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Remarks:
Amended claims in accordance with Rule 86 (2) EPC.

(54) **Internal coating of plastic material for a container**

(57) An internal coating in plastic material for a container, particularly made of wood, comprising a bowl shaped base, destined to coat the bottom and side walls of the container, and a cover, destined to be covered in turn by said cover element of the container. The bowl shaped base can be erected from a cut-out (1) obtained from a first sheet of plastic material, whereas the cover (15) is obtained by moulding from a second sheet of plastic material. The bowl shaped base, once erected, is capable of supporting and retaining the cover (15), which is liable to be welded to the edges of the bowl shaped base.

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Description

[0001] The present invention relates to an internal coating in plastic material for a container. Although the invention is not restricted to an application in the sector of funeral accessories, in the following description reference will be made to this type of application only.

[0002] Burial regulations require that the corpse not be in direct contact with the wooden coffin, but be laid out in a galvanised metal container that forms the inner lining of the wooden coffin. The galvanised metal container is closed with a lid which is welded to the body.

[0003] This procedure is made necessary for obvious public health reasons, but it involves difficulties and problems. Among the difficulties is the one relating to processing of metals, such as cutting and welding the sheet metal. Problems are encountered when it is necessary to dispose of a container, which must be treated in the same way as harmful materials. The problems and difficulties mean that this type of article involves very high costs.

[0004] The object of this invention is to overcome the problems and difficulties mentioned above by making use of plastic materials.

[0005] Plastic has already been used in this sector of the art. For example, U.S. patent No. 5,301,398 entitled "PLASTIC BODY CONTAINER" describes a plastic container, optionally made of recycled materials, with inside it a bowl with a cover made of non porous vitreous material. A bowl of this type involves the problem that it is not adapted to traditional articles, that is to say wooden ones, and among other things it requires the use of expensive equipment to produce.

[0006] In particular, an object of the present invention is to create an internal coating for container that is easy to work and assemble.

[0007] A further object of the invention is to create a coating which is machined at the time of use, so as to avoid problems of encumbrance during storage.

[0008] Yet another object of the invention is to create a coating that is easily disposed of and environmentally friendly.

[0009] Yet another object of the invention is to reduce the costs of preparation of articles of the type to which said coating is applied.

[0010] According to the present invention, an internal coating in plastic material is provided for a container, in particular made of wood, with a polygonal bottom, side walls with angles corresponding to the vertices of the polygonal bottom, a cover element, characterised in that it comprises:

- a bowl shaped base, destined to coat the bottom and the side walls of said container, and
- a cover, destined to be covered in turn by the cover element for said container;

the bowl shaped base being formed starting from a cut-out obtained from a first sheet of plastic material and the cover being obtained by moulding a second sheet of plastic material;
the bowl shaped base, once erected, being capable of supporting and retaining said cover, which can be welded to the edges of the bowl shaped base.

[0011] The present invention will now be described with reference to a preferred embodiment thereof, although it is understood that modifications may be made thereto without departing from the scope of the present invention, reference being made to the enclosed drawings, in which:

Figure 1 is a plan view showing a cut-out for creation of the base of the internal element for container according to the invention;
Figure 2 is a plan view from above of a cover for the internal coating of Figure 1;
Figure 3 is a longitudinal cross-section of the cover shown in Figure 2;
Figure 4 is a partially enlarged cross-section of a first embodiment of the coupling between base and cover of the internal coating according to the present invention; and
Figure 5 is a partially enlarged cross-section of a second embodiment of the coupling between base and cover of the internal coating according to the present invention.

[0012] With reference to the drawings, Figure 1 shows a cut-out 1 for creation of the base for the internal coating of a container according to the present invention. The container, which is not shown in the drawings, is generally a wooden artefact, with a polygonal bottom, side walls marked by corners in correspondence to the vertices of the polygonal bottom, and a cover element. Consequently, the base, when erected from the cut-out 1 of Figure 1, will have a bowl shape, destined to coat the bottom and side walls of said container.

[0013] Advantageously, according to the invention, the cut-out 1 of Figure 1 is obtained from a sheet of polymeric material. This polymeric material is preferably polyethylene or polypropylene or another suitable plastic material. It is essential that this material can be heat-welded.

[0014] This sheet of polymeric material is of a type obtained by extrusion. It is also advisable that this extruded polymeric material be cellular or alveolar.

[0015] The cut-out from the sheet of polymeric material comprises a series 10 of consecutive creases to form an hexagonal polygon, corresponding to the bottom of the container. The series 10 of creases allows orthogonal folds to be made between the bottom and the side walls of the container, coinciding with the fold lines. From each vertex 2, 3, 4, 5, 6 and 7 of the hexagonal polygon a pair of diverging creases is made, 20, 21, 30, 31, 40, 41, 50, 51, 60, 61, 70, 71, respectively.

[0016] Once the cut-out has been erected, each one of the pairs of creases 20, 21, 30, 31, 50, 51, 60, 61 forms portions 22, 32, 52 and 62, which are overlapping with respect to symmetrical fold lines 23, 33, 53 and 63, indicated by a dotted line. Between the fold lines 40, 41 and 70, 71 a slight adjustment to the side wall is created.

[0017] Peripherally, the cut-out 1 terminates with a series of external perimeter folded edges, except in the overlapping portions 22, 32, 52, 62. These edges, indicated with 8, 9, 11, 12, 13 and 14, will be described in the following with reference to Figure 4.

[0018] With reference to Figures 2 and 3, which are a plan view and a longitudinal section view, respectively, a cover 15 for the base obtained by erecting the cut-out 1 is shown.

[0019] The cover 15 is obtained preferably by moulding a second sheet of plastic material, which can be of the same type as the one used for the cut-out 1. Alternatively, the cover can also be obtained from a cut-out. The bowl shaped base, once it has been erected, is capable of supporting and retaining the cover 15.

[0020] In a first embodiment, shown in the detail of the cross-section view of Figure 4, this is achieved by slotting the side edge 16 of the cover 15 into the creased edges 8, 9, 11, 12, 13 and 14. Each creased edge comprises, from the outside inwards, sections 17, 18, 19, 20 which are subsequently folded at 90° in a C with respect to each other to create the slot that is capable of receiving the edge 16 of the cover. The hollows created by the creases that allow folding are indicated with 21. After slotting together, the cover 15 can be sealed to the bowl shaped base along the edge by heat-sealing techniques.

[0021] In a second embodiment shown in the detail of the cross-section view of Figure 5, the cover 15 is joined to the erected base cut-out 1 at the creased edges 8, 9, 11, 12, 13 and 14. Each creased edge comprises from the inside outwards sections 20, 22, 23, 24, the section 20 being the section of side wall of the bowl shaped base. The edge section 22 is subsequently folded inwards by approximately 90°, parallel to the opposite section of edge (not shown). Then, the section 23 is folded towards section 20 and finally the section 24 is folded parallel to this. In this way, a substantially Z-shaped conformation of the outer edge of the bowl shaped base is created, on the horizontal section of edge 22 of which the edge 16 of the cover can be rested and to which it can be welded.

[0022] Alternatively, it is possible to foresee other forms of joining the edge of the bowl shaped base to the cover, which will occur to an expert in the field, such as resting the cover on a creased edge of the bowl shaped base and folding it onto the cover itself.

[0023] The advantages of the invention are easy to comprehend. Thanks to welding with a low-power heater it is possible to achieve an hermetic seal like that of the galvanised sheet metal. Alternatively, although less preferred, it is possible to glue the edges of the cover and the bowl shaped base. In the event of cremation also; the coating in plastic material does not produce substances that are harmful for the environment. The costs of the cut-out are much lower than those required to process the galvanised metal, as are those for assembly and completion of the hermetic seal.

[0024] The present invention has been described with reference to a specific embodiment, but it must be expressly understood that modifications, additions and/or omissions may be made to the same without departing from the scope of protection defined by the enclosed claims.

Claims

1. Internal coating in plastic material for a container, particularly made of wood, having a polygonal bottom, side walls defined by corners in correspondence with the vertices of the polygonal bottom, and a cover element, **characterised in that** it comprises:

    - a bowl shaped base, destined to coat the bottom and side walls of said container, and
    - a cover, destined to be covered in turn by said cover element of the container;

    said bowl shaped base being erected from a cut-out obtained from a first sheet of plastic material and the cover being obtained by moulding of a second sheet of plastic material;
    said bowl shaped base, once erected, being capable of supporting and retaining said cover, which is liable to be welded to the edges of the bowl shaped base.

2. Coating according to claim1, **characterised in that** said cut-out of the base comprises:

- a series of consecutive creases to create fold lines orthogonal to the bottom and side walls of the container;
- a pair of fold lines diverting from each vertex of said bottom of the container, to form overlapping portions of side wall of the base of the coating; and
- a series of external perimeter creased edges on the base cut-out except in said overlapping portions.

3. Coating according to claim 1, **characterised in that** said external perimeter creased edges on the base cut-out can be folded onto themselves into a C shape to form a slot capable of receiving the peripheral edge of said cover.

4. Coating according to claim 1, **characterised in that** said external perimeter creased edges on the base cut-out can be folded onto themselves into a Z shape to form a support for the peripheral edge of said cover.

5. Coating according to claim 1, **characterised in that** said first and second sheet of plastic are made of polymeric material.

6. Coating according to claim 5, **characterised in that** said polymeric material is extruded.

7. Coating according to claim 5, **characterised in that** said extruded polymeric material is a cellular material.

8. Coating according to claim 5, **characterised in that** said polymeric material is chosen from the group comprising polyethylene and polypropylene.

9. Coating according to any one of the preceding claims, **characterised in that** said polymeric material can be heat welded.

Amended claims in accordance with Rule 86(2) EPC.

1. Internal coating in plastic material for a container, particularly made of wood, said container having a polygonal bottom, side walls defined by corners in correspondence with the vertices of the polygonal bottom, and a cover element, said internal coating comprising:

- a bowl shaped base, destined to coat the bottom and side walls of said container, and
- a cover (15), destined to be covered in turn by said cover element of the container; said bowl shaped base being erected from a cut-out (1) obtained from a first sheet of plastic material and the cover (15) being obtained by moulding of a second sheet of plastic material;

said bowl shaped base, once erected, being capable of supporting and retaining said cover (15), which is liable to be welded to the edges of the bowl shaped base;
said cut-out (1) of the base comprising:

- a series (10) of consecutive creases to create fold lines orthogonal to the bottom and side walls of the container;
- a pair of fold lines (20, 21, 30, 31, 40, 41, 50, 51, 60, 61, 70, 71) diverting from each vertex (2, 3, 4, 5, 6, 7) of said bottom of the container, to form overlapping portions (22, 32, 52, 62) of side wall of the base of the coating; and
- a series of external perimeter creased edges (8, 9, 11, 12, 13, 14) on the base cut-out (1) except in said overlapping portions (22, 32, 52, 62),

characterised in that said external perimeter creased edges (8, 9, 11, 12, 13, 14) on the base cut-out (1) can be folded onto themselves into a C shape to form a slot capable of receiving the peripheral edge (16) of said cover (15).

2. Coating according to claim 1, **characterised in that** said first and second sheet of plastic are made of polymeric material.

3. Coating according to claim 2, **characterised in that** said polymeric material is extruded.

4. Coating according to claim 2, **characterised in that** said extruded polymeric material is a cellular material.

5. Coating according to claim 2, **characterised in that** said polymeric material is chosen from the group comprising polyethylene and polypropylene.

6. Coating according to any one of the preceding claims, **characterised in that** said polymeric material can be heat welded.

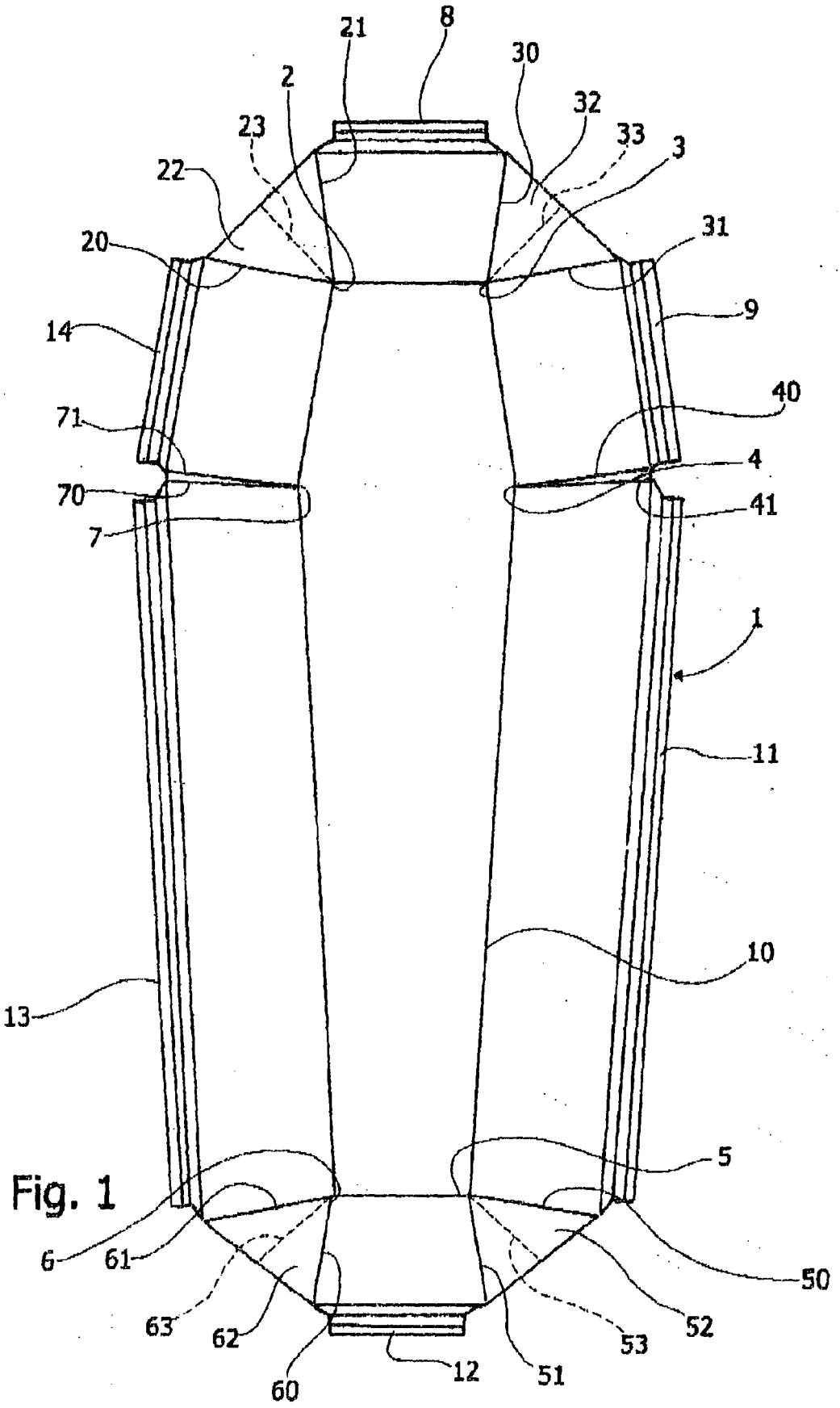
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Fig. 1

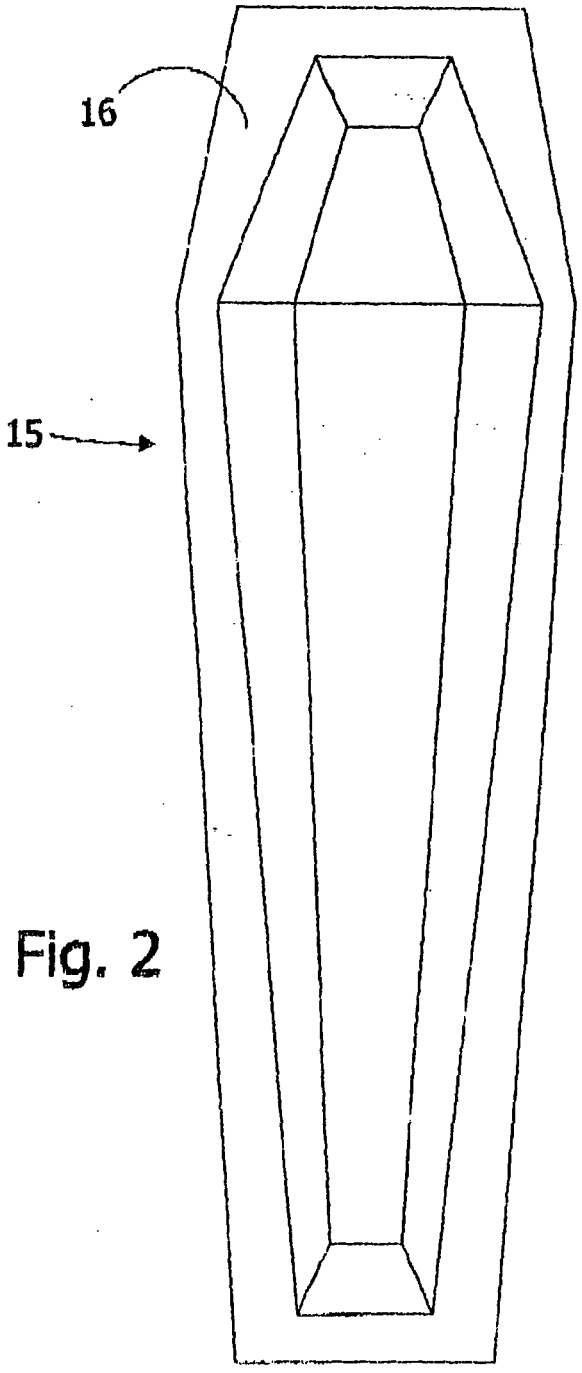

Fig. 2

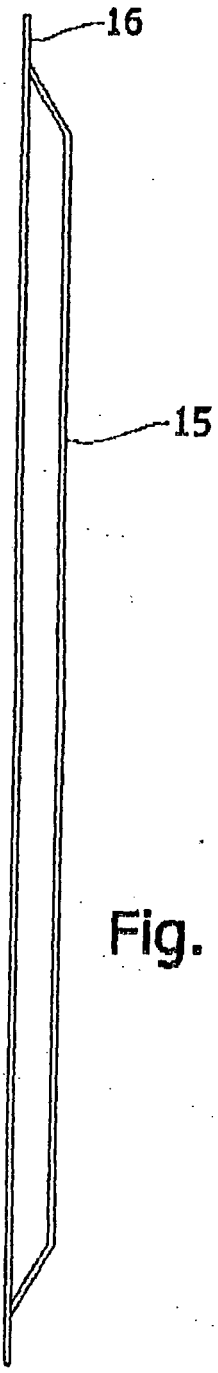

Fig. 3

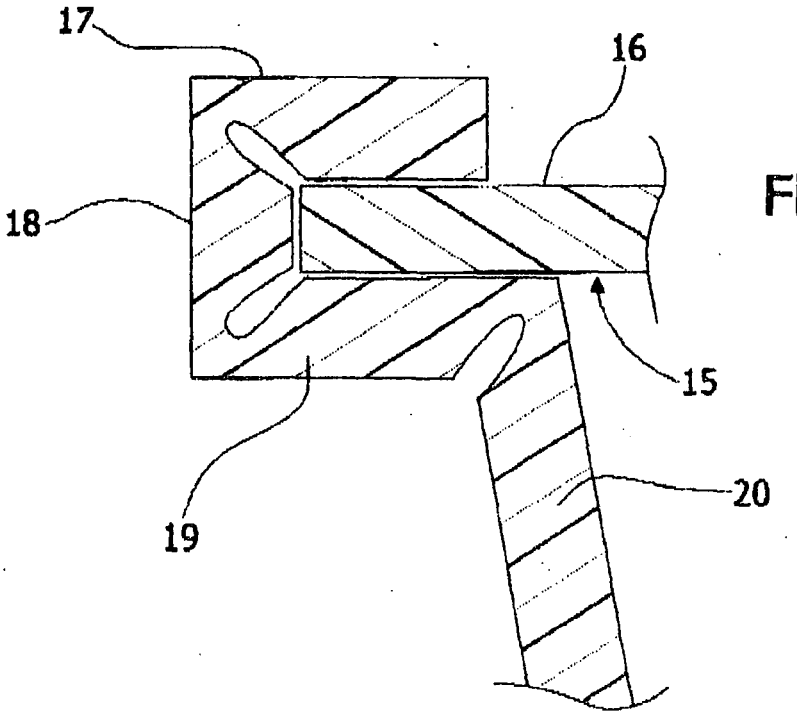

Fig. 4

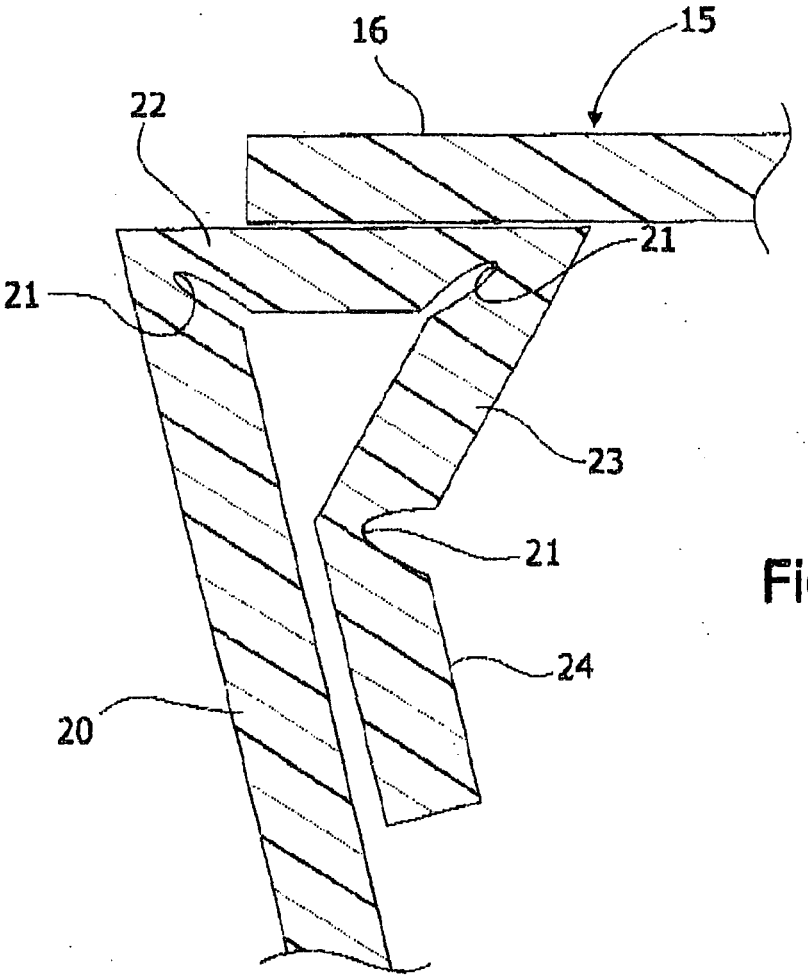

Fig. 5

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EUROPEAN SEARCH REPORT

Application Number
EP 06 42 5181

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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
The Hague	3 July 2006	Bielsa, D

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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REFERENCES CITED IN THE DESCRIPTION

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