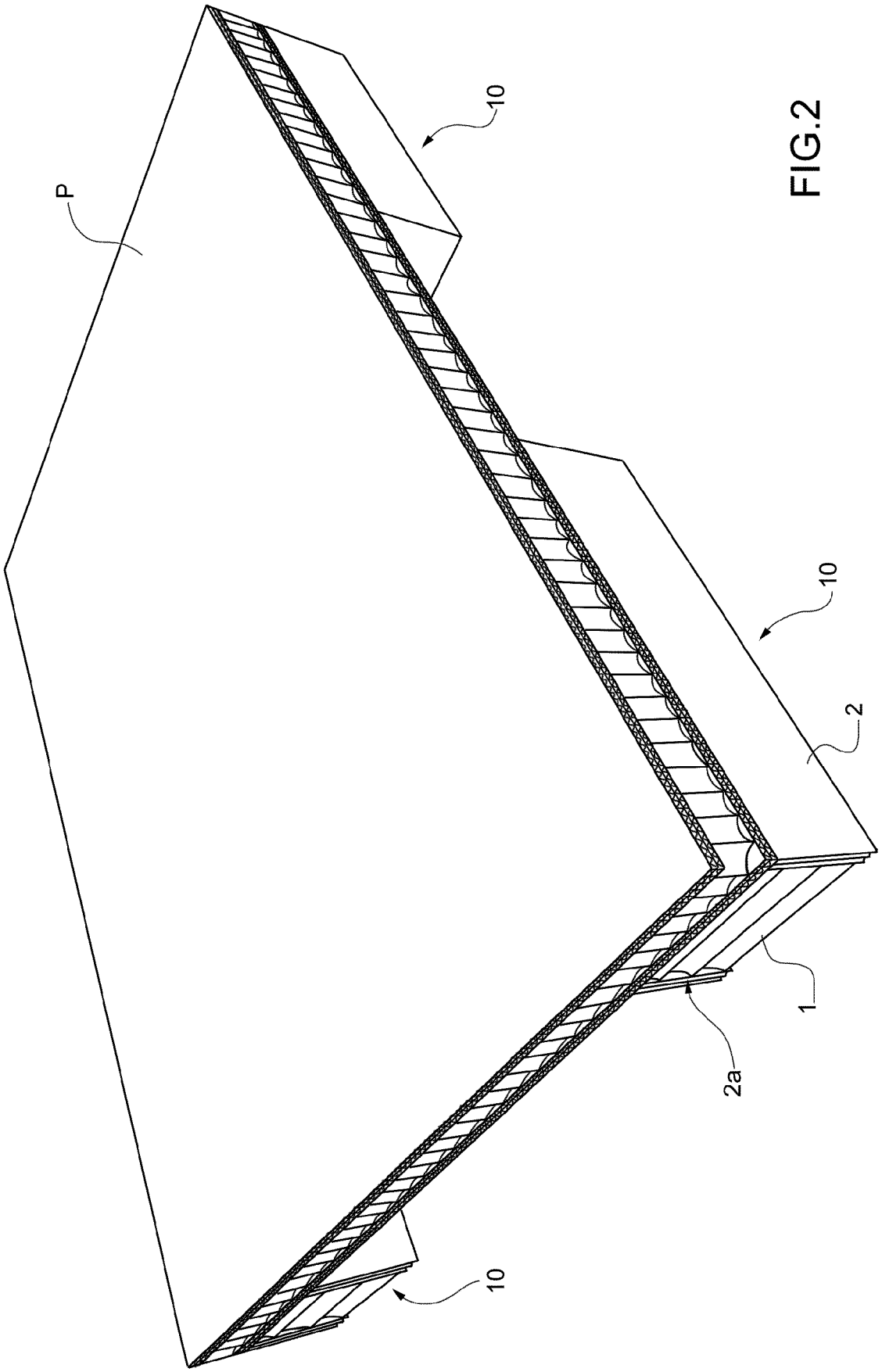


FIG.2

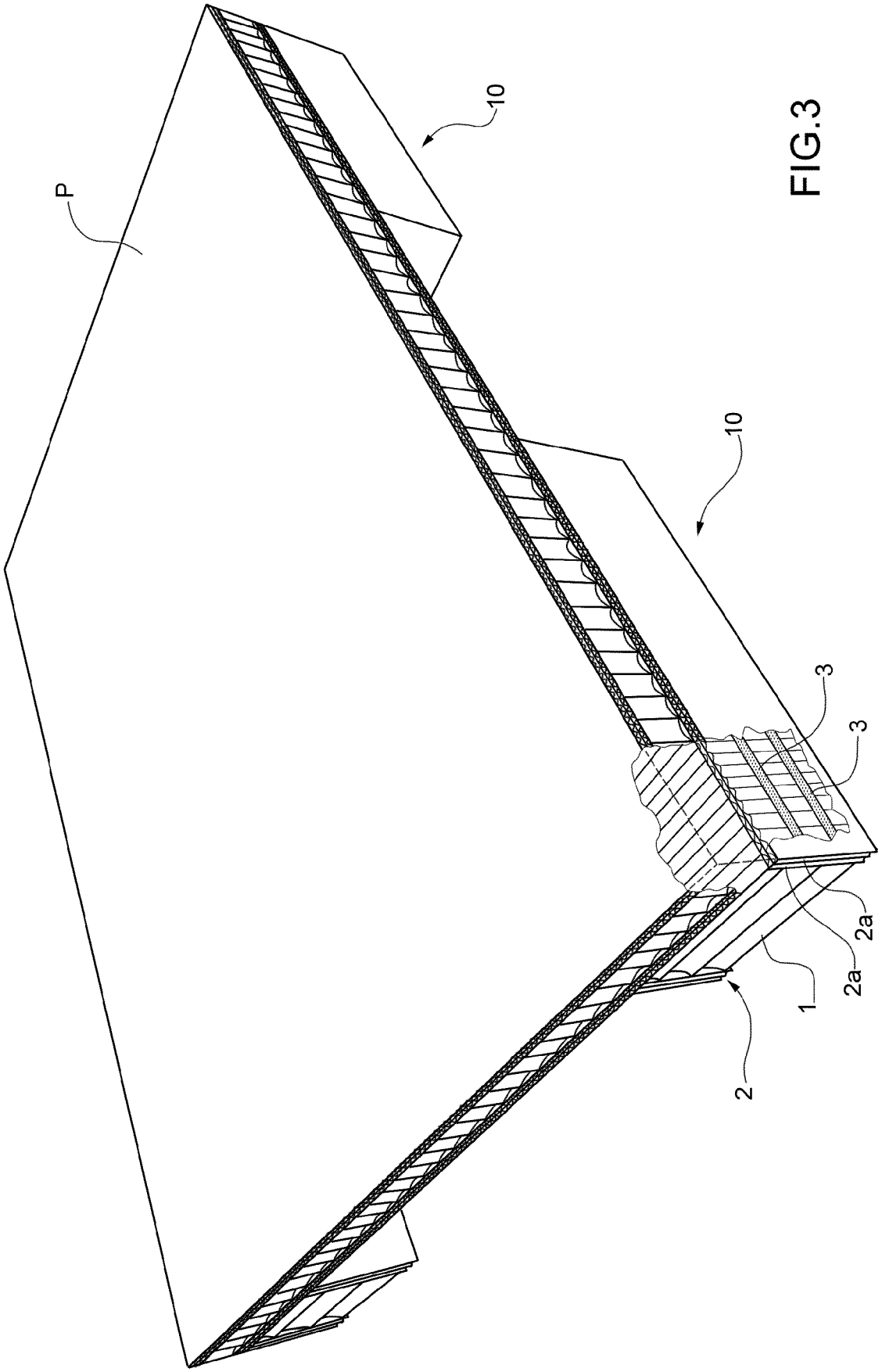


FIG.3

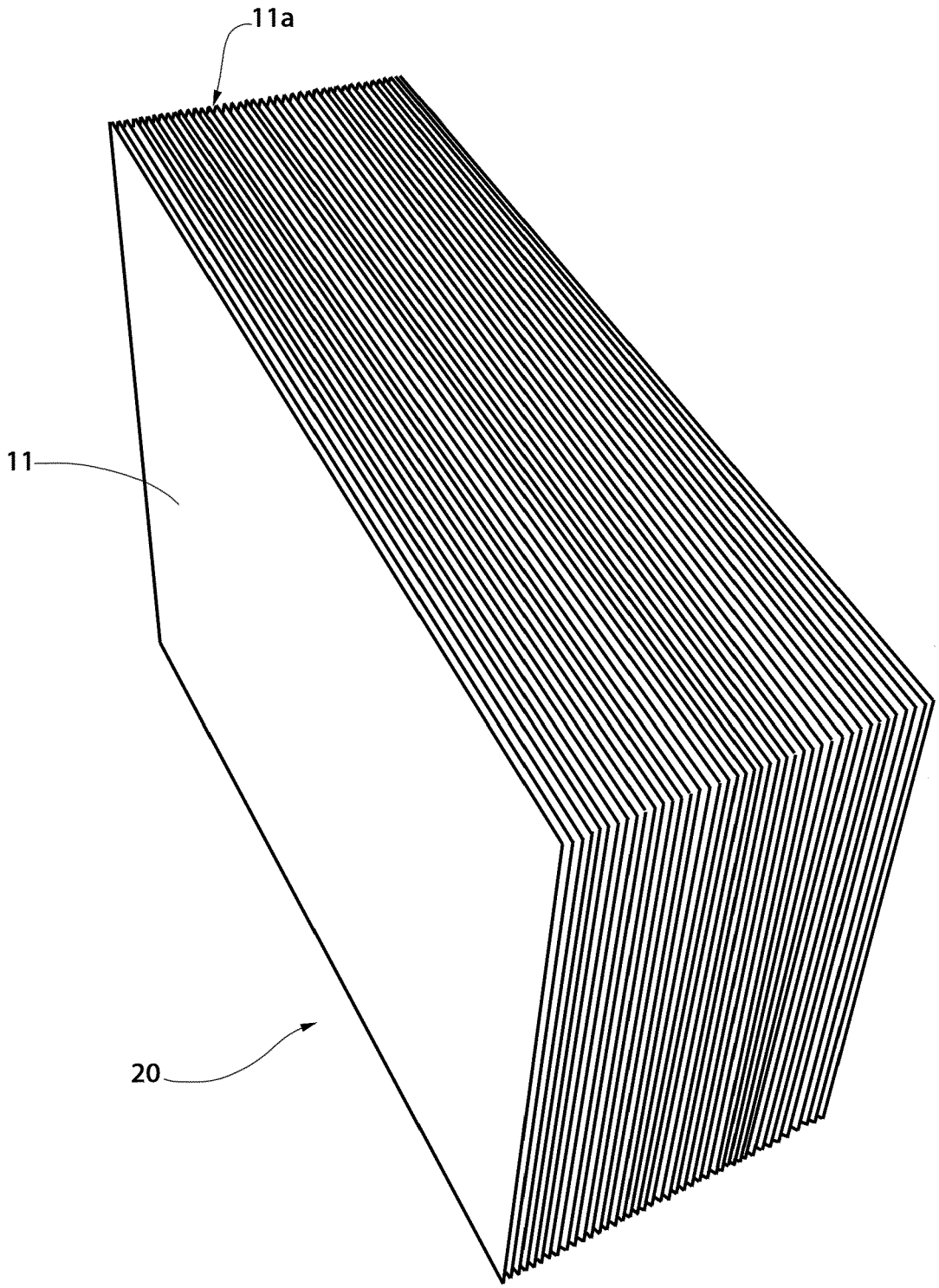


FIG.4

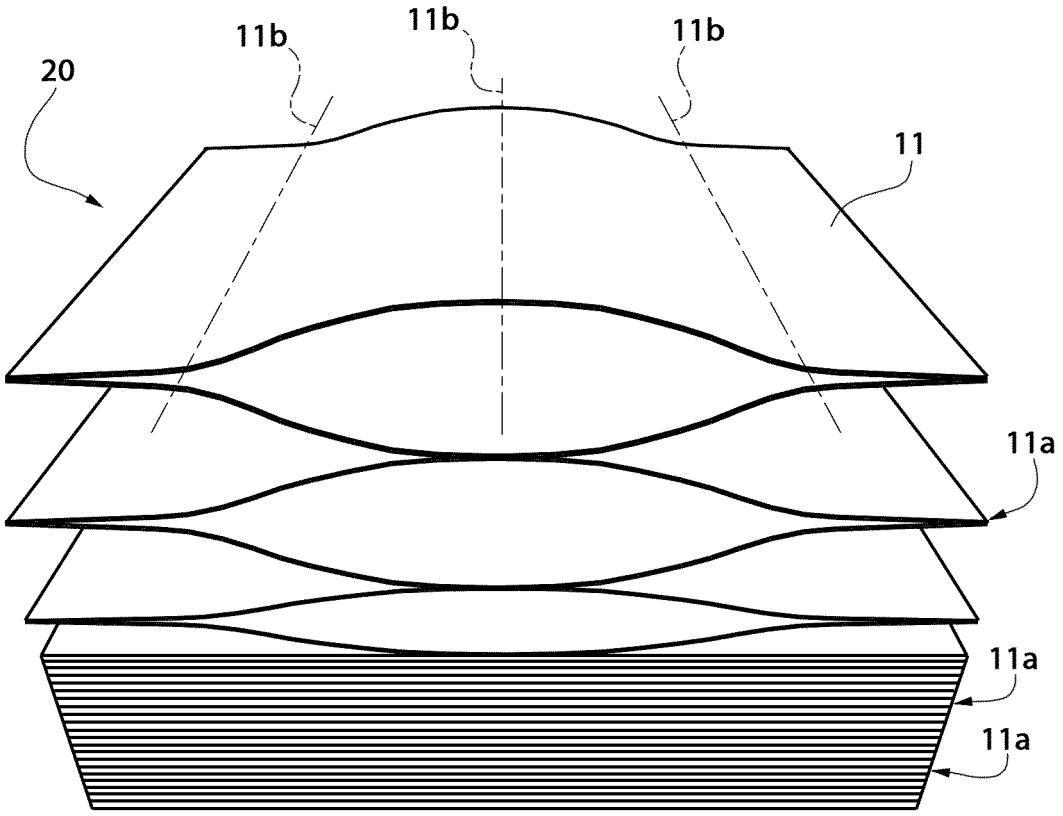


FIG.5

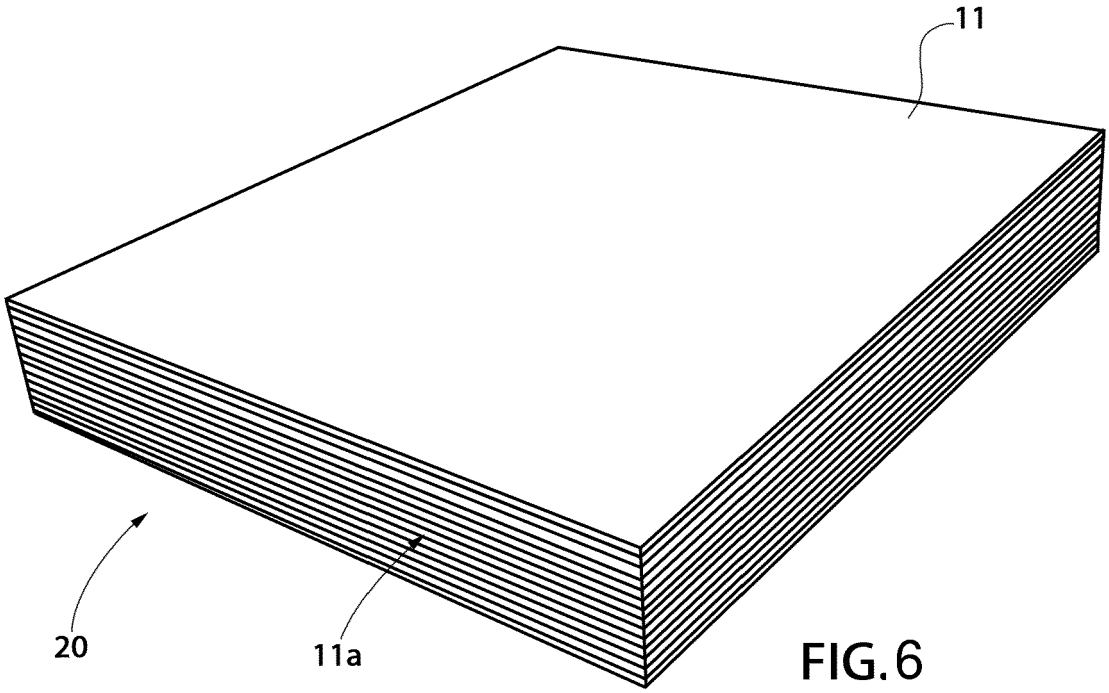
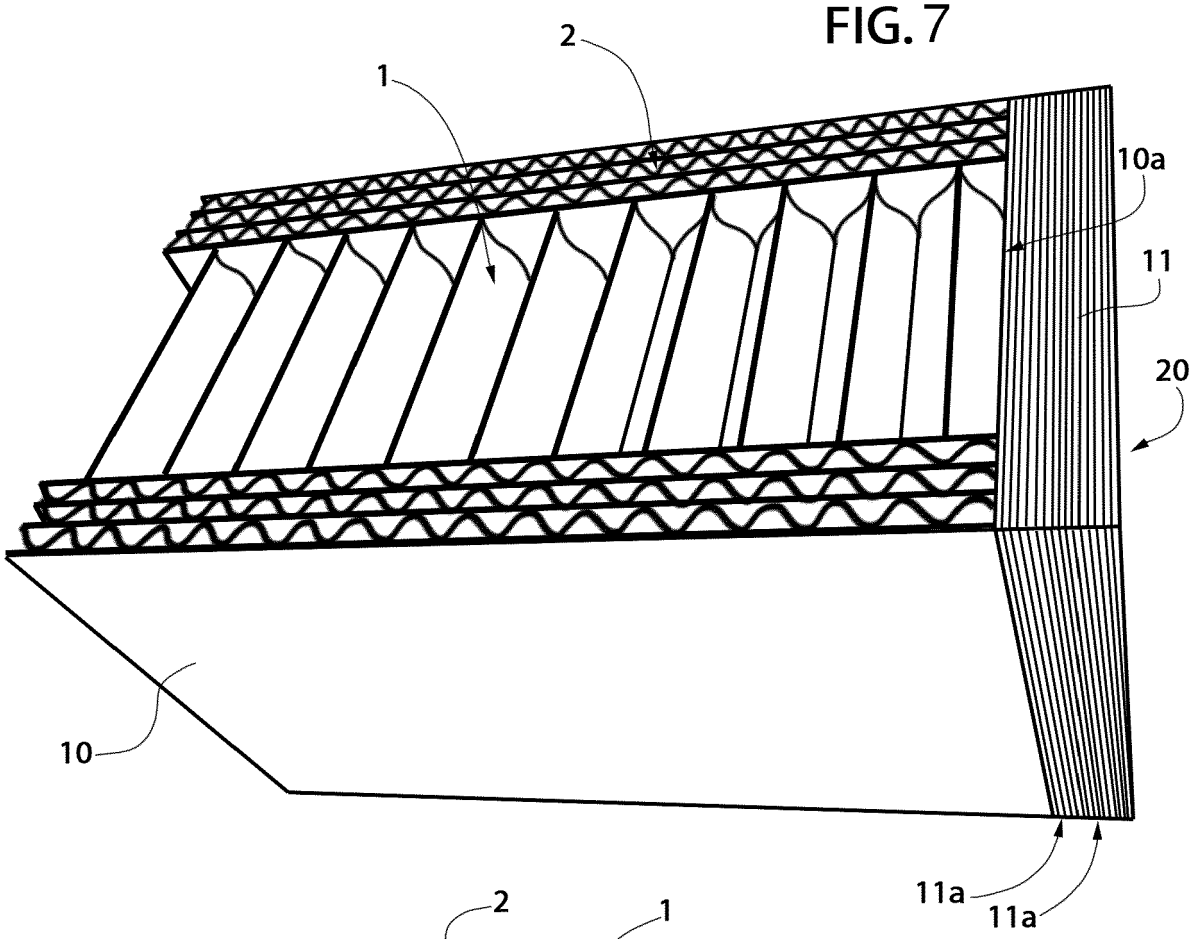


FIG.6

FIG. 7



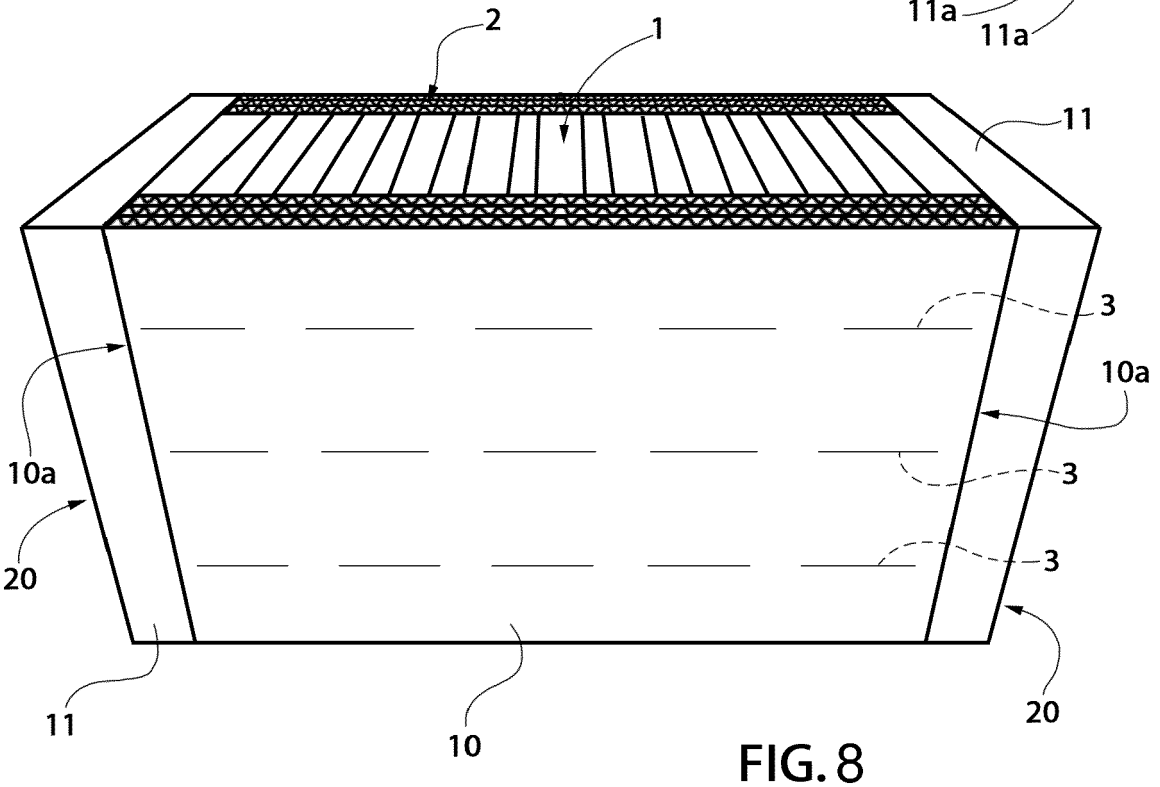


FIG. 8

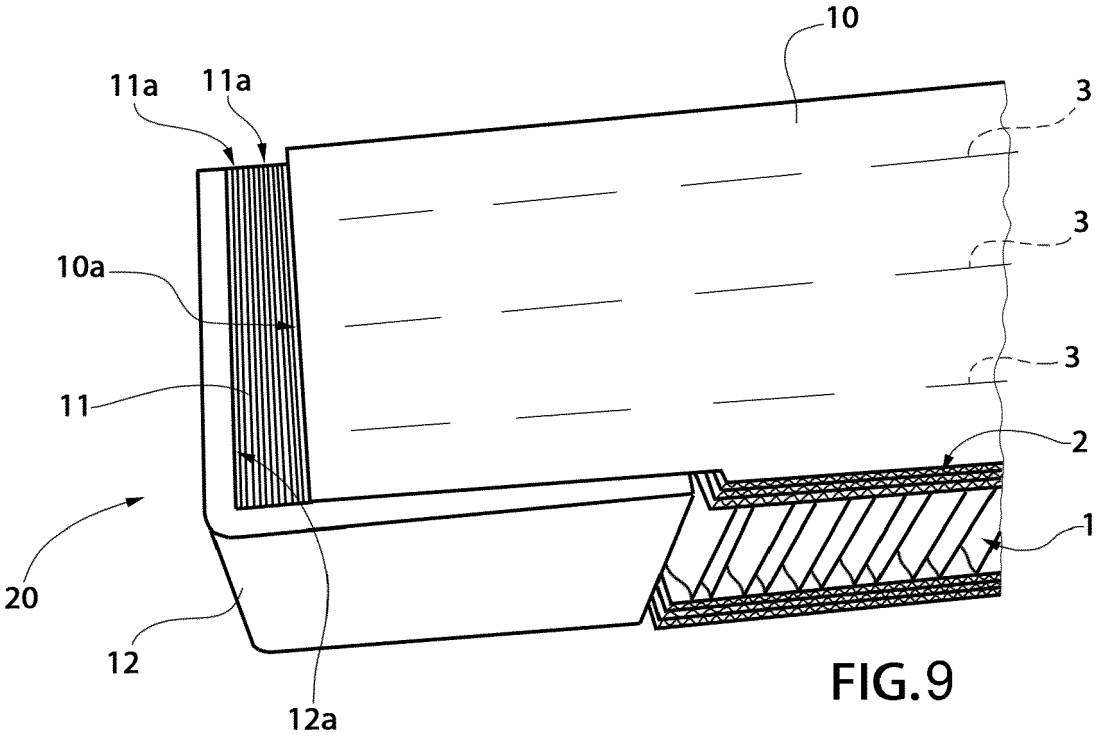


FIG.9

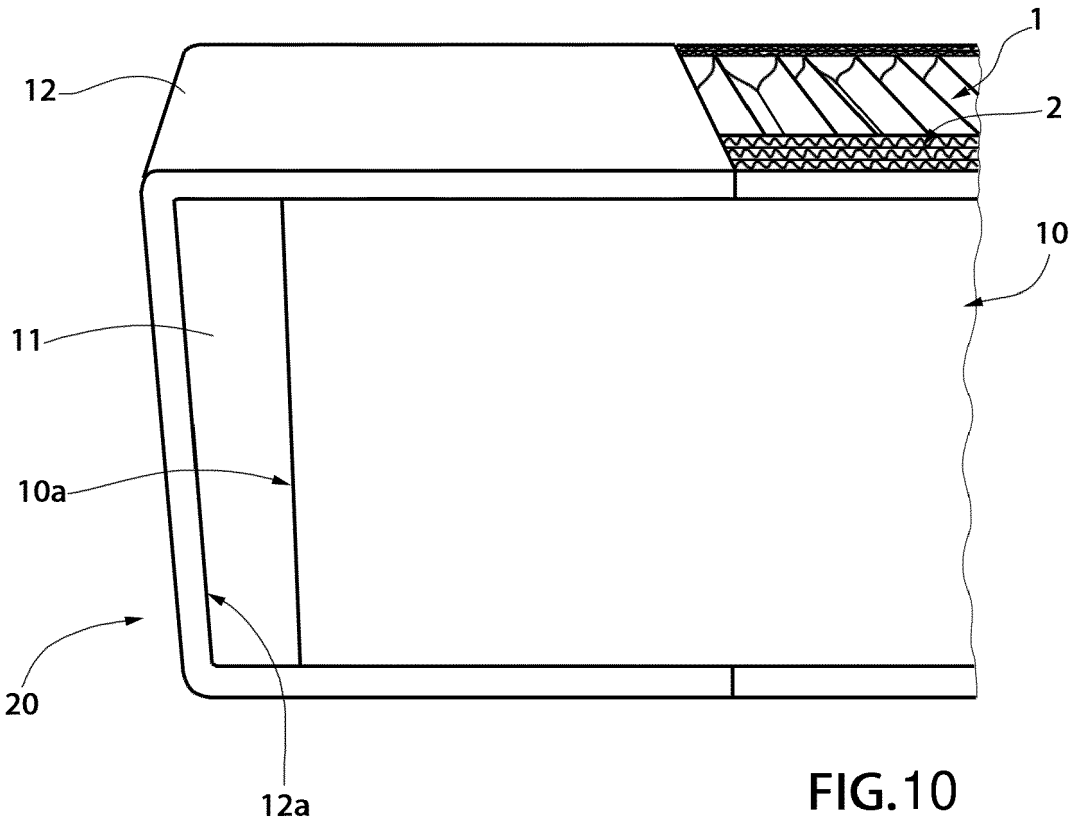


FIG.10

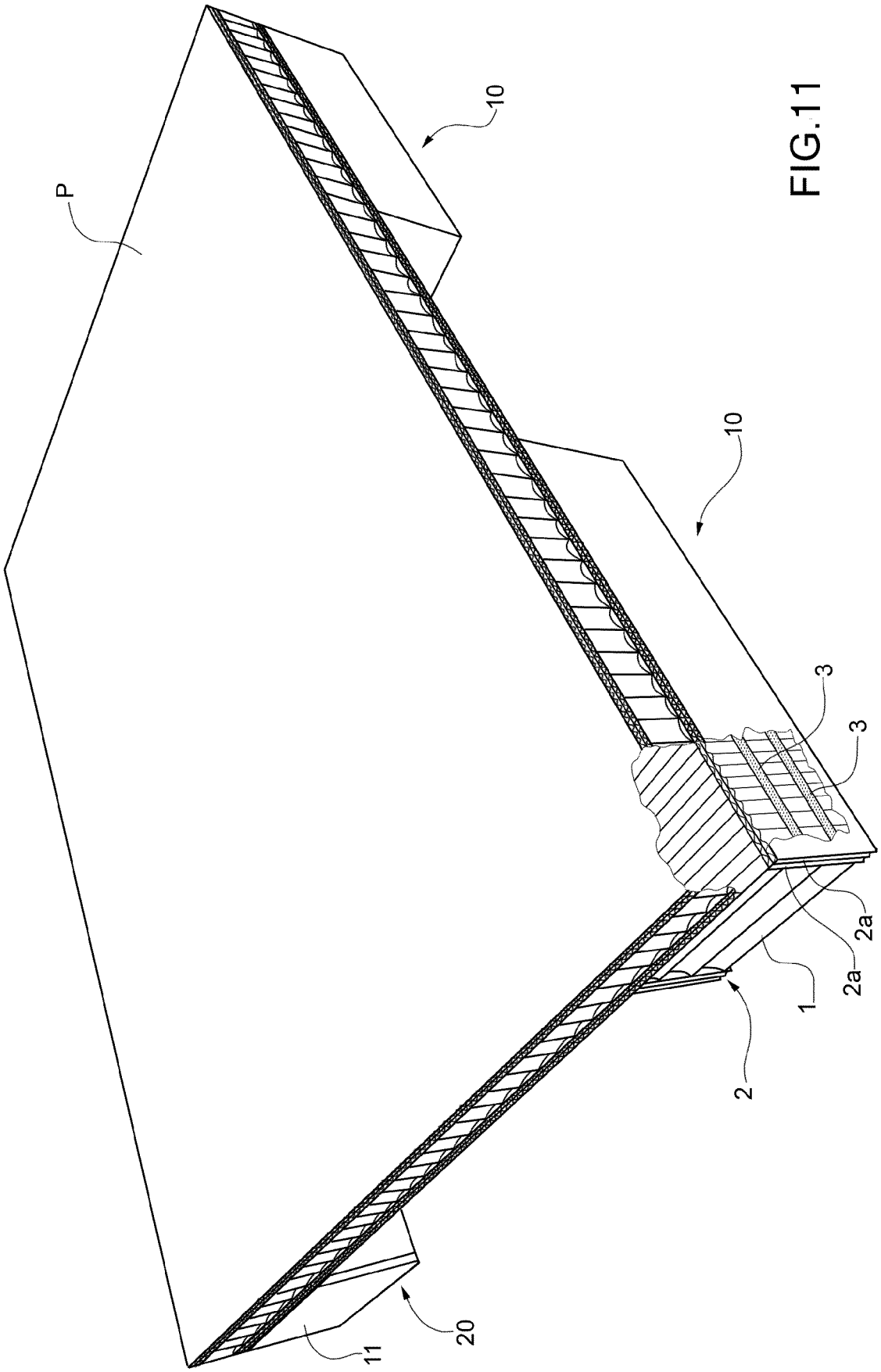


FIG.11

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EUROPEAN SEARCH REPORT

Application Number
EP 22 02 0043

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	15 June 2022	Fitterer, Johann

CATEGORY OF CITED DOCUMENTS

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15-06-2022

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