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(54) Assembly system for extractor hoods

(57) These are of the type that are formed from different surfaces defined by stamped sheets of stainless steel that are welded together in order to form the outside or casing. The borders of the parts to join, making up a single edge, are currently joined by longitudinal welding with the welded joint and the area around it then being ground. In accordance with the invention, one of the two assembly surfaces (**2-3**) has backed onto its interior face an auxiliary stamped plate (**5**) provided with flanges (**6**) in its contour, which are folded in order to back onto the internal face of the other surface of the assembly, then being joined by welding. The border of the external surface (**3**) remains free, being able to be made flush or projecting with respect to the other piece (**2**). The stamped auxiliary plate (**5**) has other flanges (**7, 8**) for union with other overlapping surfaces and as support for other internal components of the hood.

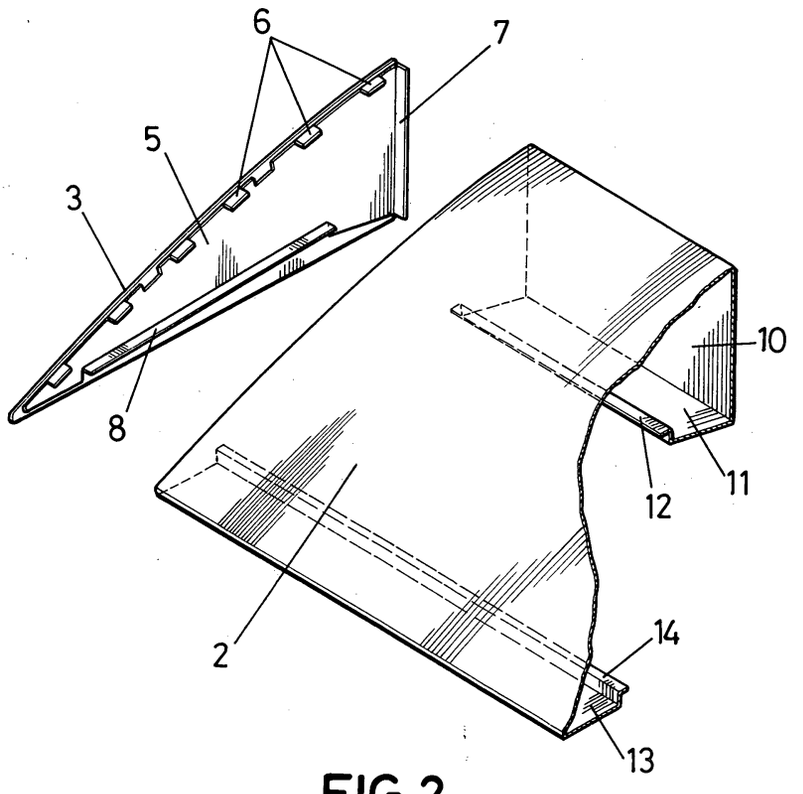

FIG.2

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Description

OBJECT OF THE INVENTION

[0001] As stated in the title of this specification, the present invention refers to an assembly system for extractor hoods, with which notable advantages are achieved compared to systems currently used.

[0002] One of the objects of the invention is the increase in the variety of geometric shapes and the greater speed of mounting of extractor hoods with respect to the habitual production systems: folding-welding-grinding.

BACKGROUND OF THE INVENTION

[0003] So far, the method used for the construction of a smoke extractor hood consists of starting from sheets of stainless steel with partial folds according to the shape it is wished to obtain. The different surfaces obtained can form part of the main body of the hood or constitute peripheral surfaces (lateral and front pieces). The free borders of the different surfaces that are coincident and which define edges of the hoods are joined together by means of welding. This is done by fusing the steel and, once the area being worked on has cooled down, the welded joint and the area around it are ground in order to polish the surfaces and achieve the final finish.

[0004] The welding requires the utmost precision in order to obtain a good final result and not to damage the areas close to it excessively. This precision leads to a lengthy working time by the operator performing the welding.

DESCRIPTION OF THE INVENTION

[0005] In general terms, the assembly system for extractor hoods forming the object of the invention consists of using an intermediate piece for establishing the union between particular parts of its structure, this intermediate piece having a series of stamped flanges which can then be arranged orthogonally or at the desired angle, in order to constitute a robust means of union between the pieces or panels to assemble.

[0006] This intermediate or complementary piece will remain perfectly welded to the inner face of the external piece that it backs on to.

[0007] Depending on the characteristics, thicknesses and design of the walls meeting at the edges where the union between different pieces has to be established, this union is previously carried out with spot welds, with the aid of double-sided adhesive tape, or a combination of the above two.

[0008] This assembly system which the invention proposes can be applied both to the lateral pieces of the hood and for assembling the front.

[0009] The advantages achieved with the assembly system that is proposed compared to the system currently used are:

- Greater speed of mounting. Long welds are eliminated with the consequent reduction in time spent and the corresponding increase in production.
- It permits working with different textures for the same material. Pieces of stainless steel that are matt, gloss, rough, etc., can be combined without altering their appearance since the exterior welding and later grinding are eliminated.
- It permits different materials to be combined that are impossible to weld by means of fusing them, such as might be: stainless steel with copper, with wood, copper with wood, etc.
- It permits working with hoods whose main body is undulating. If the undulation is simple and not very pronounced, then the operator does this during the actual mounting of the hood, since the flanges of the piece forming the object of the invention serve as a guide for achieving that effect. In the case of very pronounced undulations or other shapes, these can be achieved by folding of the sheet in the corresponding machine.
- It permits a different finish to current ones to be obtained since projections can be created by causing the end of one surface to extend with respect to the other to a greater or lesser degree. The height of the projecting flange will be defined by the location of the piece forming the object of the invention with respect to the border of the surface where it is integrally adhered.

[0010] In order to facilitate the understanding of the characteristics of the invention and forming an integral part of this specification, some sheets of plans are attached containing figures in which, as illustration only and not limiting, the following are represented:

BRIEF DESCRIPTION OF THE DRAWINGS

[0011]

Figure 1.- Is a perspective view of an extractor hood that includes the assembly system forming the object of the invention.

Figure 2.- Is an exploded perspective view of the union of the left lateral piece of the same extractor hood of figure 1, to the central body of it.

Figure 3.- Is a plan view of the stamped plate provided with flaps, which has to back onto the interior of the corresponding lateral piece.

Figure 4.- Is a plan view of the visible lateral piece of that same extractor hood.

DESCRIPTION OF AN EMBODIMENT OF THE INVENTION

[0012] Making reference to the numbering adopted in the figures and especially in relation to figure 1, we can see how the assembly system which the invention proposes is applied to the construction of a hood **1** formed with a central body **2,** the two lateral surfaces **3** and the embellisher 4 covering the vertical tube for the exit of smoke.

[0013] In figure 2 we see referenced with number **5** the auxiliary plate that backs onto the inner face of the lateral piece **3** forming an integral body with it, the two pieces being joined by means of spot welds. Clearly seen in figure 3 is the development of plate **5** and its stamped contour. Some flaps **6** can be distinguished at certain points of the curve-convex side of its triangular general shape (like that presented by the lateral pieces **3),** which will later on be folded though 90° in this embodiment example, due to the geometric shape of the hood **1,** as can be seen in figure 2.

[0014] Flanges **7** and **8** will also be formed on the auxiliary plate **5,** the first as an extension on the smaller (vertical) side and the second defined between the cuts **9** of the central portion of the lower broken border or side.

[0015] In this figure 2 it can be seen that the central body **2** has an arched upper face, with the same curvature as the curved side of the lateral piece **3** and also of the auxiliary plate **5,** a rear part **10** which descends by folding, another portion **11** which is folded through more than 90° and an end double bend **12.** There is also an initial bend **13** and an end double bend **14** at the front border of the central body **2.**

[0016] As can be confirmed, when each lateral piece **3** is mounted to the lateral ends of the central body **2,** the horizontal flanges **6** remain inside the central body **2** serving as a guide for the mounting. The rear flange **7** also remains inside. The lower flange **8** of the lateral piece **3** remains coplanar with the end sections of the bends **12** and **14** of the central body **2,** thereby shaping a rectangular frame for the mounting of internal pieces, the ends of which overlap (see figure 1). In all the zones of contact of the different flanges **6, 7** with the central body **2** and of overlap of the actual flanges **12** and **14** between themselves, spot welds are provided which strengthen and stiffen the frame and are not visible from the outside.

[0017] The borders of the lateral pieces **3** remain free and can be made flush with the external surface of the central body or they can project slightly, forming an embellishing perimetral flange, as well as shaping means of buffering for the mounting.

Claims

1. ASSEMBLY SYSTEM FOR EXTRACTOR HOODS formed from different surfaces defined by stamped sheets of stainless steel that are folded and welded together, **characterized in that** a first sheet (**3**) to be assembled to a second sheet (**2**), has attached onto its interior face a stamped plate (**5**) provided with first flanges (**6, 7**) in a plurality of zones of its contour, said first flanges being folded with an angle selected from an orthogonal angle and an angle formed between the surfaces of the first and second sheets to be assembled (**2,3**), in order to serve as elements of union by means of spot welding with the second sheet (**2**) of the assembly; the border of the first sheet (**3**) remaining free and in a position with respect to the second sheet (**2**), selected from flush and projecting.

2. ASSEMBLY SYSTEM FOR EXTRACTOR HOODS according to claim 1, **characterized in that** the stamped plate (**5**) is provided with second flanges (**8**) or extensions selected from flat flanges and folded flanges, as means of coupling and support for remaining components of the extractor hood.

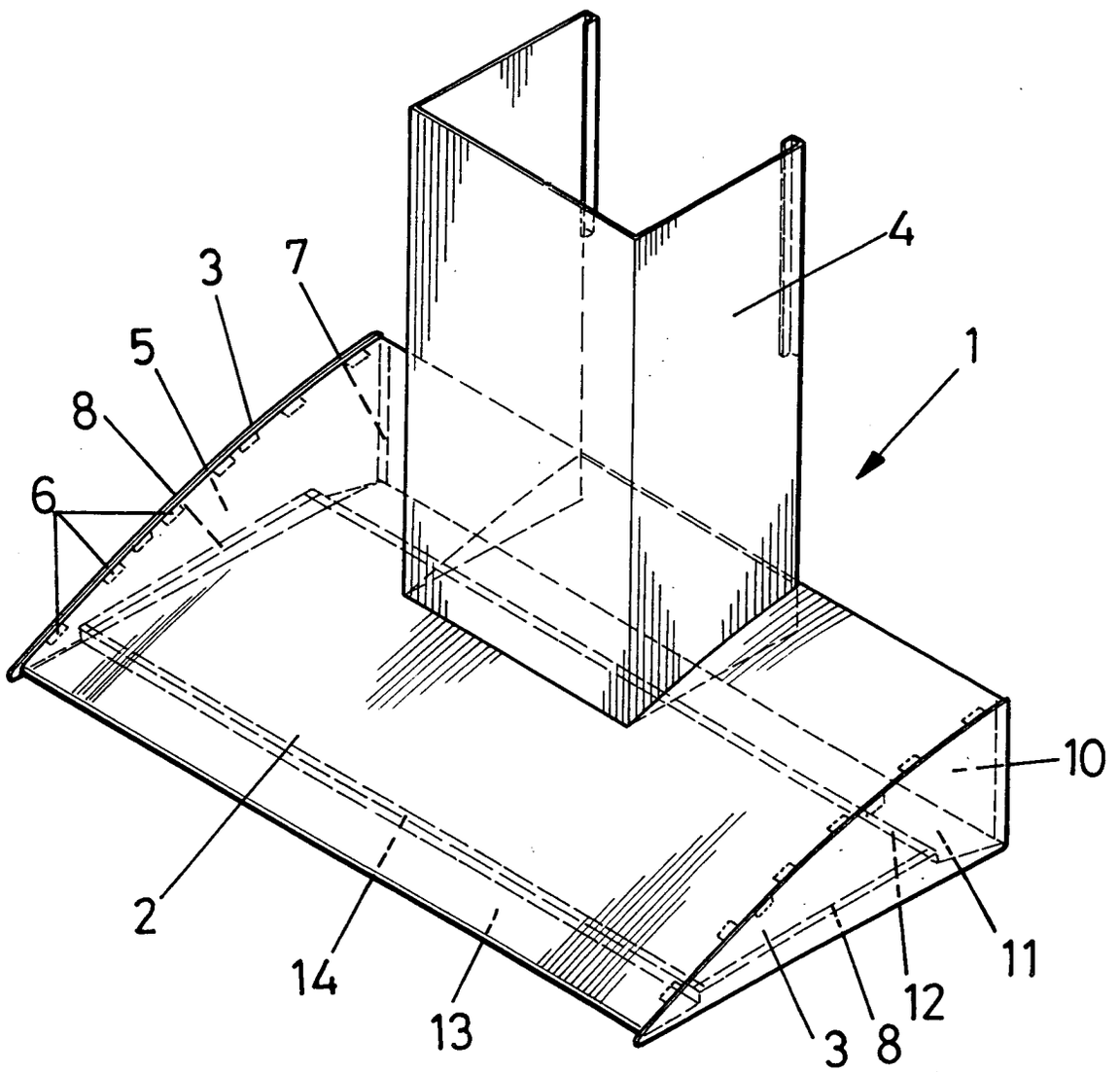

FIG.1

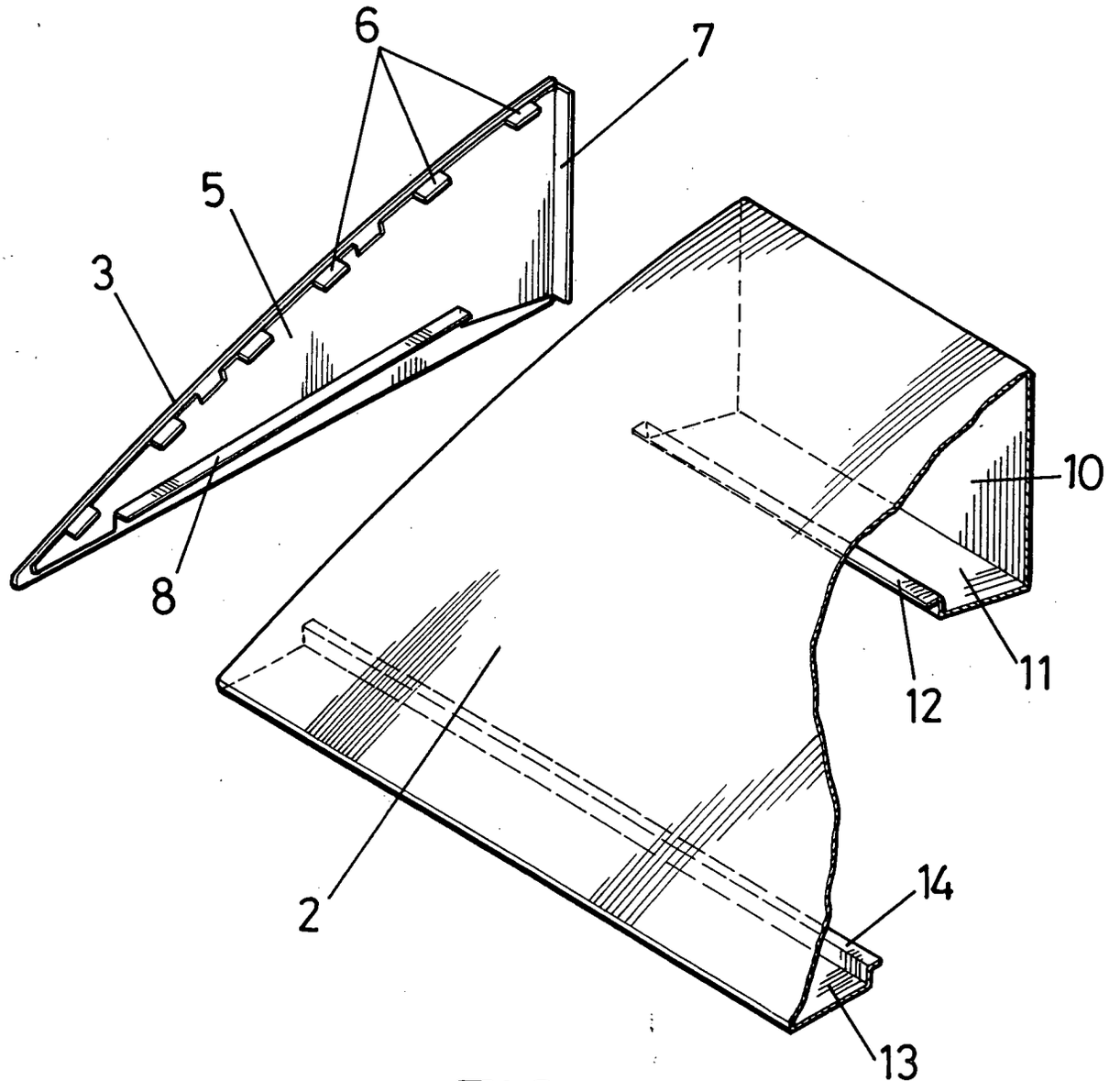

FIG.2

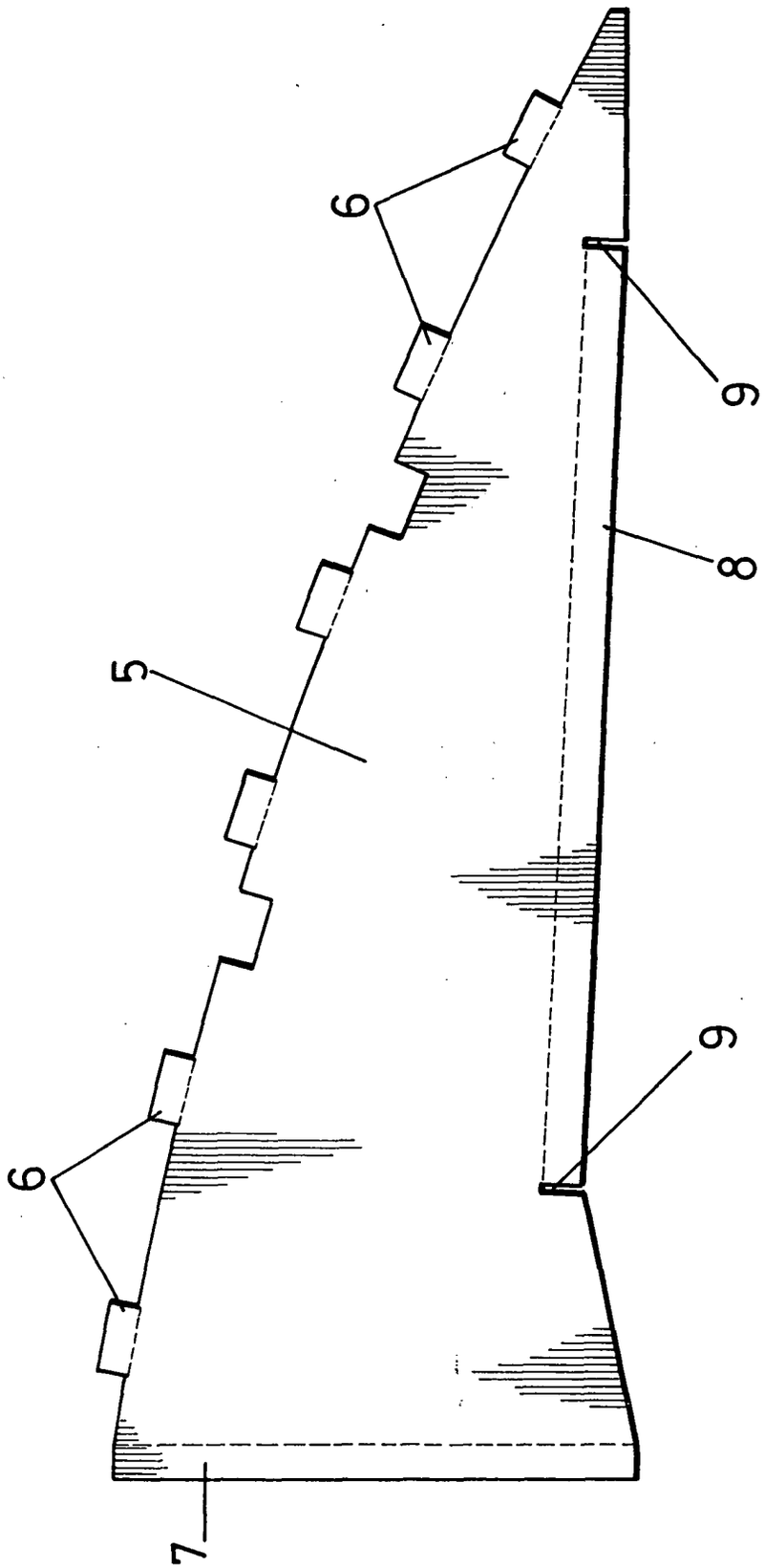

FIG.3

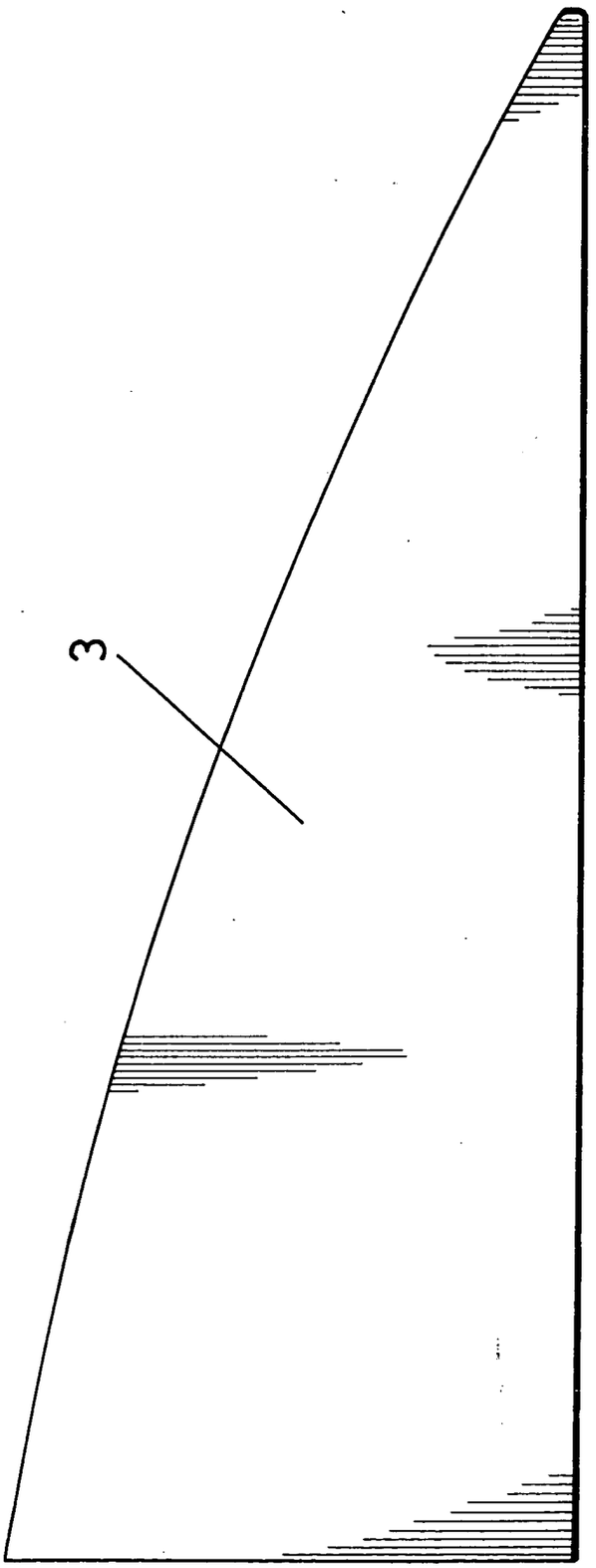

FIG. 4

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EUROPEAN SEARCH REPORT

Application Number
EP 04 38 0027

DOCUMENTS CONSIDERED TO BE RELEVANT

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A	US 5 363 837 A (JANG SUN-SING) 15 November 1994 (1994-11-15) * column 1; figures 1-3 * -----	1,2	
A	US 5 333 599 A (JANG SUN-SING) 2 August 1994 (1994-08-02) * column 1; figures 1,2 * -----	1,2	
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A	US 6 283 117 B1 (CHIANG PI TANG) 4 September 2001 (2001-09-04) * column 1, lines 10-25; figure 1 * -----	1,2	
A	US 6 470 880 B1 (CHANG HSIN-CHUNG) 29 October 2002 (2002-10-29) * the whole document * -----		TECHNICAL FIELDS SEARCHED (Int.Cl.7) F24C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	29 July 2004	Merkt, A

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 04 38 0027

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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29-07-2004

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