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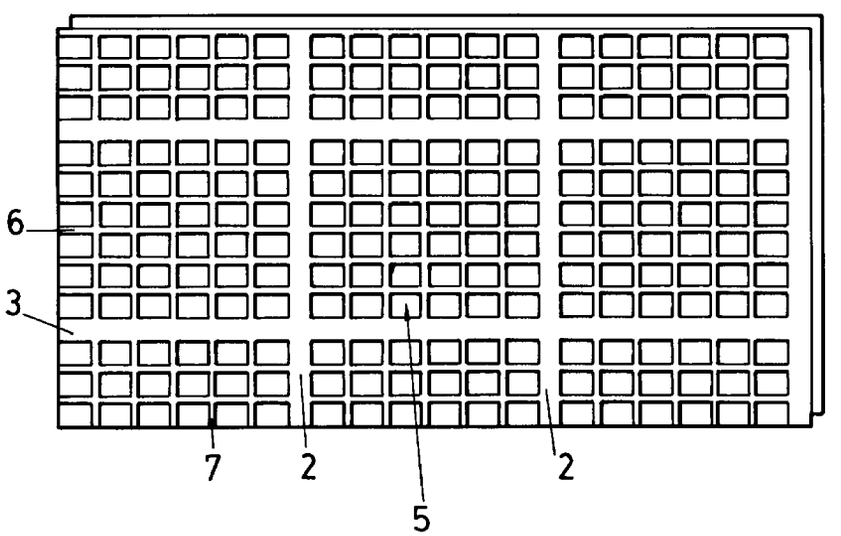
(54) Insulation panel for attachment of tiles

(57) It includes horizontal parallel tie-down grooves (3) for tiles of a module, equidistant and intended to receive and couple tiles (4), and of parallel vertical tie-down grooves (2) for tiles of another module, perpendicular to the horizontal grooves (3) with equidistant arrangement and placed at different distance to the corresponding one between horizontal grooves (3), as well as including between the horizontal grooves (3) for the tie-down of tiles of a module and vertical grooves (2) for tie-down of tiles of another module, a lattice-work (5) of horizontal ventilation grooves (6) and vertical ventilation grooves (7) distributed below the location of the tile (4).

It is provided, on the lower side of the panel with lower grooves (8) with reduced size which contribute to the equilibration of stresses and facilitate the introduction of mortars or adhesives for the adherence of the panel to the roof (1).

FIG. 1



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Description

PURPOSE OF THE INVENTION

[0001] The present invention refers to an insulation panel conceived for use on tilings or roofs as an attachment base intented to receive and couple tiles with undulated or mixed (flat-undulated) configuration, of ceramic, concrete or other material, with or without spigots and with different possible modulations,

[0002] It is an object of the invention, that one same insulation panel permits the reception of tiles with various dimensions to be placed in different positions, as well as presenting optimum ventilation conditions which affect all the surface of the tile. The same panel shall permit the placement of tiles of any module (without spigots), by means of mortar or of tiles with different modules (with spigots), by means of nailing or dry method.

[0003] It is likewise an object of the invention, that the panel be included with bottom small sized grooves, which are used for the equilibration of stresses and to facilitate, when the panel is fixed on the roof with mortars or adhesives, the adherence between the panel and the support forging.

BACKGROUND OF THE INVENTION

[0004] Various buildings exist which include on their roof or tiling, insulation plates which cover the insulating function, in order to decrease heat loss, as much as possible.

[0005] These plates optionally present a double purpose, since they are not only used as thermal insulating means but may also be employed as base for the attachment of the tiles on the roof.

[0006] In some cases, the actual plate is provided with a series of ribs, recessed or projecting which contribute to facilitate the positioning and coupling of the tiles in their place on the plate, this solution however, resulting on occasions to be expensive due to the type of machinary and procedure which is to be conducted in order to produce said ribs.

[0007] Another type of insulation plates covered by this double purpose, consists of plates which include parallel tie-down grooves onto which, one of the edges of the tile is coupled, and of ventilation grooves, perpendicular to the former, the central point to central point distance of said adjacent grooves corresponding to the distance between the central points of the raised adjacent portions of the tiles.

[0008] This type of plates presents limitations belonging to the same, which cause the existance of fixed distances between grooves, since they are only valid for one type of tile with specific dimensions.

[0009] Likewise, it must also be pointed out that with this type of tile, the ideal ventilation conditions are not obtained, since the existance of ventilation grooves are only limited to the curved zone of the tile.

[0010] On the other hand, the incorporation of these horizontal and vertical groovings on one single face, determine an asymmetry of the plate, which shall be the cause of the generation of a series of strain stresses on the plate which have a detrimental influence on its application and conservation.

DESCRIPTION OF THE INVENTION

[0011] The insulation panel for attachment of tiles, proposed by this invention, solves in a satisfactory manner, the previously expressed problem, by means of adopting a series of characteristics related to the configuration which fosters greater versatility of application for the tiles with different shapes and/or dimensions, a greater ventilation of the tiles and strain stress relief, as well as providing optimum conditions for establishing the attachment of the panel on the roof.

[0012] The insulation panel presented by this invention parts from the incorporation of a series of parallel, equidistant, horizontal tie-down grooves, conceived for facilitating the coupling of tiles with spigots with two different formats or of any format without spigots, placed with mortar.

[0013] The panel likewise offers a series of vertical tie-down grooves, perpendicular to said indicated horizontal grooves with different separation to the one corresponding to the vertical grooves, which is similarly intended for the incorporation of tiles which are provided with another module different to the one corresponding to the tile introduced into the horizontal grooves,

[0014] In this manner, a great versatility of application is achieved for one single panel, since by varying the position of the same, vertical grooves or else, horizontal grooves, may be used for the placement of different types of tiles.

[0015] Likewise, the panel stands out because, between the parallel horizontal and vertical tie-down grooves, a series of horizontal and vertical ventilation grooves are defined, with little depth and width, which are to be found uniformly distributed below the tile, with the purpose of providing a uniform ventilation of said tile.

[0016] This latter series of grooves, permits the correct tie-down of tiles when they are attached by means of mortar.

[0017] As opposed to existing plates, the ventilation grooves of this panel are distributed throughout all the surface and in two directions, horizontal and vertical, due to which, a much more uniform distribution of the grooves below the tile is obtained, since the grooves not only coincide with the highest part of the tile, but are also distributed below the flat zones of the tile, where the risk of condensations, is greater.

[0018] On the other hand,it is contemplated to provide the panels on the lower side, opposed to the side on which said tie-down and ventilation grooves are per-

formed, with lower grooves of reduced size which facilitate the introduction of mortars or adhesive, improving the adherence of the panel to the roof, as well as contributing to equilibrate the stresses generated by the grooving on the upper side.

DESCRIPTION OF THE DRAWINGS

[0019] In order to complement the description being made, and with the object of helping to a better understanding of the characteristics of the invention, the present Specification is enclosed, as integral part of the same, with a set of drawings in which, with illustrative and non limitative character, the following has been represented:

Figure 1 shows a plan view of the insulation panel for attachment of tiles.
Figure 2 shows a front view of the insulation panel.
Figure 3 shows a side view of the insulation panel.
Figure 4 shows a front and side view of the insulation panel with a type of tile, placed with mortar.
Figure 5 shows a front and side view of the insulation panel with a type of spigot module tile.
Figure 6 shows a front and side view of the insulation panel with a type of tile of another module with spigots.

PREFERRED EMBODIMENT OF THE INVENTION

[0020] In view of the figures, a preferred embodiment of the insulation panel for attachment of tiles proposed by this invention is herewith described, of the type which is coupled onto the tiling roof (1) and which is configured by a body which conventionally includes horizontal parallel grooves (3) and equidistant, intended to receive and couple tiles (4), and smaller ventilation grooves.

[0021] As from this basic constitution, the insulation panel for attachment of tiles, stands out mainly because the body which constitutes the panel, includes vertical tie-down grooves (2) and horizontal tie-down grooves (3) arranged parallel to the eave line of the roof, on which the tiles are tied-down when mechanically attached or are placed by means of a dry method, and of narrow grooves, horizontal (6) and vertical (7), on which the mortar is attached when the tiles are placed in this manner.

[0022] Likewise, the panel stands out because it includes between the horizontal grooves (3) (for tiles with a module) and the vertical grooves (2) for tie-down (for tiles with another module), a lattice-work (5) of horizontal parallel ventilation grooves (6) and vertical parallel ventilation grooves (7), uniformly distributed below the location of the tiles (4).

[0023] On the other hand, the panel covers the arrangement on its lower side, opposite to the side on which said tie-down grooves (2, 3) and ventilation grooves (6, 7) are defined, of lower grooves (8) of reduced size which contribute to the equilibration of stresses and facilitate the introduction of mortars or adhesives for the adherence of the panel to the roof (1).

[0024] It is not considered necessary to make this description more extensive, in order that any expert in the Art may understand the scope of the invention and the advantages derived from the same.

[0025] The materials, shape, size and arrangement of the elements shall be capable of variation provided it does not alter the essentiality of the invention.

[0026] The terms with which this specification has been described shall always be taken in a wide and non limitative sense.

Claims

1. Insulation panel for the attachment of tiles, of the type which are coupled on the tiling roof (1) and are configurated by a body which conventionally includes horizontal parallel tie-down grooves (3) for the tiles with a module, equidistant and intented to receive and couple tiles (4), and smaller ventilation grooves, essentially characterized because they include parallel vertical tie-down grooves (2) for tiles of another module, perpendicular to the horizontal grooves (3) with equidistant arrangement and placed at different distances to the corresponding ones between the horizontal grooves (3), also including, between the horizontal tie-down grooves (3) for tiles with a module and the vertical grooves (2) for tie-down for tiles of another module, a lattice-work (5), with horizontal parallel ventilation grooves (6) and vertical parallel ventilation grooves (7), uniformly distributed below the location of the tile (4), likewise constituting the horizontal parallel ventilation grooves (6) and the vertical parallel ventilation grooves (7) in locations for the attachment of the mortar for tiles which are adjustable by this means.

2. Insulation panel for attachment of tiles according to the previous claim, characterized in that it is provided on its lower side, opposite to the side on which said tie-down grooves (2, 3) and ventilation grooves (6, 7) are defined, of lower grooves (8) with reduced size, which contribute to the equilibration of stresses and facilitate the introduction of mortars or adhesives for the adherence of the panel to the roof (1).

FIG.1

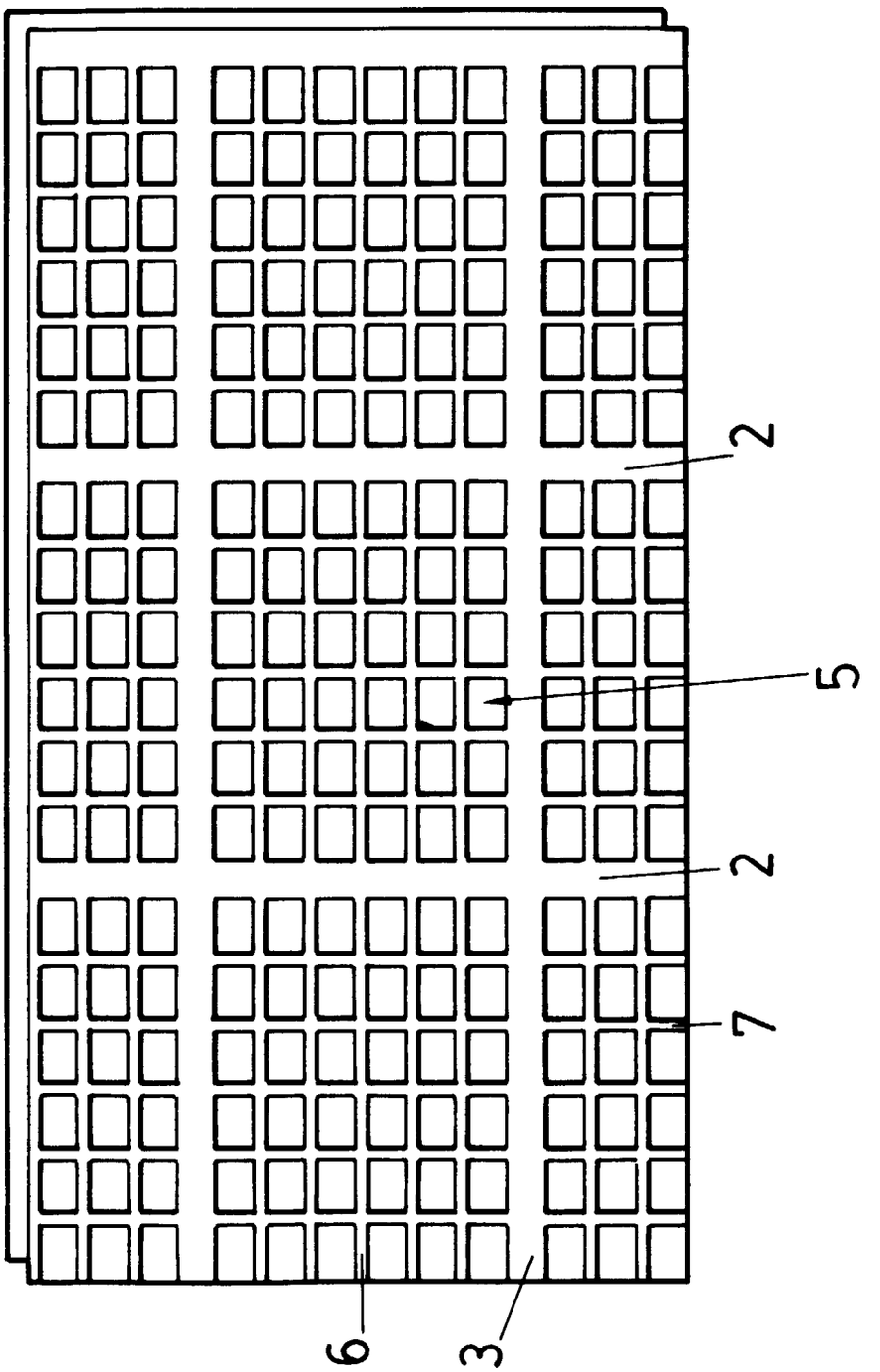


FIG. 2

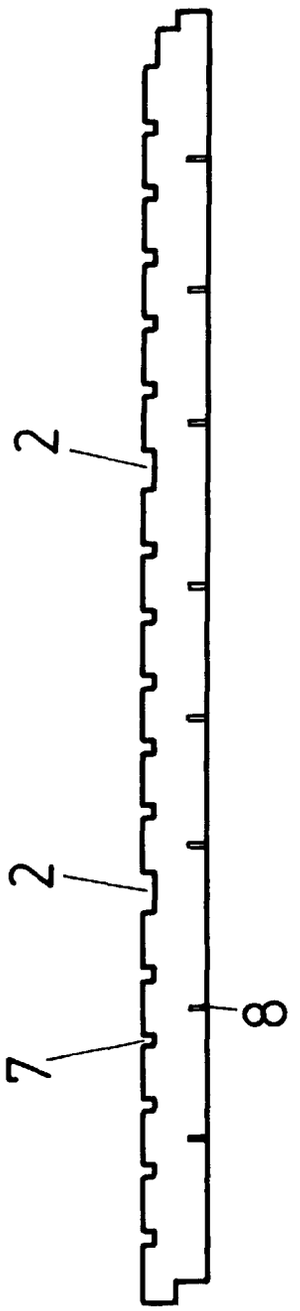


FIG. 3

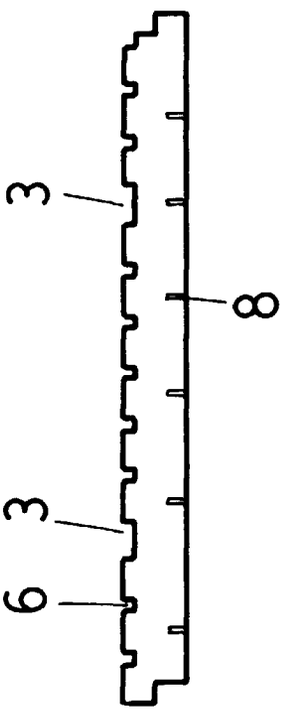
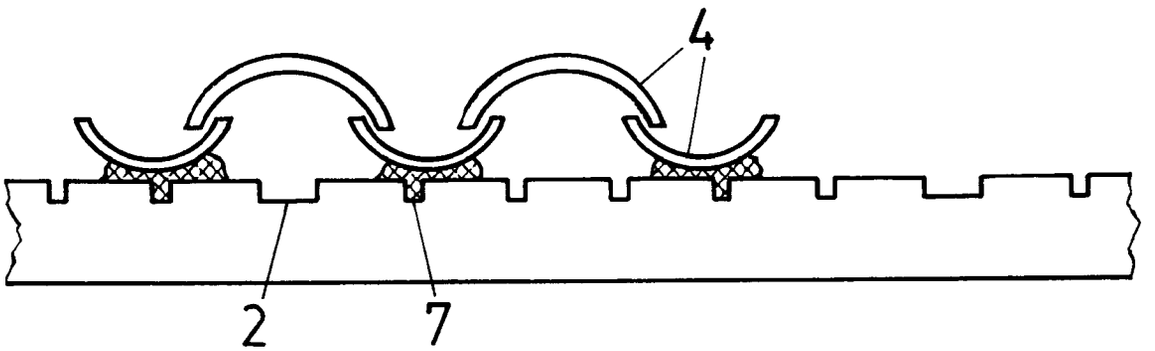
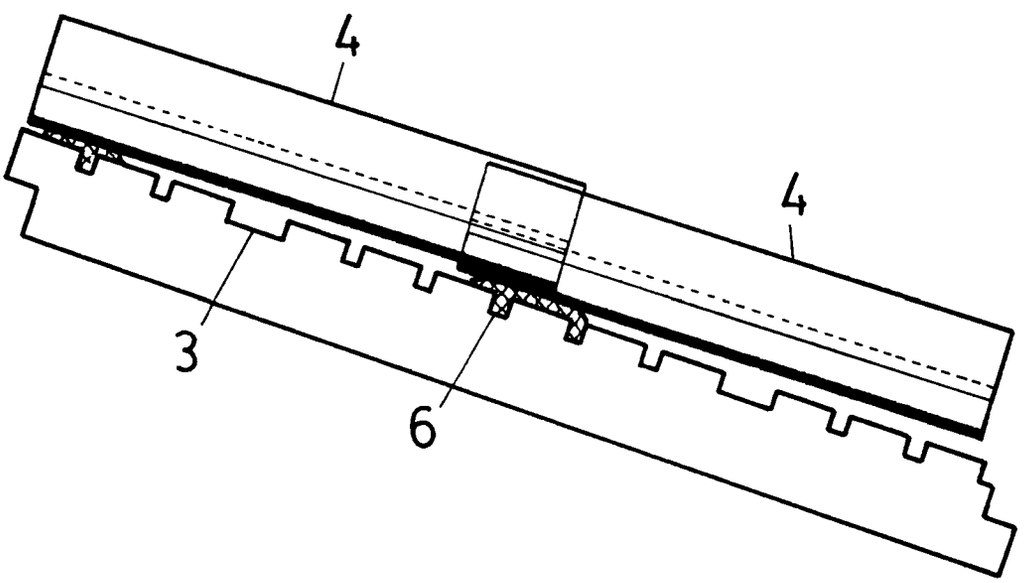


FIG. 4





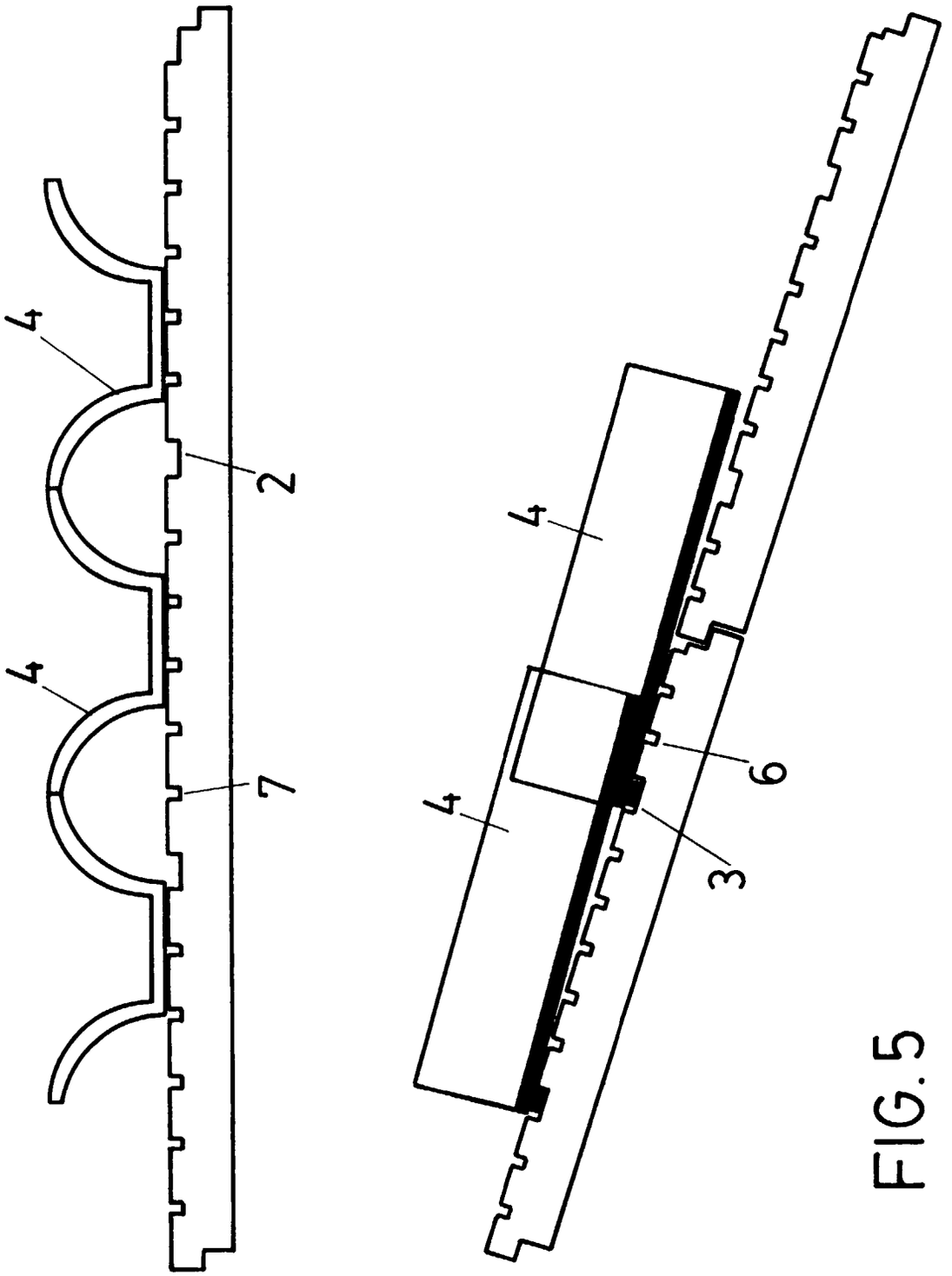


FIG.5

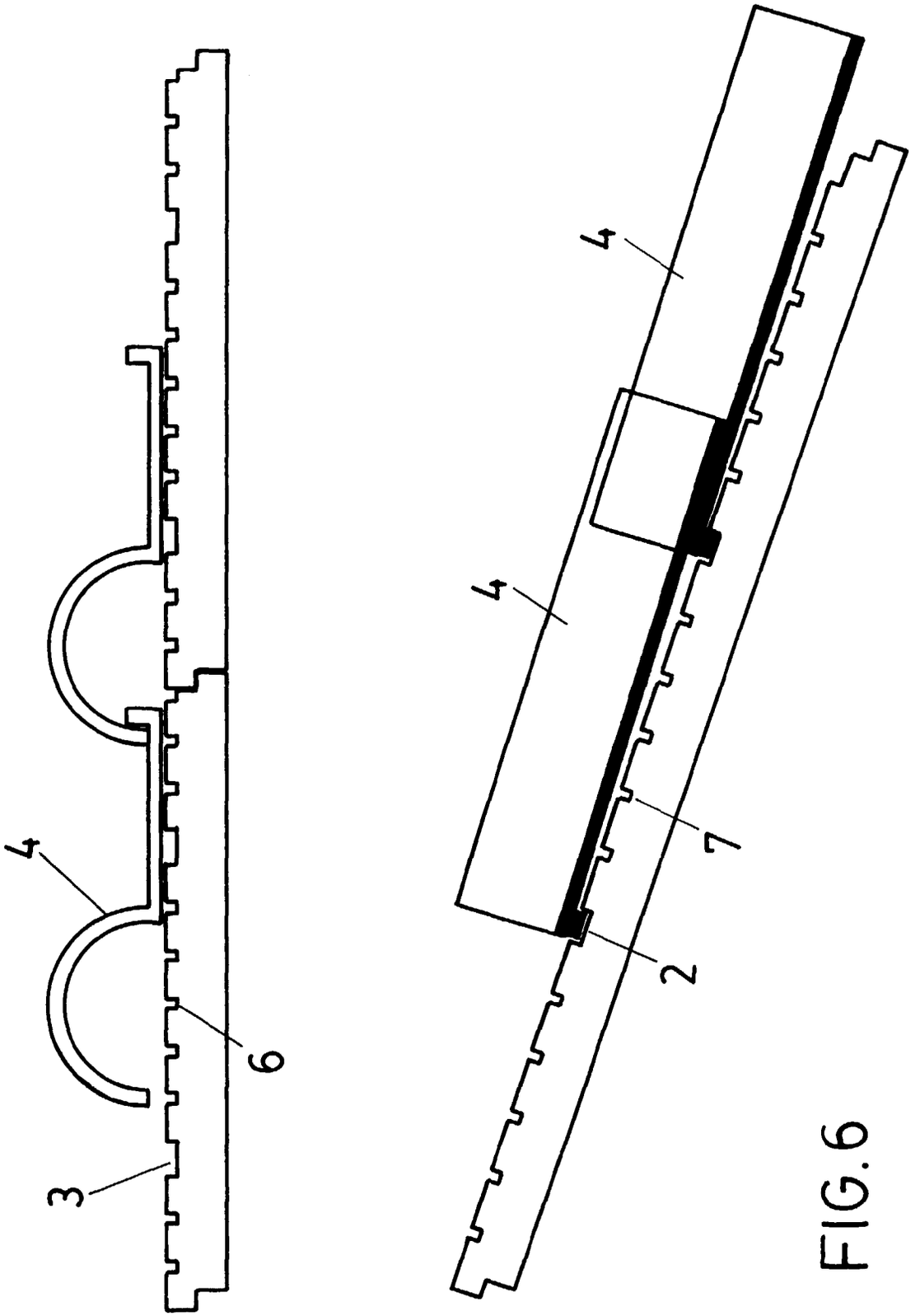


FIG.6

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 98 50 0018

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)
X Y	DE 30 30 841 A (HELFRECHT MANFRED FA) 25 February 1982 * page 6, line 22 - page 7, line 15; figures 1,2 *	1 2	E04B7/20
Y	DE 33 07 526 A (BUENDGEN HANS HORST;MARTIN ROLF) 6 September 1984 * abstract; claim 1; figure 1 *	2	
A	EP 0 690 181 A (PINTER ULRICH) 3 January 1996 * claim 1; figures 1,2 *	1,2	
A	NL 8 300 524 A (DE KREEK) 3 September 1984 * the whole document *	2	

TECHNICAL FIELDS SEARCHED (Int.Cl.6)

E04B
E04D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
BERLIN	26 June 1998	Bousquet, K

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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