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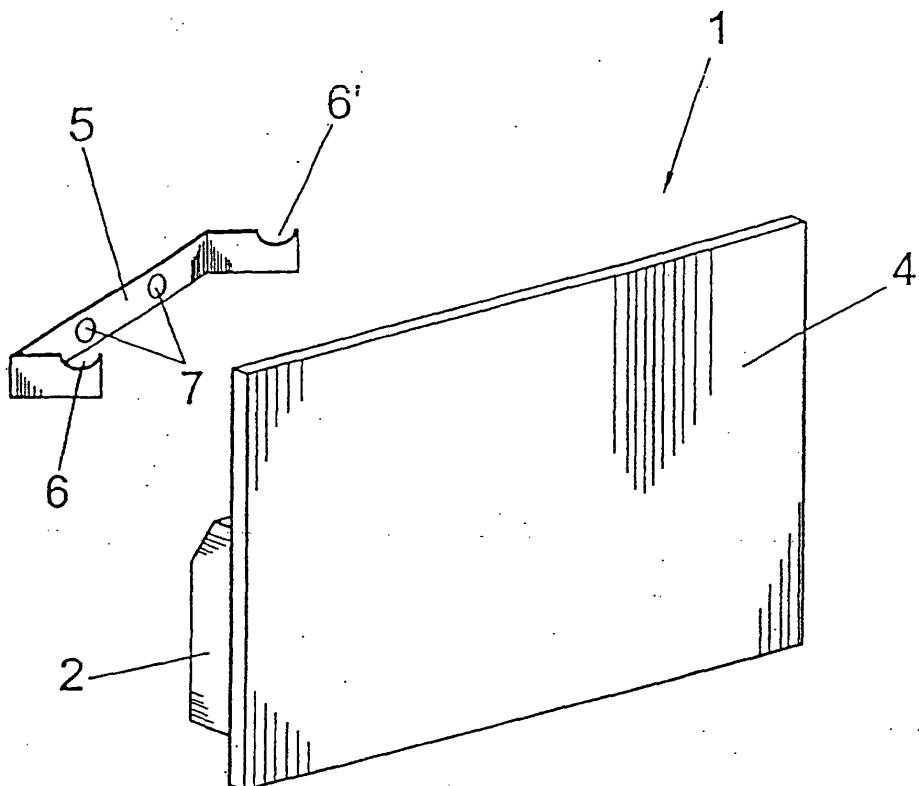
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**(54) IMPROVED ELECTRIC CONVECTOR**

(57) Improved electric convector that consists of a carcass (2) situated adjacently to the rear side of a porcelain stoneware body (4), which preferably incorpo-

rates a filament, plate or piping element, presenting at the base an ambient thermostat and on the upper side a number of transversally aligned parallel slots and having means of fixing (5).



**FIG. 1**

## Description

### OBJECT OF THE INVENTION

**[0001]** The present descriptive memory refers to an improved electric convector, the purpose of which is to be used as an appliance fit to generate itself the heating for a room or area where it is installed, reducing the consumption of electric power, as it possesses a element made up of filaments, plates or piping whose functioning is substantially quicker than that of flat elements.

**[0002]** The invention, boosted with a porcelain stoneware plate, receives the heat by air convection and not by contact with the element, and includes fixing bodies that allow for its separation from the wall, divider or face avoiding soiling or deterioration of the area and facilitating the circulation of warm air.

### INVENTION APPLICATION FIELD

**[0003]** This invention is for use in the industry dedicated to the manufacture of radiators and electric convectors.

### INVENTION BACKGROUND

**[0004]** The applicant is the titleholder of the utility model applied for in Spain with the number 9900494 on 24<sup>th</sup> February 1999, which describes and claims. a radiator formed by an enveloping carcass equipped with a thermostat, having a conventional solar panel inside, that is, a flat element with an aluminium circuit, and a porcelain stoneware plate outside that receives the heat generated by the conventional solar panel, and the regulating thermostat incorporates a probe that detects the temperature generated by the porcelain stoneware plate.

**[0005]** The applicant has confirmed that the replacement of the flat element with an aluminium circuit by a smaller filament element allows for quicker functioning and also permits the use of several sizes and different power settings, obtaining a multipurpose convector..

**[0006]** At the same time, it would be desirable to heat the porcelain stoneware by air convection instead of by contact with the element, which would reduce the temperature.

**[0007]** The latter would at the same time result in a reduction in the thickness of the body of the convector itself.

### DESCRIPTION OF THE INVENTION

**[0008]** The improved electric convector proposed by the invention is, in itself, an obvious novelty in its specific field of application that presents a number of improvements in relation to conventional radiators and convectors.

More specifically, the improved electric convector

object of the invention is formed by a body of rectangular base made of porcelain stoneware, that on the rear side has a body that presents on its upper side a number of slots through which a flow of air by convection stemming

5 from a filament, plate or piping element incorporated inside comes out; the flow of air by convection is generated by heating the stone, the action of the element being regulated by an ambient thermostat installed at the base of the appliance that gauges the temperature of  
10 the air in the room, without taking into account the temperature of the stone. It must be mentioned that the porcelain stoneware never heats to over 60° C approximately; the appliance functions till it has heated the room to an ideal temperature, previously established,  
15 and from that moment on, works at intervals to assure maintenance.

**[0009]** The invention presents a fixing body made up of a U-shaped metallic part with perforations to enable its fixing to the wall by conventional methods, and incorporates, at each of the ends of the branches of the "U", a hollow to facilitate hanging and immobilizing the body  
20 of the convector.

### DESCRIPTION OF THE DRAWINGS

25 **[0010]** As a complement to the description being presented and for a better understanding of the specifications of the invention, one page of drawings is attached to this descriptive memory, forming an integral part of  
30 the memory, where the following elements are displayed with an informative but not a limiting intention:

Figure 1.- Displays a perspective view of the object of the invention seen from the front, corresponding to an improved electric convector; this drawing includes the wall fixing body.

35 Figure 2.- Shows a side elevation of the object depicted in Figure 1.

40 Figure 3.- Corresponds to a ground view of the object represented in the previous figures.

### PREFERENTIAL EXECUTION OF THE INVENTION

45 **[0011]** In view of these Figures, it can be seen how the improved electric convector (1) is made up of a hollow body (2), with transversely aligned slots in the upper side referenced in (3), the body (2) being joined to a porcelain stoneware part (4) and possessing a fixing body (5) with circular perforations (7) in its central branch; it presents, coinciding with each of the upper ends of the lateral branches of the body (5), a hollow, (6) and (6°), to allow for easier hanging and immobilizing of the main body (1).

**[0012]** The invention, as has been stated previously, is formed by a filament, plate or piping element with the purpose of attaining the heating of the porcelain stone-

ware (4) by air convection, and presents an ambient thermostat installed at the base of the appliance that gauges the temperature of the air in the room.

**[0013]** The element used must be made up of filaments, plates or piping.

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### Claims

1. Improved electric convector, formed by a carcass (2) situated adjacently to the rear part of a porcelain stoneware element (4) that has a rectangular ground plan, **characterised by** a filament, plate or piping element being preferably incorporated inside the carcass (2), presenting at the base an ambient thermostat and the body (2) having on its upper side a number of transversally aligned parallel slots. 10
2. Improved electric convector, as per first claim, **characterised by** presenting a fixing body (5) formed by a metallic mono-block part with two perforations (7), situated on the central part of the longest branch, incorporating hollows (6) and (6°) at each of the upper ends of the lateral branches. 20

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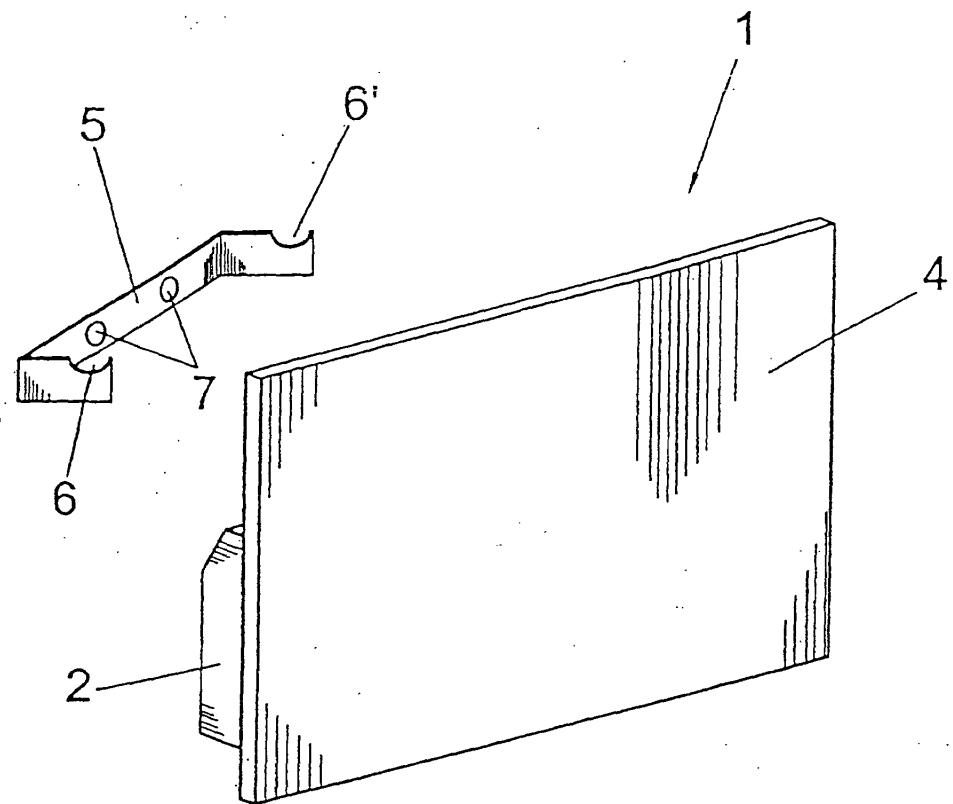


FIG. 1

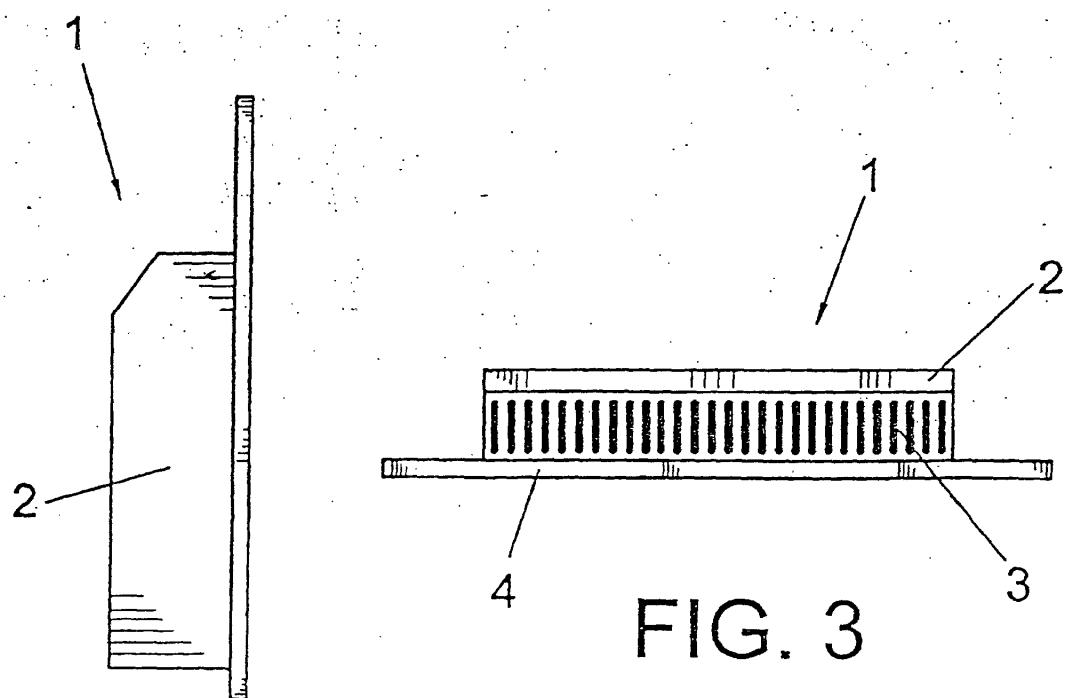


FIG. 2

INTERNATIONAL SEARCH REPORT		International application No. PCT/ES 02/00525
A. CLASSIFICATION OF SUBJECT MATTER		
IPC <sup>7</sup> F 24 H 3/04 According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols)		
IPC <sup>7</sup> F 24 H		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
EPODOC, WPI, PAJ, CIBEPAT		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 3932101 A1 (RUPP, J.) 04.04.1991, <b>see the whole document</b>	1
A		2
X	DE 8705208 U1 (FEIDEL, M.) 24.09.1987, <b>page 7, lines 1-26; figures.</b>	1
A	DE 8524589 U1 (ASCHWEGE, G.) 23.01.1986, <b>claims ; figures.</b>	1, 2
A	BASE DE DATOS PAJ de JPO, JP 07-078673 A (NIPPONDENSO CO. LTD.) 20.03.1995, <b>abstract ; figure.</b>	-
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed		
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search <b>14 February 2003 (14.02.03)</b>		Date of mailing of the international search report <b>21 February 2003 (21.02.03)</b>
Name and mailing address of the ISA/ <b>SPTO</b> Facsimile No.		Authorized officer Telephone No.

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International Application No  
PCT/ES 02/00525

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 3932101 A1	04.04.1991	WO 9105209 A EP 0445253 A HU 56616 A EP 0445253 B1 DE 59001206 G ES 2041181T T3 HU 208577 B RU 2038545 C1	18.04.1991 11.09.1991 30.09.1991 14.04.1993 19.05.1993 01.11.1993 29.11.1993 27.06.1995
DE 8705208 U1	24.09.1987	NONE	
DE 8524589 U1	23.01.1986	NONE	
JP 07-078673 A	20.03.1995	NONE	

Form PCT/ISA/210 (patent family annex) (July 1992)