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(54) A composite panel including a wood surface for making furniture pieces, walls, doors and the like

(57) A composite panel, having a wood surface, specifically designed for making furniture pieces, walls, doors and other articles of manufacture, comprises a first and a second plate-like element, so coupled as to be substantially parallel to one another, through an interposition of a corrugated coupling element, made of a metal material.

At least the first plate-like element is made of wood material such as plywood, Faesite™, MDF, hardboard, natural wood, and the like.

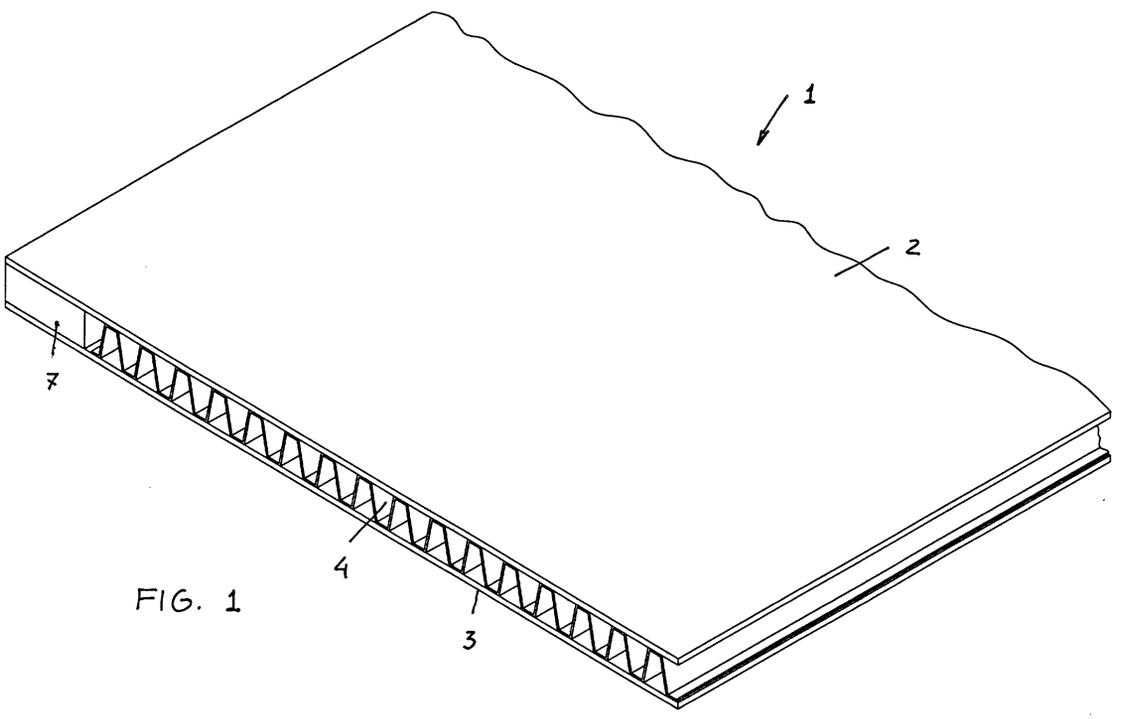

FIG. 1

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Description

BACKGROUND OF THE INVENTION

[0001] The present invention relates to a composite panel, having a wood surface, specifically designed for making furniture pieces, walls, doors and the like.

[0002] As is known, panels used for making furniture pieces, walls, doors and constructional elements such as wings, bottoms, tables and the like, must have very good mechanical strength characteristics, together with a pleasant aesthetic aspect.

[0003] A lot of value wood materials have good strength and duration characteristics, but they have a comparatively high cost.

[0004] Moreover, as the constructional element has a comparatively large size, the weight of conventional wood materials is excessive and, moreover, it is not possible to exceed a given size, since prior wood materials do not assure the required mechanical strength.

[0005] Other wood materials, of less value, but much more unexpensive, such as plywood, hardboard, and the like, are adapted to provide sufficient mechanical strength characteristics, but they have a high weight.

SUMMARY OF THE INVENTION

[0006] Accordingly, the aim of the present invention is to provide a composite panel, specifically designed for furniture pieces, walls and doors, which has at least a wood surface and provides optimum mechanical strength characteristics.

[0007] Within the scope of the above mentioned aim, a main object of the present invention is to provide such a panel which has a very small weight, while providing very good mechanical characteristics.

[0008] Another object of the invention is to provide such a panel having very good aesthetic characteristics.

[0009] Yet another object of the present invention is to provide such a panel which can be easily machined and finished by using prior methods like those which are conventionally used for machining prior panels made of conventional wood materials, and by using the same machining apparatus.

[0010] According to one aspect of the present invention, the above mentioned aim and objects, as well as yet other objects, which will become more apparent hereinafter, are achieved by a composite panel, having a wood surface, specifically designed for furniture pieces, walls, doors and other applications, characterized in that said panel comprises a first plate element and a second plate element coupled to one another so as to be substantially parallel, through an interposition of a corrugated coupling element made of a metal material, at least the first plate element being made of wood, plywood, Faesite™, MDF, hardboard, natural wood and the like.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] Further characteristics and advantages of the present invention will become more apparent hereinafter from the following detailed disclosure of a preferred, though not exclusive, embodiment of the invention, which is illustrated, by way of an indicative, but not limitative, example, in the accompanying drawings, where:

Figure 1 is a broken away perspective view of the panel according to the invention;
Figure 2 is a further exploded perspective view of the panel according to the invention;
Figure 3 is a cross-sectional view of the panel according to the invention; and
Figure 4 is a further cross-sectional view of the panel according to a further aspect of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0012] With reference to the number references of the above mentioned figures, the composite panel according to the invention, which has been generally indicated by the reference number 1, comprises a first and a second plate elements 2 and 3, coupled to one another in a substantially parallel relationship, through the interposition of a corrugated coupling element, comprising, in this embodiment, a fretted element 4, made of a metal material such as aluminium, AISI steel, galvanized sheet metal material, titanium and alloys thereof.

[0013] The fretted element 4 is advantageously provided with a contour including a plurality of horizontal portions 5 corresponding to the peaks and valleys of the contour, joined by a plurality of angled portions 6, so as to form a series of following trapezium patterns.

[0014] The fretted element 4 is applied with its horizontal surface 5 so as to contact the plate-like elements 2 and 3 to connect said elements for example by glueing.

[0015] This embodiment provides the advantage that a broad contact surface of the fretted element 4 and inner surfaces of the plate-like elements 2 and 3 is obtained, thereby providing a particularly strong glued connection.

[0016] The corrugated element, for coupling the plate-like elements 2 and 3, could also be made as an ondulated sheet metal 104, to provide a panel 101 as shown in figure 4.

[0017] The panel 1, 101, can comprise a perimetrical frame 7, included between the plate-like elements 2 and 3, and preferably made of the same material as at least one of the plate-like elements 2 or 3, to allow the obtained panel to be optionally processed or machined by the same apparatus used for machining the plate-like elements.

[0018] The panel can also comprise perimetrical clo-

sures different from the frame 7 and comprising different types of edgings and profiles, depending on the intended application of the panel.

[0019] According to the invention, the plate-like elements 2 and 3 can be made of wood, plywood, Faesite™, MDF, hardboard, or natural wood, and they can be optionally coated by veneer materials or the like.

[0020] The composite panel, optionally and suitably including the perimetrical frame 7, can be machined by conventional tool machines for processing wood materials, and can be advantageously contoured to provide a book supporting panel, a cabinet wing, a kitchen furniture wing, a door, a wall or the like.

[0021] Since the composite panel according to the present invention has a comparatively large mechanical strength, it can also be used for making furniture constructional elements or pieces, such as bottom, holding panels and supporting panels, and also for making tables.

[0022] The composite panel according to the invention can also be made starting from a plate-like element made of a material different from the above disclosed materials.

[0023] For example, the second plate-like element 3 can be made of a less value material, or a stronger material, or of a material having different characteristics, depending on the panel application.

[0024] The second plate-like element 3 can be made, for example, of a synthetic laminated material, a glass-resin material, a glass fabric material, a glass material, a plexiglas material, and a lot of different plastics or synthetic resins.

[0025] According to yet another embodiment, the second plate-like element 3 can be made of ceramics materials, stone and marble materials and the like.

[0026] If the composite panel according to the invention must be used for making cabinet wings, then the second plate-like element 3 can comprise, for example, a mirror, and the panel can be so assembled as to arrange the mirror inside the cabinet to be used as the cabinet wing is opened.

[0027] Thus, it is possible to make mirrored wings having a weight substantially lighter than that of prior mirrored wings, i.e. wings including a mirror applied to the wood panel.

[0028] The second plate-like element can also comprise a metal sheet or plate material.

[0029] It has been found that the invention fully achieves the intended aim and objects, since it provides a composite panel having very good mechanical and aesthetic characteristics.

In practicing the invention, the used materials, and the contingent size and shapes, can be any, depending on the requirements and the status of the art.

Claims

1. A composite panel, having a wood surface, specifically designed for furniture pieces, walls, doors and other applications, **characterized in that** said panel comprises a first plate element and a second plate element coupled to one another so as to be substantially parallel, through an interposition of a corrugated coupling element made of a metal material, at least the first plate element being made of wood, plywood, Faesite™, MDF, hardboard, natural wood and the like.

2. A panel, according to Claim 1, **characterized in that** the second plate element is made of wood, plywood, Faesite™, MDF, hardboard, natural wood and the like.

3. A panel, according to Claim 1 or 2, **characterized in that** the corrugated coupling element comprises a fretted element made of a metal material such as aluminium, AISI steel, galvanized sheet metal, titanium and alloys thereof.

4. A panel, according to one or more of the preceding claims, **characterized in that** said fretted element has a contour including a plurality of horizontal portions, corresponding to peaks and valleys of the panel contour, joined by a plurality of angled portions, so as to define a series of following trapezium patterns, said fretted element being applied by its horizontal surfaces to contact the plate elements to connect said plate elements by glueing.

5. A panel, according to one or more of the preceding claims, **characterized in that** said corrugated element, for coupling said plate elements is made as an ondulated or waved sheet metal element.

6. A panel, according to one or more of the preceding claims, **characterized in that** said panel comprises a perimetrical frame, included between said plate elements and made of the same material as at least one of said plate elements.

7. A panel, according to one or more of the preceding claims, **characterized in that** said second plate element is made of a material different from that of the first plate element.

8. A panel, according to one or more of the preceding claims, **characterized in that** said second plate element is made of materials such as a synthetic laminated material, a glass-resin material, a glass fabric material, a glass material, a plexiglas material and different plastics or synthetic resin materials.

9. A panel, according to one or more of the preceding

claims, **characterized in that** said second plate element is made of ceramics material, stone and marble materials.

10. A panel, according to one or more of the preceding claims, **characterized in that** said second plate element comprises a mirror.

11. A panel, according to one or more of the preceding claims, **characterized in that** said panel comprises one or more of the disclosed and/or illustrated features.

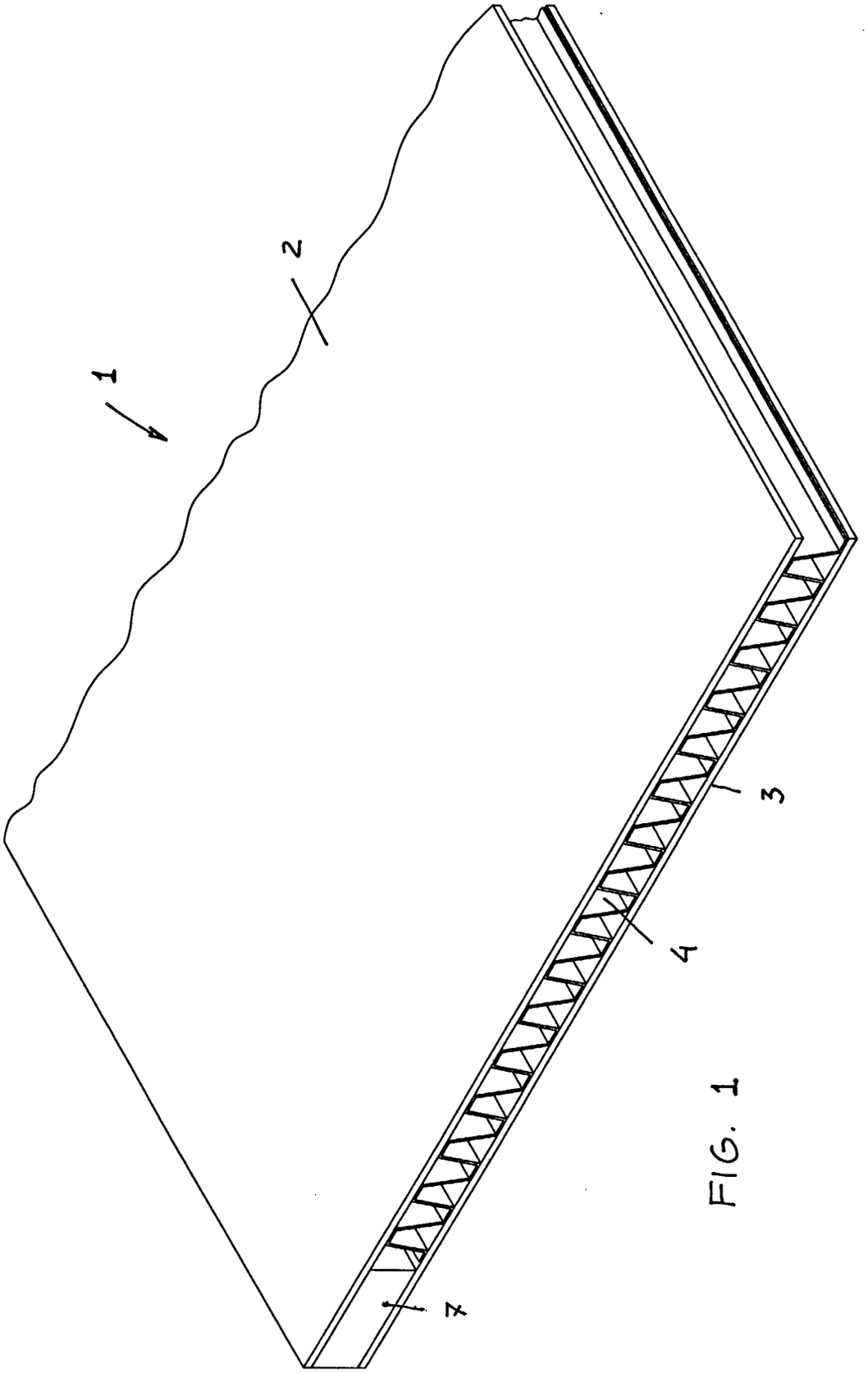
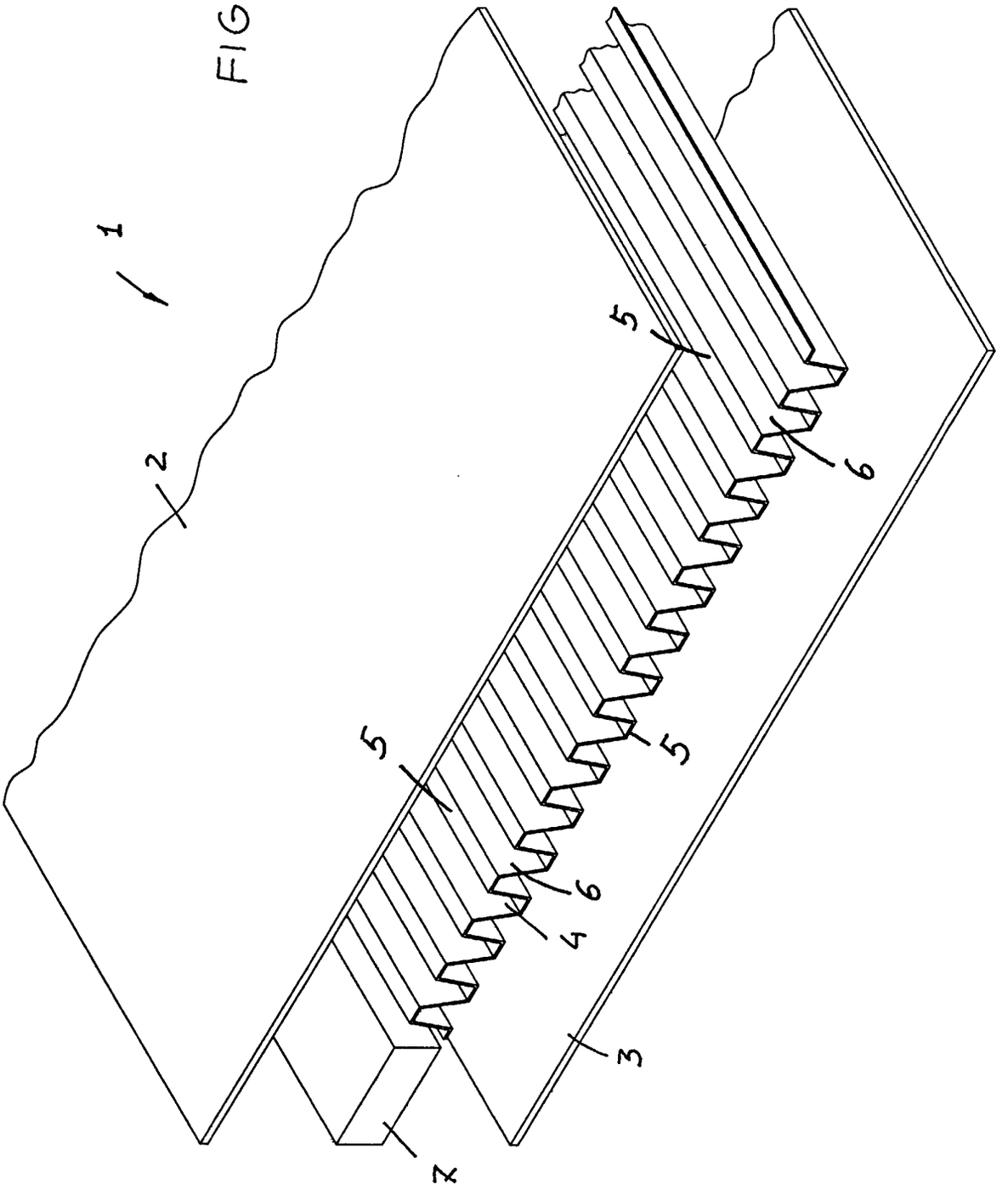


FIG. 1

FIG. 2



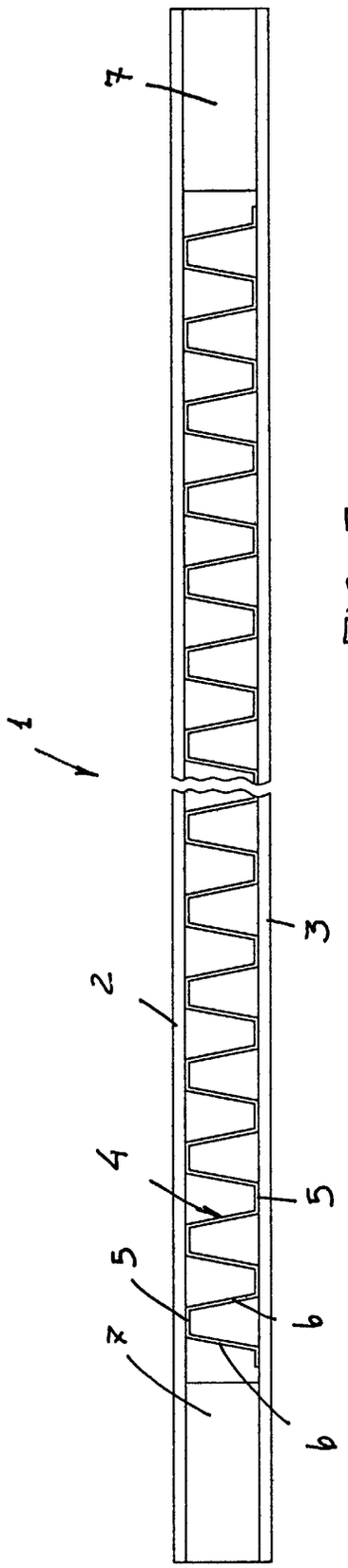


FIG. 3

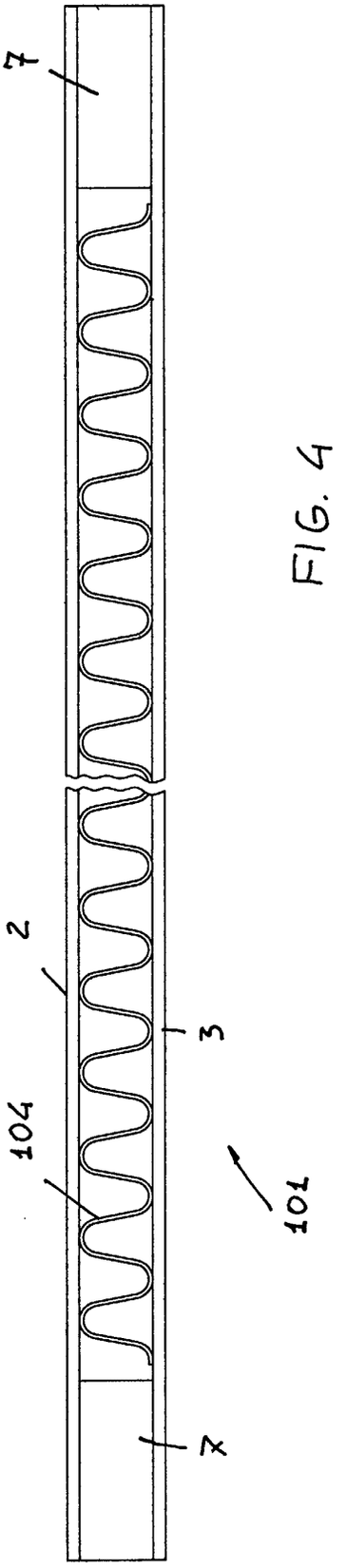


FIG. 4