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(54) **Colored transparent panel assembly**

(57) A colored transparent panel assembly is disclosed herein, which includes a transparent glass plate, a panel piece, and at least one embedding piece. The panel piece is a thin plate and has at least one through hole configured as a pattern or a character. The embedding piece is corresponding to and fitted in the through hole of the panel piece. The embedding pieces have a determined color. When the panel piece and the embedding pieces are together attached to the glass plate, they give the glass plate a vivid appearance. The individual embedding pieces or the whole panel assembly may be replaced with other colors or patterns to make the glass plate present a diverse appearance.

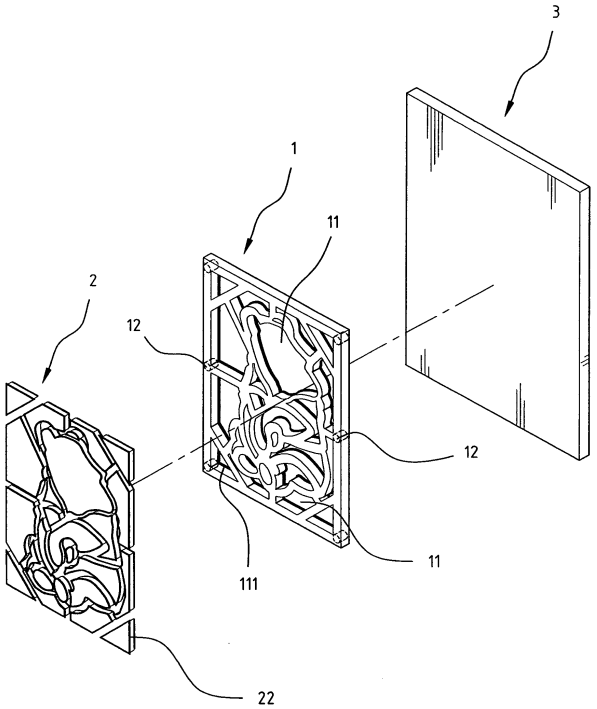

FIG. 2

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Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates generally to a colored transparent panel assembly with a pattern thereon, and in particular to a panel assembly that simulates the look of a real stained glass but with the ease to change colors and patterns and can easily be moved from one glass window to the other.

2. The Prior Arts

[0002] Stained glass is a work of art which provides profound artistic feelings. Such artworks can be found in cathedrals, with various themes, pictures and patterns, and presents vivid bright colors when sunlight passes through them, which attract people to linger in front of them. The colored glass is crafted into stained glass windows in which small pieces of glass are arranged to form desired patterns or pictures, and held together by a metal frame.

[0003] However, when the stained glass is to be fabricated, patterns and colors of the stained glass generally have been pre-determined. After it was fabricated, the patterns and colors could no longer be changed. It would be quite nice if the patterns and colors can be changed from time to time without changing the whole panel of glass. It is also more economical and feasible to have a changeable plastic panel giving the appearance of stained glass than to make an actual stained glass window. Furthermore, the conventional stained glass gives only two dimensional patterns, and is not able to give viewers a vivid three dimensional impression.

SUMMARY OF THE INVENTION

[0004] A primary objective of the present invention is to provide a colored transparent panel assembly to simulate the look of a real stained glass window and be capable of changing colors and patterns easily without changing the whole window panels.

[0005] In order to achieve the above mentioned objective, a colored transparent panel assembly according to the present invention includes a transparent glass plate, a panel piece, and at least one embedding piece. The panel piece is attached to the transparent glass plate. The panel piece has at least one through hole defined thereon and configured as a pattern or a character. The at least one embedding piece is embedded in the corresponding through hole of the panel piece and has a predetermined color. A surface of the embedding piece protrudes over the panel piece after embedded into the corresponding through hole of the panel piece.

[0006] The colored transparent panel assembly according to the present invention makes the decoration of a transparent glass plate more flexibly by means of replacing the embedding pieces with different colors or simply taking down the old panel piece and the embedding pieces and assembling the new ones onto the glass plate. In addition, the panel assembly provides a three-dimensional pattern, which gives viewers a vivid impression.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] The present invention will be apparent to those skilled in the art by reading the following detailed description of preferred embodiments thereof, with reference to the attached drawings, in which:

[0008] Figure 1 is a perspective schematic view showing a colored transparent panel assembly according to a first embodiment of the present invention;

[0009] Figure 2 is an exploded schematic view showing a glass plate, and a panel piece and embedding pieces to be attached to the glass plate;

[0010] Figure 3 is a sectional schematic view showing that the panel piece and the embedding pieces are attached to the glass plate according to an embodiment of the present invention;

[0011] Figure 4 is a sectional schematic view showing that the panel piece and the embedding pieces are attached to the glass plate according to another embodiment of the present invention; and

[0012] Figure 5 is an exploded schematic view showing a colored transparent panel assembly according to a second embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0013] Referring to Figures 1 and 2, a colored transparent panel assembly according to a first embodiment of the present invention comprises a transparent glass plate 3, a panel piece 1, and a plurality of embedding pieces 2 embedded in the panel piece 1. The panel piece 1 and the embedding pieces 2 are together disposed on the glass plate 3, and are configured with characters or patterns to provide aesthetic enhancement to the transparent glass plate 3 or an advertising tool. Furthermore, the present invention also can provide players with interesting assembling.

[0014] Also referring to Figure 2, the panel piece 1 is a thin rectangular plate that may be made of plastic material and whose size is slightly smaller than that of the glass plate 3 (see Figure 1). The panel piece 1 according to the first embodiment of the present invention is a black plastic plate. The panel piece 1 includes at least one through hole 11 passing through the panel piece 1. The through holes 11 form a single pattern or character, or a set of patterns or characters. In the first embodiment of the present invention, the panel piece 1 includes multiple through holes 11 that are configured as a bear pattern. The through holes 11 also may be arranged into other characters or patterns, such as a human figure, an article,

etc. Additionally, the panel piece 1 further includes a plurality of mounting posts 12 along a periphery of a back side of the panel piece 1 for attaching the panel piece 1 on the glass plate 3.

[0015] Again referring to Figure 2, the embedding pieces 2 according to the first embodiment of the present invention are corresponding to the respective through holes 11 of the panel piece 1. The embedding pieces 2 are made of plastic material and have a hollowed portion on a bottom thereof for saving material. The embedding pieces 2 according to the first embodiment of the present invention are colored transparent plastic blocks and may have the same color as or different colors from each other. In addition, a surface of the embedding pieces 2 protrudes over the panel piece 1 after embedded into the corresponding through hole 11 of the panel piece 1 (see Figure 3). In regard to how to color the embedding pieces 2, according to the present invention, an already-prepared-color material is injection-molded to form the embedding pieces 2 with a predetermined color. The embedding pieces 2 also may be painted with the predetermined color on a surface thereof or be coated with glittering pieces with the predetermined color on the surface thereof.

[0016] In assembling the colored transparent panel assembly of the present invention, firstly, a transparent double sided tape (not shown in Figures) is adhered to an end surface of the mounting posts 12 of the panel piece 1, and then the panel piece 1 is adhered onto the glass plate 3. Secondly, the embedding pieces 2 are fitted into their corresponding through holes 11 of the panel piece 1, respectively, so as to form the bear pattern on the panel piece 1. Because the surface of the embedding pieces 2 protrudes over the panel piece 1, the embedding pieces 2 can be taken out easily from the through holes 11 of the panel piece 1 and provide with a vivid three dimensional appearance.

[0017] Referring to Figure 4, a bottom flange 111 is integrally formed around a bottom edge of each through hole 11 of the panel piece 1, and a ring stop 25 corresponding to the bottom flange 111 is defined around an outer periphery of the embedding pieces 2. Therefore, after the embedding pieces 2 are pressed to be fitted into the through holes 11 of the panel piece 1, the embedding pieces 2 are in contact with the bottom flange 111. In accordance with the present invention, the embedding pieces 2 may be fitted into the through holes 11 of the panel piece 1 by means of tight-fitting, so as not to be disengaged from each other easily. Referring to Figure 3, in accordance with another aspect of the present invention, the panel piece 1 includes a plurality of protrusions 13 defined on a surface and around each through hole 11 of the panel piece 1, and the embedding pieces 2 each include a plurality of recesses 21 defined at a bottom surface thereof for engaging with their corresponding protrusions 13.

[0018] In order to further prevent the disengagement of the embedding pieces 2 from the through holes 11 of the panel piece 1, a transparent double sided tape may be adhered between the embedding pieces 2 and the panel piece 1. Additionally, both of the panel piece 1 and the embedding pieces 2 also may be adhered to the glass plate 3 by means of the transparent double sided tape.

[0019] Again referring to Figure 3, the embedding pieces 2 each have a top flange 22 defined around a top periphery thereof for easy disengagement from the through holes 11 of the panel piece 1. Again referring to Figure 4, according to another aspect of the present invention, the embedding pieces 2 each have a ring groove 23 defined on a sidewall thereof to allow to be easily taken out of the through holes 11 of the panel piece 1. A surface of the embedding pieces 2 may be configured to have a three-dimensional pattern 24, such as a dinosaur or a frog, so as to not only increase the interesting in assembly but also give viewers a vivid impression.

[0020] Referring to Figure 5, a colored transparent panel assembly according to a second embodiment of the present invention includes all elements of Figure 1 and further include a transparent plate 4. The transparent plate 4 has the same size as the panel piece 1. The transparent plate 4 is disposed between the glass plate 3 and the panel piece 1. One side of the transparent plate 4 is attached to the glass plate 3, and the other side of the transparent plate 4 is attached to the panel piece 1. The transparent plate 4 may be made of polyethylene (PE), polystyrene (PS), or other transparent plastic material, thereby allowing the light passing through the transparent plate 4. When people want to change the pattern of the panel assembly according to the first embodiment, it needs to remove the panel piece 1 and the embedding pieces 2 from the glass plate 3 piece by piece. Because the panel piece 1 and the embedding pieces 2 are adhered to the glass plate 3, it is time consuming and troublesome to remove them. The panel piece 1 and the embedding pieces 2 according to the second embodiment of the present invention are attached to the transparent plate 4. Therefore, it only needs to remove the transparent plate 4, holding the panel piece 1 and the embedding pieces 2, from the glass plate 3. The removed transparent plate 4, holding the panel piece 1 and the embedding pieces 2, can be directly attached to another glass plate 3 without assembling the panel piece 1 and the embedding pieces 2 again. It saves a lot of time.

[0021] Furthermore, assembling the embedding pieces 2 into the panel piece 1 is just like playing a puzzle that provides players with entertainment and education. After completing the assembly, the color of the embedding pieces 2 can be changed according to desires, which may give a diverse appearance to the panel assembly.

[0022] In summary, the panel assembly according to the present invention makes the decoration of the glass plate 3 more flexibly by means of replacing the embedding pieces 2 with different colors or replacing the panel assembly with a new pattern. In addition, the panel assembly provides a three dimensional pattern, which gives viewers a vivid impression.

[0023] Although the present invention has been described with reference to the preferred embodiments thereof, it is apparent to those skilled in the art that a variety of modifications and changes may be made without departing from the scope of the present invention which is intended to be defined by the appended claims.

Claims

1. A colored transparent panel assembly, comprising:

a transparent glass plate;
a panel piece attached to the transparent glass plate, the panel piece having at least one through hole defined thereon and configured as a pattern or a character; and
at least one embedding piece embedded in the corresponding through hole of the panel piece and having a predetermined color, a surface of the embedding piece protruding over the panel piece after embedded into the corresponding through hole of the panel piece.

2. The colored transparent panel assembly as claimed in claim 1, wherein a bottom flange is defined around a bottom edge of the through hole of the panel piece, so that the embedding piece is in contact with the bottom flange after embedded into the through hole.

3. The colored transparent panel assembly as claimed in claim 1, wherein the embedding piece has a top flange defined around a top periphery thereof.

4. The colored transparent panel assembly as claimed in claim 1, wherein the panel piece includes a plurality of protrusions defined on a surface and around the through hole of the panel piece, and the embedding piece includes a plurality of recesses defined at a bottom surface thereof for engaging with the corresponding protrusions.

5. The colored transparent panel assembly as claimed in claim 1, wherein the embedding piece has a ring groove defined on a sidewall thereof.

6. The colored transparent panel assembly as claimed in claim 1, wherein the embedding piece is painted with the predetermined color on the surface thereof.

7. The colored transparent panel assembly as claimed in claim 1, wherein the embedding piece is an integrally formed body with the predetermined color.

8. The colored transparent panel assembly as claimed in claim 1, wherein the embedding piece is coated with glittering pieces with the predetermined color on the surface thereof.

9. The colored transparent panel assembly as claimed in claim 1, further comprising a transparent plate disposed between the glass plate and the panel piece.

10. The colored transparent panel assembly as claimed in claim 1, wherein the surface of the embedding piece is configured to have a three-dimensional pattern.

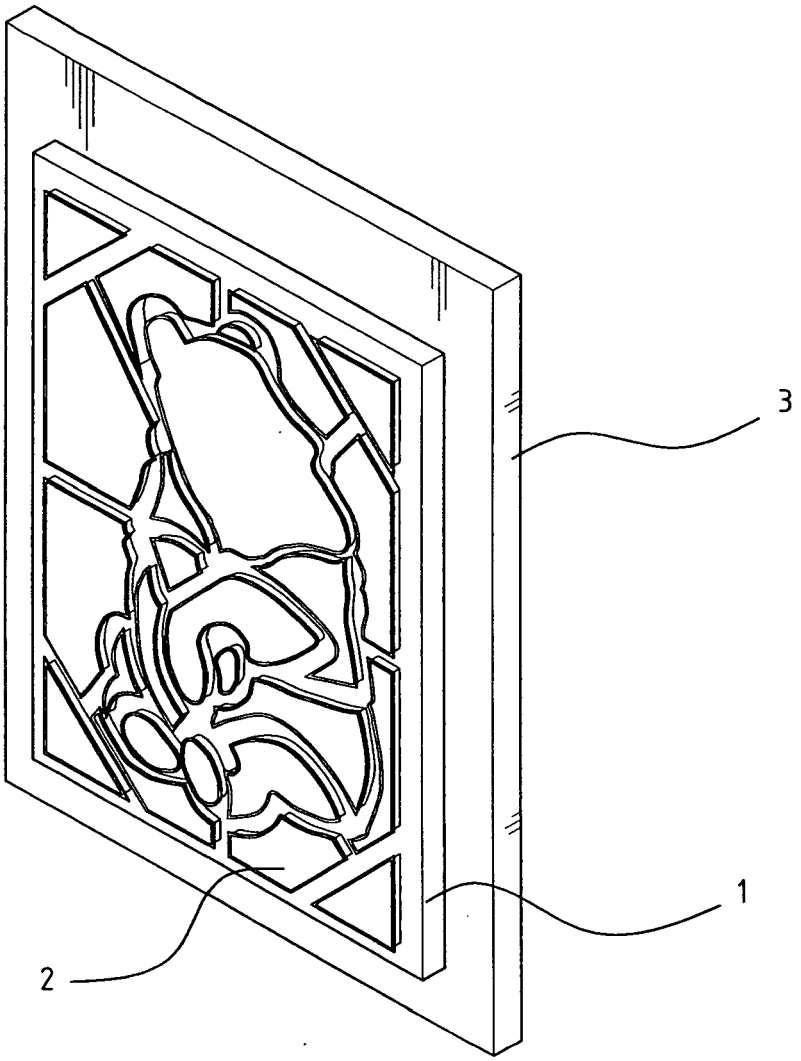

FIG. 1

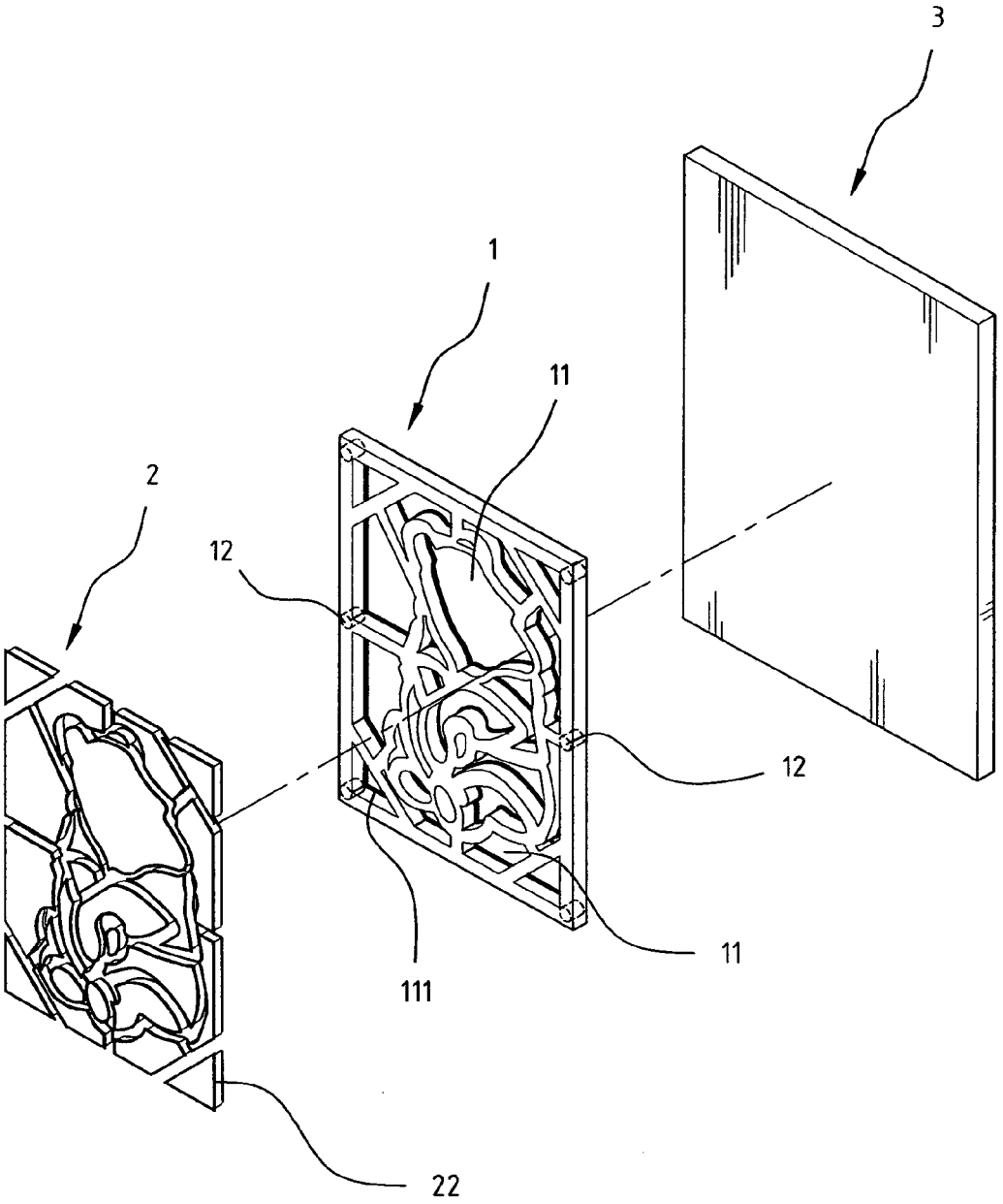

FIG. 2

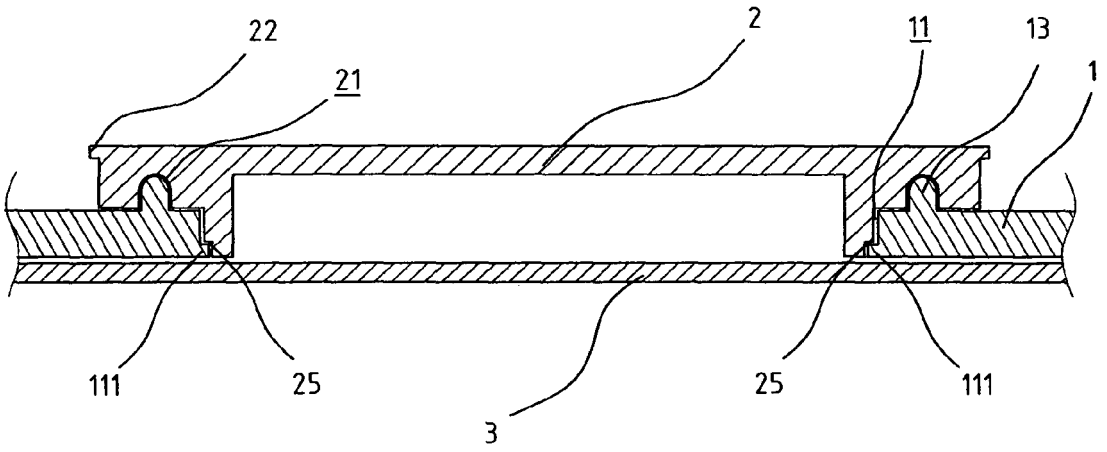

FIG. 3

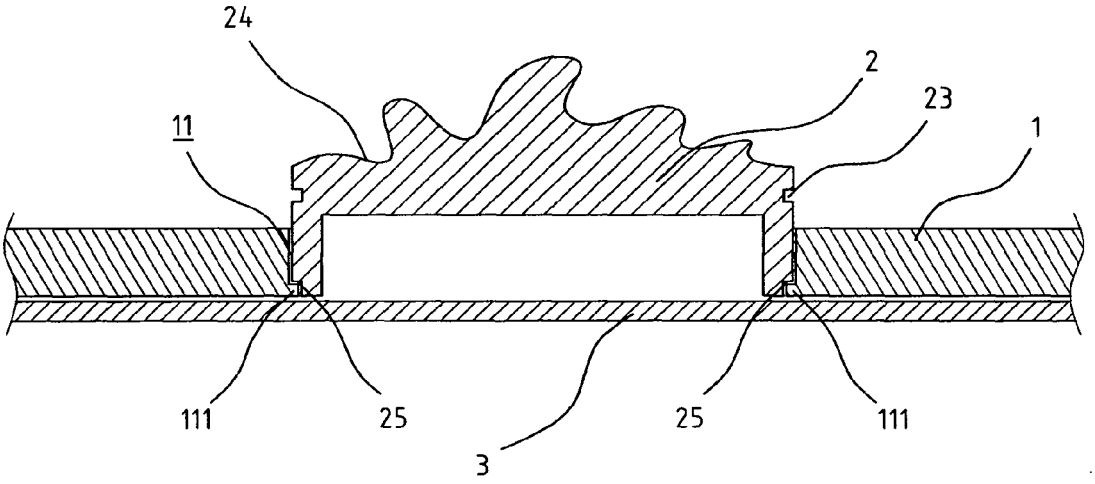

FIG. 4

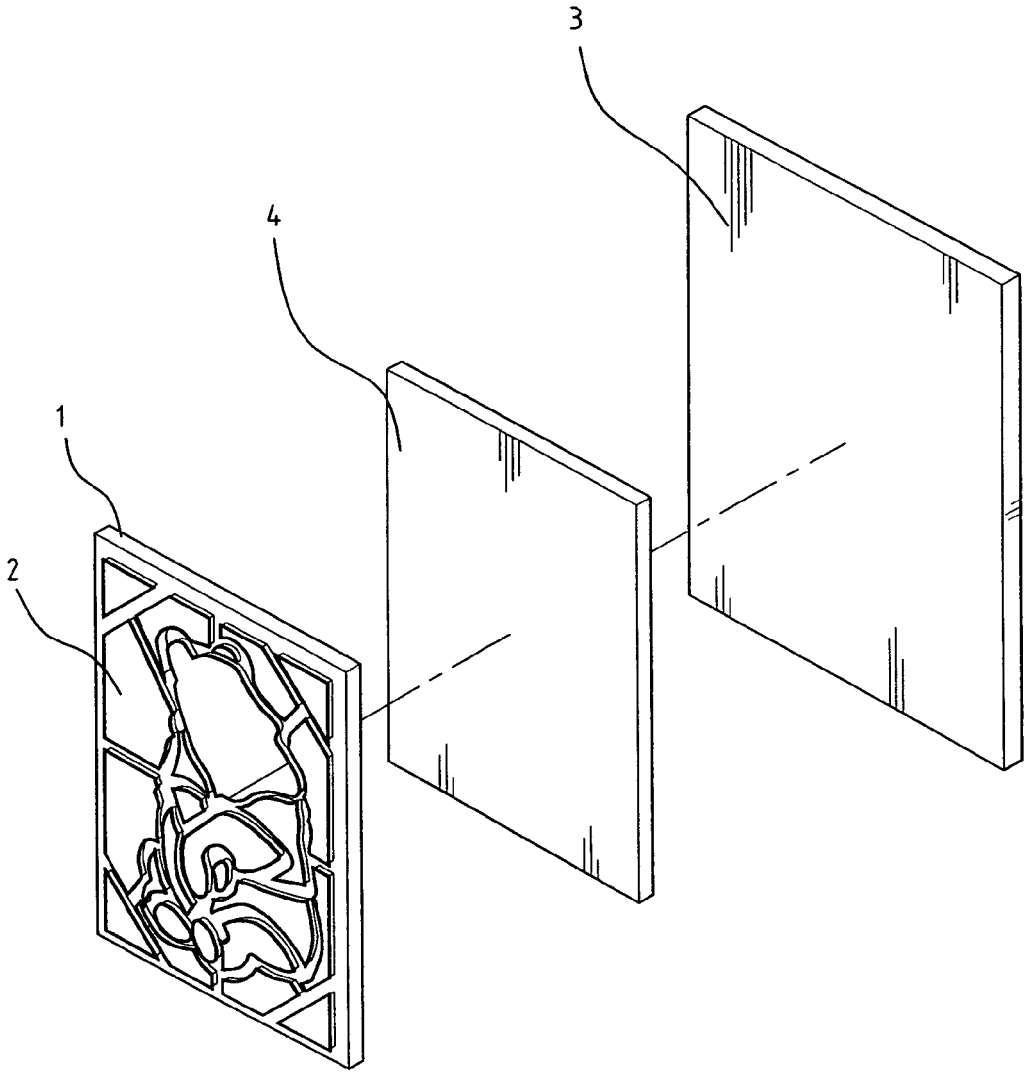

FIG. 5

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EUROPEAN SEARCH REPORT

Application Number
EP 08 25 1946

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	9 October 2008	Acton, Paola

CATEGORY OF CITED DOCUMENTS

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