

Description

Method to provide a working top with a water retaining bar, and a profile to apply with the method.

The invention pertains to a method to provide a working top consisting of one or more parts with a water retaining bar, and to apply subsequently a hard finishing layer.

The known method for applying a water retaining bar on the edge of a working top, such as a kitchen top for example, consist in attaching a raised face to the upper surface of the working top near the edge, successively grounding the side face of the working top whether or not in combination with the grounding of the attached raised face and finally applying a hard finishing layer. The raised face can be made from a number of materials, such as for example plywood, fibreboard such as MDF or synthetic material.

Also a method exists, by which the raised face is made from a curing polyurethane foam, however it being very difficult technically to get the right and a continuous rounding.

With the known method it is especially very important to provide a water retaining bar, that substantially consists of a rounding, because the hard finishing layer to be applied is of such a composition that only rounded corners with at least a certain minimal radius of curvature can be followed and the layer certainly cannot be applied over a top edge with a sharp angle.

The working top as such is usually made out of wooden plate material, such as for example particle board, fibre board or plywood, plywood usually being preferable because of the favourable properties.

Such plate material is made in a number of thicknesses, but because of the method of manufacturing, by which is worked back by grinding from a too large a thickness to the desired thickness, they can deviate considerably from that thickness. With a working top assembled from a number of plates it usually gives distinct steps at the plate intersections, which difference, by placing the upper faces of adjoining plates in one plane, will be noticed mainly along the edge.

Furthermore in practice it has appeared that with grinding the side face of the working top to shape often deviations come about, which can be caused by small deviations in the grinding device, the guiding system thereof or also by irregularities in the grinding means itself.

Although relatively the size of the possible differences and deviations do not seem to be too serious, all the same these are sufficient to strike the eye almost immediately, by which the appearance of for example a totally new kitchen furnishing can be impaired considerably.

The aim of the invention is to obviate these disadvantages and to provide a method according to which a water retaining bar can be applied that is of constant shape along the total length and wherewith the edges of adjoining parts of the working top abut against each

other precisely.

Accordingly the invention provides that the method at least comprises the steps of milling the plate portion or the constituent plate portions of the working top near the edges with the top surface as reference plane and that at the top surface an upper plane is milled up to a predetermined depth and at the bottom surface a bottom plane parallel to the milled upper plane and up to a predetermined distance from there, applying a profile tightly to the milled planes, and applying a hard finishing layer.

Applying the method according to the invention provides that the bottom face of the working top near the edge is always at a predetermined distance from the upper face of the working top, so that the constituent plate portions can be placed against each other without steps in the thickness near the edge, where it strikes the eye the most.

Besides that a working top edge of constant shape is obtained, a further advantage of the method according to the invention is that this can be achieved in a simple manner and with a few steps. It only takes one milling operation, which can be realized without any problem within very close tolerances, whereafter the profile can be pushed directly into position and succeeding the finishing layer may be applied.

According to the invention succeeding a profile is pushed over the milled planes of the top, the thickness of the part of the profile, that comes to rest on the milled upper plane, being such that the edge of the profile is flush with the upper face of the top. Succeedingly a finishing layer may be applied over the top and over the profiles, which in most cases will be a hard finishing layer, for example a laminate that is applied while heating it at the same time.

A further elaboration of the invention provides that the upper plane is milled up to a depth with respect to the top surface of the working top, that corresponds with the thickness of the upper edge of the profile minus the thickness of the finishing layer.

The finishing layer may be applied just till the water retaining bar and not over it. This embodiment is possible through the use of a profile, and in this manner aesthetically attractive combinations may be made of finishing layers and profiles of different materials and colours.

With this elaboration of the method according to the invention it is also possible to use profiles that have angles and/or roundings, which can not be used when the finishing layer is to be applied over the profile.

Furthermore the method provides that between the milled upper plane and the adjoining side face of the working top and/or between the milled bottom plane and the adjoining side face of the working top at least one inclined plane is milled. Herewith it is obtained that the profile to be used, seen along the total cross section, can have a thickness varying within a limited range.

The invention also provides a profile to be used with the method which has a raised part protruding above

the plane of the working top, and which is provided with attachment means for the attachment of the profile to a working top, the profile having further parts which are meant to abut against the side face and the bottom face of a working top, with the distance between the upper and lower face of the profile near the outer ends is less than the thickness of the chosen working top.

A further embodiment provides that the distance between the outer surface of the upper face and the inner surface of the bottom face of the profile near the outer ends equals or is less than the thickness of the chosen working top minus the maximum permissible deviation from the thickness given for the working top. Herewith it is obtained that even with a maximum allowable deviation from a given standard thickness for a working top, the profile can still be applied tightly over the edge, with the edge of the upper leg of the profile lying flush with the upper surface of the working top.

Herewith it is further provided that the raised part at the upper face passes into a rounding that extends over at least the part of the profile that is to abut against the side face of a working top. These roundings are preferably such that a hard finishing layer to be applied, can also be applied over the profile in an easy manner.

According to a further embodiment at the lower side of the profile near the edge between the bottom face and the side face of the profile a water groove is provided, so that water that still spills over the water retaining bar, can drip down near the edge and not over the substructure of the working top, which possibly is made from less water-resistant material.

In the following the invention is elucidated with the help of the drawing, in which

fig.1 schematically shows a top view of a working top,

fig.2 shows a perspective view of a short length of a profile according to the invention,

fig.3 shows a cross section of a working top with a first embodiment of the profile,

fig.4 shows a cross section of a working top with a second embodiment of the profile, and

fig.5 shows a cross section of a working top with still a further embodiment of the profile.

Fig.1 shows a working top 1 that is made up from a number of constituent parts 2,3,4,5, with a profile 6 according to the invention provided along the edge of the parts. In the figure the profile is shown as it can be seen without that a finishing layer has been applied over the profile. Such a profile can easily be manufactured with an extrusion process, and may be made from aluminium or artificial material.

At the abutting surfaces between the parts 2,3,4,5 and in particular at points 7,8,9 the profile provides that the edge of a part meets the edge of the next part without step. Furthermore the extruded profile has such minimal deviations that normally these can not be seen with the eye, so that the entire edge along the working

top is in line.

Fig.2 shows in perspective a short length of a profile 6, showing primarily the inner side of the profile. The extrusion process is carried out in such manner that the legs 10,11 of the profile are manufactured with some initial stress, so that the outer ends of a loose profile will bend to some extent in each others direction. With a profile attached to the edge of a working top this will result in that the legs 10,11 grip the working top 1.

Fig.3 shows a cross-section through a part of a working top 1 with a profile 6 according to the invention. The inner sides of the legs 10,11 abut against the milled planes 12,13 of the working top 1, the inclined inner sides 14,15 respectively against the milled inclined planes 16,17 and the side 18 against the side face 19 of the working top 1.

In this figure for the sake of clarity some space is left between the profile and the edge of the working top, which in reality does not exist, where the profile and the edge of the working top abut directly against each other.

Leg 10 has a raised part 20 that forms the water retaining bar. This raised part passes into a rounding 21 with a first radius of curvature and next along the side of the working top into a rounding 22 with a second larger radius of curvature than rounding 21.

In this figure leg 10 is at the same level as the upper face 23 of the working top 1 and the finishing layer 24 is applied over the upper surface 23 of working top 1, leg 10 and the respective roundings 20,21,22 up to the transition point 25 to leg 11.

At the bottom side of profile 6 in leg 11 a water groove 26 is provided near the transition point 25, so that water which eventually spills over the water retaining bar will drip downwards at point 25.

At the inner side of the profile 6 an attachment member 27 is provided which has a number of edges 28 pointing backwards, which prevent that an attachment member which is put into a recess 34 made for that purpose in the side face of the working top, may leave that recess under normal conditions.

In fig.4 an embodiment of profile 6 is shown with attachment members 29,30 respectively provided at the inner sides of legs 10,11 near the outer ends thereof. At the upper and bottom face of the working top 1 respective recesses 31,32 are provided therefor.

The attachment members 29,30 are smaller than attachment member 27 in the example of fig.3 and only have an edge pointing backwards at one side, this to prevent that the legs 10,11 have to be bend outwards too far to get the profile in its final position.

In this example plane 12 is milled to a smaller depth, such that the side face 33 of leg 10 protrudes over a distance above the upper face 23, which corresponds with the thickness of the finishing layer 24.

Although applying the finishing layer up to or over the profile is possible with both shown embodiments, the embodiment according to fig.4 is preferred for applying the finishing layer up to the profile, because the upper leg is not also hold in place by a strong finishing

layer as with the other embodiment.

Finally fig.5 shows a still further embodiment of a profile according to the invention, wherewith the same numbers are used for similar parts of the profile according to the foregoing embodiments. The side face of the profile runs down obliquely, which means that the planes 14,15,18 of the profile at the inner side have other dimensions and that the plane 15 also has a different inclination.

It will be apparent that for example with a side face that runs inward even more obliquely it will be preferred to divide inner plane 15 into two or more subplanes, in order to be able to follow the outer surface of the profile as close as possible, so that it can be prevented that at some places the profile has to have an unnecessary thickness. Which of course also goes for the other planes.

Claims

1. Method to provide a working top consisting of one or more parts with a water retaining bar, and to apply subsequently a hard finishing layer, **characterized in that** it at least comprises the steps of milling the plate portion or the constituent plate portions of the working top near the edges with the top surface as reference plane and that at the top surface an upper plane is milled up to a predetermined depth and at the bottom surface a bottom plane parallel to the milled upper plane and up to a predetermined distance from there, applying a profile tightly to the milled planes, and applying a hard finishing layer.
2. Method according to claim 1, **characterized in that** between the milled upper plane and the adjoining side face of the working top and/or between the milled bottom plane and the adjoining side face of the working top at least one inclined plane is milled.
3. Method according to claim 1-2, **characterized in that** recesses are provided in one or more of the milled planes to receive fastening means, which means are part of the profile.
4. Method according to claim 3, **characterized in that** at the side face of the working top one recess is provided to receive the fastening means.
5. Method according to one or more of the preceding claims 1-4, **characterized in that** the upper plane is milled up to a depth with respect to the top surface of the working top, that corresponds with the thickness of the upper edge of the profile or corresponds with the thickness of the upper edge of the profile minus the thickness of the finishing layer.
6. Method according to one or more of the preceding claims 1-5, **characterized in that** for a finishing

layer a melamine layer is applied in the right shape while simultaneously heating the layer.

7. Profile to be applied on an edge of a working top, which has a raised part protruding above the plane of the working top, and which is provided with fastening means for the attachment of the profile to a working top, **characterized in that** the profile has further parts which are meant to abut against the side face and the bottom face of a working top, with the distance between the upper and lower face of the profile near the outer ends is less than the thickness of the chosen working top.
8. Profile according to claim 7, **characterized in that** the distance between the outer surface of the upper face and the inner surface of the bottom face of the profile near the outer ends equals or is less than the thickness of the chosen working top minus the maximum permissible deviation from the thickness given for the working top.
9. Profile according to claim 7-8, **characterized in that** the raised part at the upper face passes into a rounding that extends over at least the part of the profile that is to abut against the side face of a working top.
10. Profile according to one or more of claims 7-9, **characterized in that** at the lower side of the profile near the edge between the bottom face and the side face of the profile a water groove is provided.
11. Profile according to one or more of claims 7-10, **characterized in that** the inner surface of the profile is determined substantially by flat faces, with one or more inclined faces between the faces that are to abut against respectively the upper face, side face and bottom face of the working top.
12. Profile according to one or more of claims 7-11, **characterized in that** the fastening means are provided on the face that is to abut against the side face of the working top and comprise one or more elements diverging in the direction of the inner surface of the profile.
13. Profile to be applied on an edge of a working top, which has a raised part protruding above the plane of the working top, and which is provided with fastening means for the attachment of the profile to a working top, **characterized in that** the profile has further parts which are meant to abut against the side face and the bottom face of a working top, the distance between the outer surface of the upper face and the inner surface of the bottom face of the profile near the outer ends equals or is less than the thickness of the chosen working top minus the maximum permissible deviation from the thickness

given for the working top, and that the raised part at the upper face passes into a rounding that extends over at least the part of the profile that is to abut against the side face of the working top.

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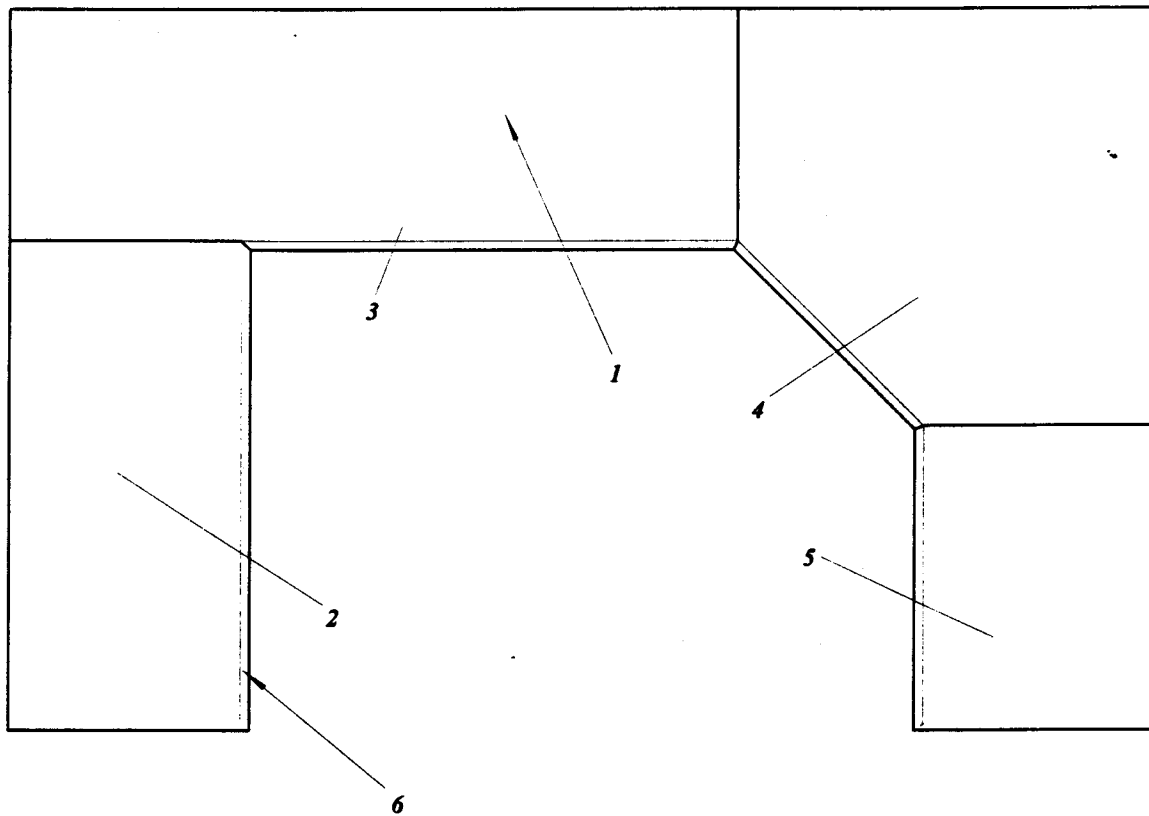


FIG. 1

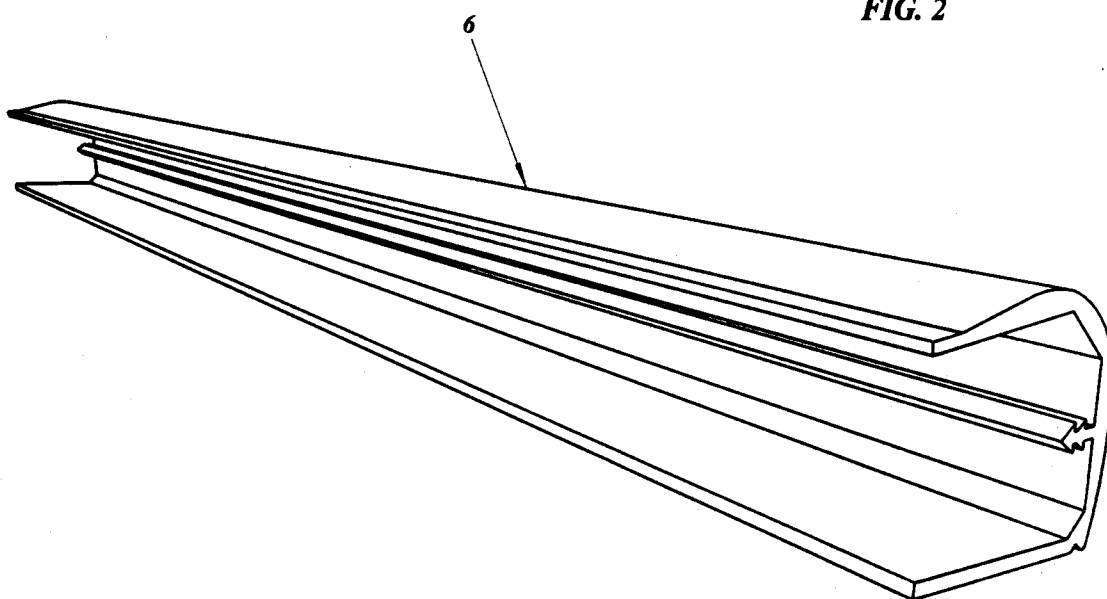


FIG. 2

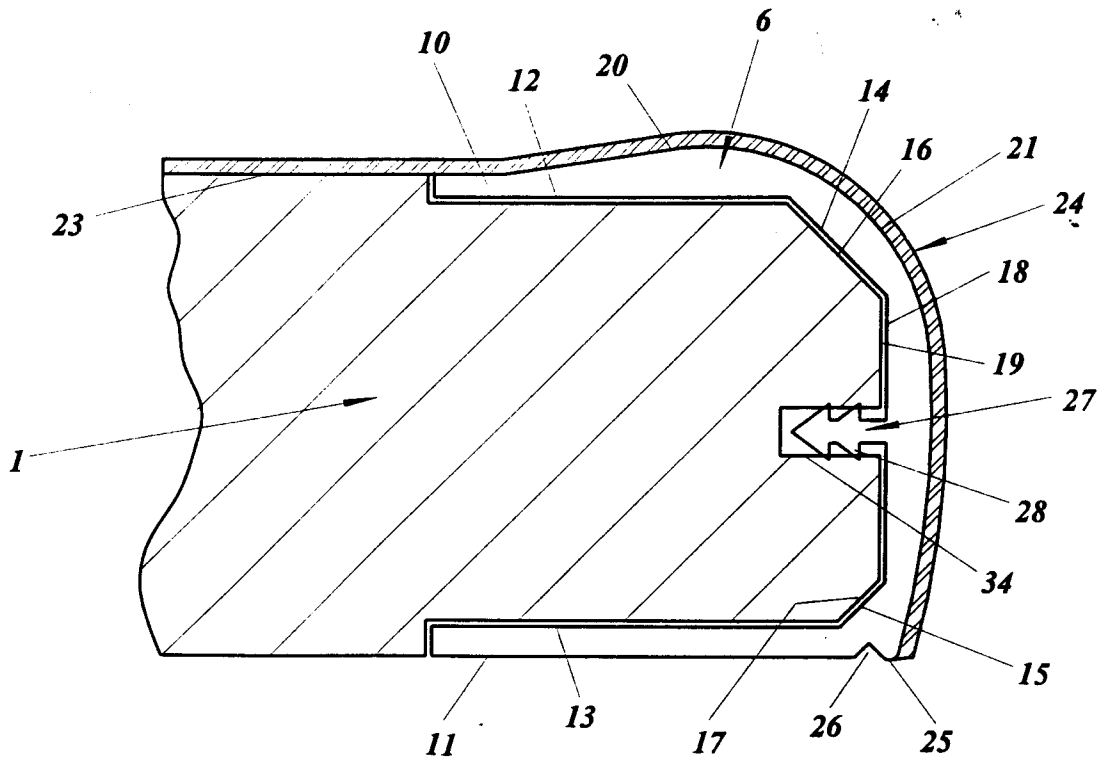


FIG. 3

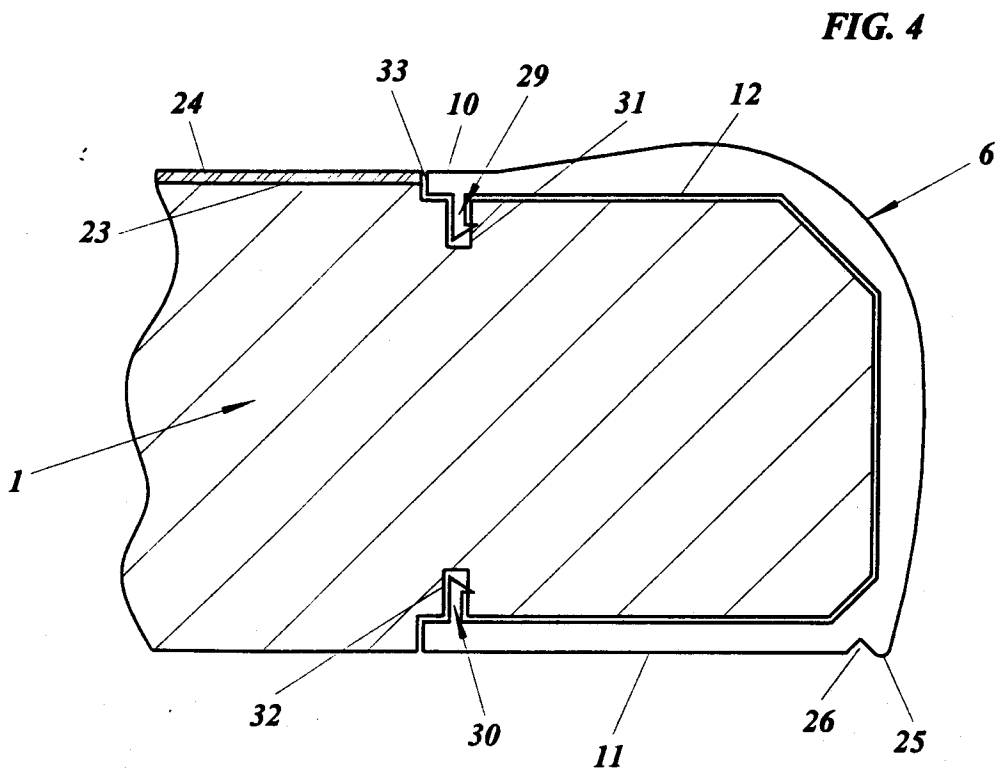


FIG. 4

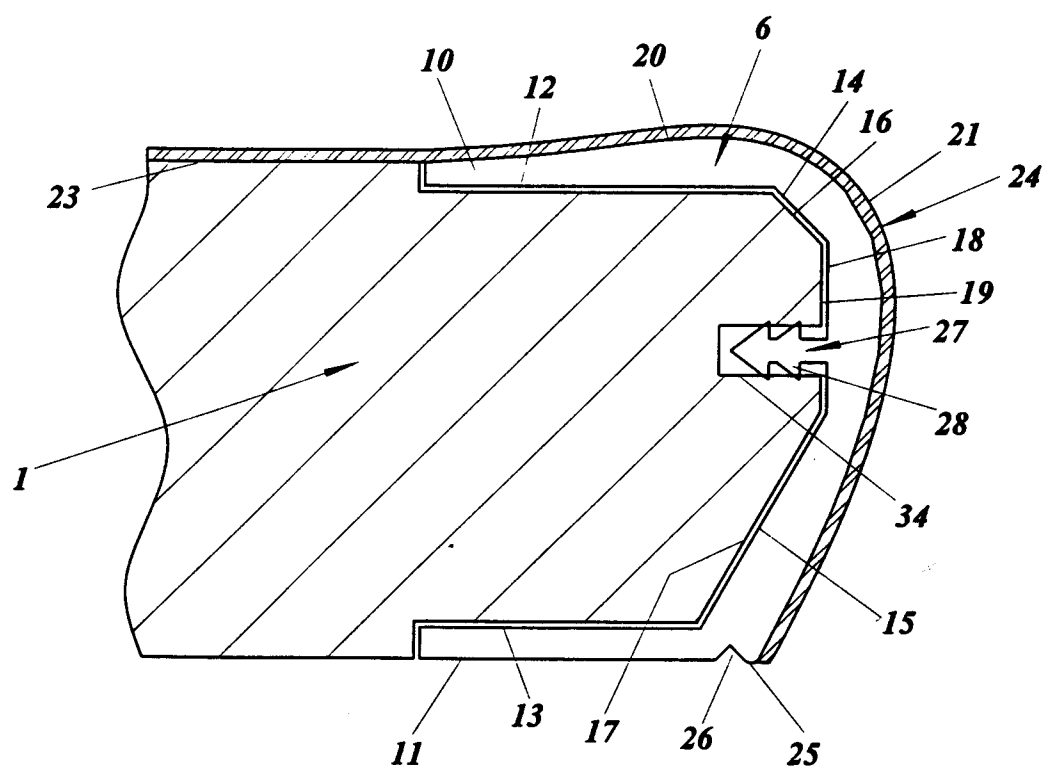


FIG. 5



European Patent
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EUROPEAN SEARCH REPORT

Application Number
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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
Y	EP 0 150 335 A (DUROPAL-WERK EBERH.WREDE GMBH & CO.) 7 August 1985 * abstract; figures 10,11 *	7-9,12, 13	A47B77/02 A47B13/08
A	* page 21, paragraph 1 - paragraph 2; claim 1 *		
	* page 16, last paragraph - page 17, paragraph 1 *	1,4,5	

Y	US 2 646 326 A (STANITZ) 21 July 1953 * column 3, paragraph 2; figures 1,6 *	7-9,12, 13	

A	US 2 688 523 A (NORMAN ET AL.) 7 September 1954 * the whole document *	1,2	

A	FR 2 171 455 A (BROCKER) 21 September 1973 * claim 1; figures 1,2 *	1,5	
	* page 6, last paragraph - page 7, line 16 *		

A	GB 2 286 978 A (BUSHBOARD PARKER LTD.) 6 September 1995 * figure 1 *	10	TECHNICAL FIELDS SEARCHED (Int.Cl.6) A47B B27M

The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 20 May 1997	Examiner Jones, C
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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