



Europäisches
Patentamt
European
Patent Office
Office européen
des brevets



(11)

EP 1 797 806 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
20.06.2007 Bulletin 2007/25

(51) Int Cl.:
A47K 10/06 (2006.01) **F24H 3/00** (2006.01)

(21) Application number: **06380321.7**

(22) Date of filing: **14.12.2006**

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI
SK TR**
Designated Extension States:
AL BA HR MK YU

(30) Priority: **14.12.2005 ES 200502715 U**

(71) Applicant: **Calthermic, S.L.**
09200 Miranda de Ebro (Burgos) (ES)

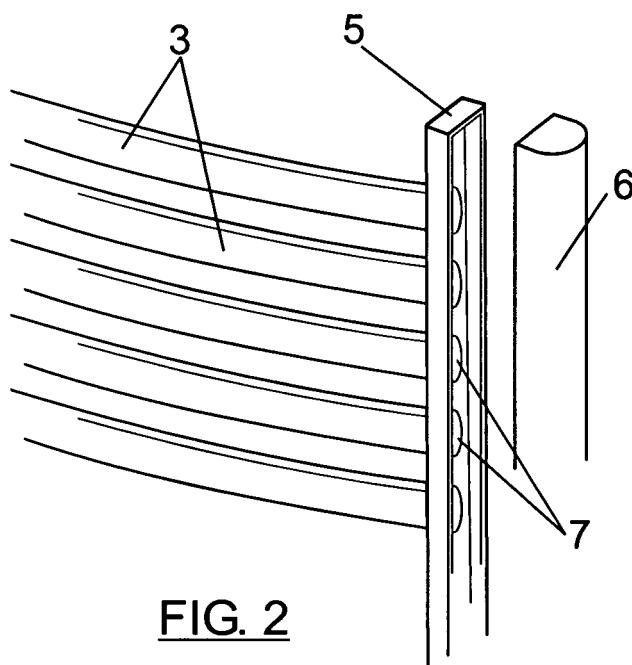
(72) Inventor: **Romero Perez, José**
09200 Miranda de Ebro (Burgos) (ES)

(74) Representative: **Carvajal y Urquijo, Isabel et al**
Clarke, Modet & Co.,
C/ Goya No. 11
28001 Madrid (ES)

(54) Towel warmer and drying rack

(57) The invention relates to a towel warmer and drying rack comprising two parallel tubular columns, (1,2) between which a series of cross-members (3) are arranged, said cross-members also having a tubular structure (1,2) and ending in the mentioned columns, characterized in that the parallel tubular columns are longitudinally sub-divided, according to a plane (4) that is approximately perpendicular to the cross-members (3), into two

independent portions, an inner portion in which the tubular cross-members (3) end, and another outer portion (6) which can be removably coupled and fixed to the inner portion (5), for carrying out the functions of a cover; and in that an insulated continuous resistor (8) is housed in the various cross-members (3), passing from cross-member to cross-member through the inner portion (5) of the tubular columns (1,2).



EP 1 797 806 A1

Description**Field of the Invention**

[0001] The present invention relates a towel warmer and drying rack, electrically heated comprising two tubular parallel columns between which a series of cross-members are arranged, also having a tubular structure.

Background of the Invention

[0002] Electric towel warmer and drying racks are already known formed by a tubular structure and based on the heating of a fluid, general oil, which fills the different tubular components. This requires that the structure formed by these tubular elements is completely leak-tight which, together with the use of oil filling the warmer rack, involves an increase in the cost and weight thereof.

Description of the Invention

[0003] The object of the present invention is an electric towel warmer and drying rack with a tubular structure but which lacks oil or another heating fluid, such that the weight is considerably reduced, which will virtually correspond only to the weight of the tubular structure, as well as the cost as the oil is eliminated and leak-tight seals between its components are not required.

[0004] As indicated, the warmer rack of the invention is the type comprising two parallel tubular columns between which a series of cross-members are arranged, also having a tubular structure, which end in the mentioned columns.

[0005] According to the present invention, the parallel tubular columns are longitudinally sub-divided, according to a plane that is approximately perpendicular to the cross-members, into two independent portions, an inner portion, in which the tubular cross-members end and which is connected to said cross-members forming a rigid structure with them, and another outer portion, which can be coupled and fixed to the inner portion, carrying out the functions of a cover. The fixing of this outer portion or cover to the inner portion can be carried out by any system.

[0006] According to another feature of the invention, an insulated direct current resistor is housed in the various cross-members of the warmer rack which passes from cross-member to cross-member through the inner portion of the tubular columns. In other words, the resistor passes alternatively from one cross-member to another through this inner portion of the tubular columns. Since the inner portion of these columns is closed by means of the outer portion or cover, the passage of the resistor is concealed. One of the covers will bear resistor control means, for example means for turning it on and off, thermostats and an outlet of the cable for connecting it to the supply power system.

[0007] With the mentioned design, the weight of the

warmer rack corresponds to the weight of the tubular component structure and to the weight of the resistor, the total weight being much lower than that of traditional electric warmer racks in which the tubular components or elements are filled with oil or another heating fluid.

Description of the Drawings

[0008] The design of the warmer rack of the invention is described below in greater detail with the aid of the attached drawings which show a non-limiting embodiment and in which:

Figure 1 is a partial perspective view of a towel warmer and drying rack, formed according to the invention. Figure 2 is a partial perspective view of one of the tubular columns, with the outer portion thereof or cover removed.

Figure 3 is a side elevational view of the warmer rack, without the corresponding outer portion or cover.

[0009] Figure 1 shows a towel warmer and drying rack formed by two parallel tubular columns, with reference numbers 1 and 2, between which cross-members 3 are arranged with an also tubular structure which end in columns 1 and 2.

Detailed Description of an Embodiment

[0010] According to a first aspect of the invention, each of the columns 1 and 2 is longitudinally sub-divided, according to a plane 4 that is approximately perpendicular to the cross-members 3, into an inner portion 5, which the cross-members 3 are connected to, and a removable outer portion 6 separable, acting as a cover.

[0011] As can be seen in Figures 2 and 3, the cross-members 3 end in the inner portion 5, through corresponding openings 7.

[0012] An insulated continuous resistor 8 passes through the cross-members 3, for example a double silicon-insulated resistor, running between consecutive cross-members 3 through the inner portions 5 of either side of the columns 1 and 2, as can be seen in Figure 3.

[0013] The outer portions or cover 6 can be fixed to the corresponding inner portion 5 by any system of clips, screws, etc. As can be seen in Figure 1, one of the outer portions or cover 6 can have control means 8 which may include an on and off switch, thermostats, and an outlet for a connecting cable or outlet plug 9.

[0014] The size of the warmer rack, the number of cross-members 3, the separation between them, the power of the resistor, etc., may vary depending on the desired heating capacity.

Claims

1. A towel warmer and drying rack comprising two parallel tubular columns, (1,2) between which a series of cross-members (3) are arranged, also having a tubular structure,(1,2) ending in the mentioned columns, **characterized in that** the parallel tubular columns are longitudinally sub-divided, according to a plane (4) that is approximately perpendicular to the cross-members (3), into two independent portions, an inner portion in which the tubular cross-members (3) end, and another outer portion (6) which can be removably coupled and fixed to the inner portion (5), for carrying out the functions of a cover; and **in that** an insulated continuous resistor (8) is housed in the various cross-members (3), passing from cross-member to cross-member through the inner portion (5) of the tubular columns (1,2).

20

25

30

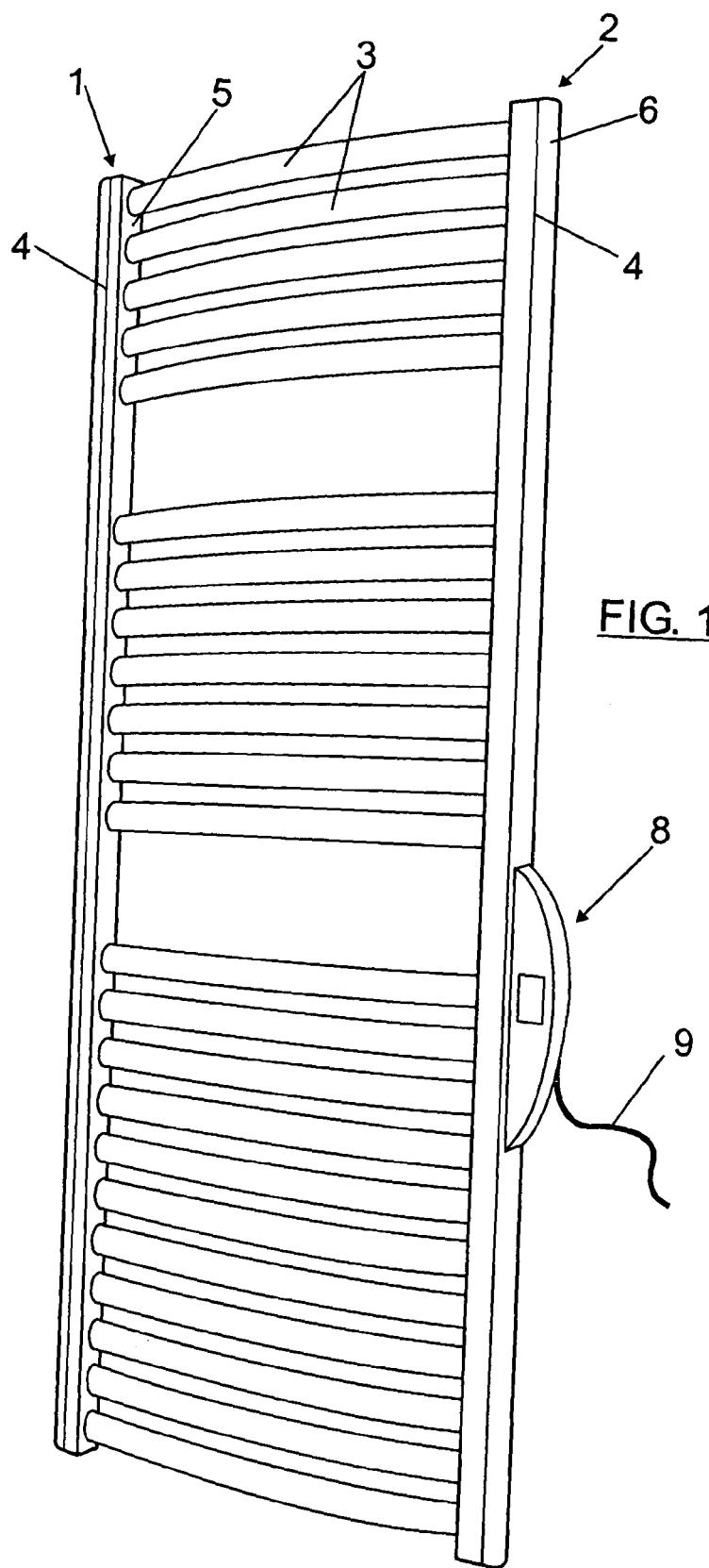
35

40

45

50

55



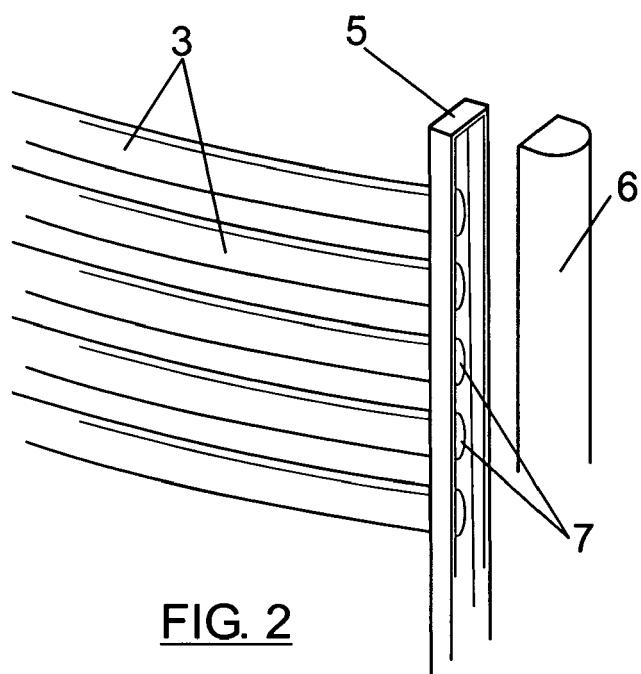


FIG. 2

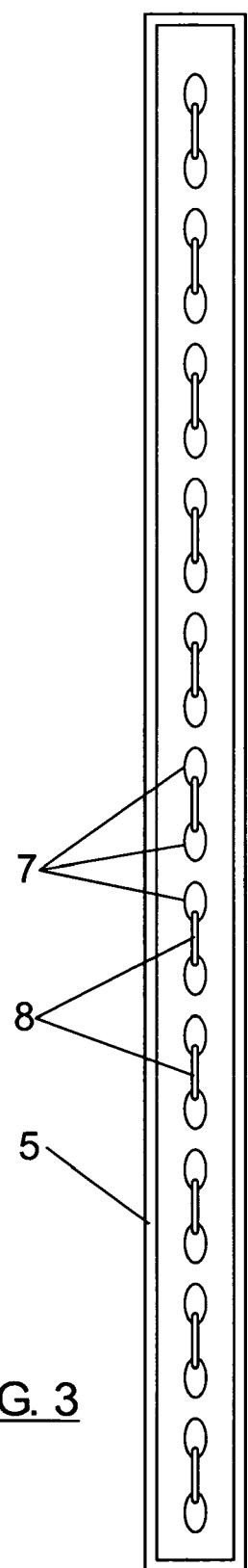


FIG. 3



| DOCUMENTS CONSIDERED TO BE RELEVANT | | | CLASSIFICATION OF THE APPLICATION (IPC) |
|--|---|----------------------------------|---|
| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | |
| P, X | EP 1 607 032 A (MULLER & CIE SOC [FR]; ARRIBAS CECILIO [FR]) 21 December 2005 (2005-12-21) * column 1 - column 3; figures 1-4,7 * ----- | 1 | INV. A47K10/06 F24H3/00 |
| X | FR 2 842 285 A1 (MULLER ET CIE [FR]) 16 January 2004 (2004-01-16) * page 2 - page 5; figures 1,3,8,9,11-13 * ----- | 1 | |
| A | DE 39 08 141 A1 (GROHE KG HANS [DE]) 20 September 1990 (1990-09-20) * the whole document * ----- | 1 | |
| A | GB 2 212 037 A (PEARCE KELVIN) 12 July 1989 (1989-07-12) * the whole document * ----- | 1 | |
| | | | TECHNICAL FIELDS SEARCHED (IPC) |
| | | | A47K F24H |
| The present search report has been drawn up for all claims | | | |
| 1 | Place of search | Date of completion of the search | Examiner |
| | Munich | 26 March 2007 | GARCIA MONCAYO, O |
| 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 | | | |

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 06 38 0321

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. The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

26-03-2007

| Patent document cited in search report | | Publication date | Patent family member(s) | Publication date |
|--|----|------------------|-------------------------|------------------|
| EP 1607032 | A | 21-12-2005 | NONE | |
| FR 2842285 | A1 | 16-01-2004 | NONE | |
| DE 3908141 | A1 | 20-09-1990 | NONE | |
| GB 2212037 | A | 12-07-1989 | NONE | |