BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS

BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE

CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

Internal distribution code:
(A) [ ] Publication in OJ
(B) [ ] To Chairmen and Members
(C) [X] To Chairmen
(D) [ ] No distribution

D E C I S I O N
of 23 May 2001

Case Number: T 0180/99 - 3.4.2

Application Number: 94929631.3

Publication Number: 0770317

IPC: H05B 3/20, F24D 13/02

Language of the proceedings: EN

Title of invention:
Electrical heating device

Applicant:
CADIF S.r.l.

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step (no)"

Decisions cited:
-

Catchword:
-

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0180/99 - 3.4.2

D E C I S I O N
of the Technical Board of Appeal 3.4.2
of 23 May 2001

Appellant: CADIF S.r.l.
Via Palazzina, 224
36100 Verona (IT)

Representative: Filippi, Remo
Via Aldrovandi, 7
20129 Milano (IT)

Decision under appeal: **Decision of the Examining Division of the European Patent Office posted 21 September 1998 refusing European patent application No. 94 929 631.3 pursuant to Article 97(1) EPC.**

Composition of the Board:

Chairman: E. Turrini
Members: A. G. Klein
V. Di Cerbo

Summary of Facts and Submissions

I. European patent application No. 94 929 631.3 (international publication No. WO 96/03013) was refused by decision of the Examining Division.

The wording of claim 1, the only independent claim of the valid set of claims is as follows:

"1. Apparatus (10, 20) for transforming electric current into heat and for diffusing it characterized in that it is formed of one or more continuous strips (13, 23) of copper of constant width, whose thickness is measurable in microns, with a high ratio between width and thickness, laid in lengths side by side sufficiently spaced one from another for ensuring electrical insulation (15, 25) on a panel (11, 21) of anodized aluminium terminating in two contacts (18, 19) (28, 29) that can be connected up to a source of electric current."

The Examining Division *inter alia* held that the subject-matter of claim 1 lacked an inventive step within the meaning of Article 56 EPC in view of the contents of documents:

D1: DE-A-2 512 297; and

D4: US-A-3 805 023.

In the Examining Division's view, the subject-matter of claim 1 was distinguished from the closest prior art device as disclosed in document D1 in that the support panel for the copper strips was made of anodized

aluminium instead of the known resin material.

Document D1 however already referred to still earlier constructions using a panel made of a steel plate coated with enamel. To select a plate of anodized aluminium as an insulating metal plate came within the scope of the customary practice followed by persons skilled in the art, especially as this feature had already been employed for the same purpose in a similar heating apparatus known from document D4. Applying this feature of document D4 with corresponding effect to the apparatus according to D1 so as to arrive at the heating apparatus of claim 1 would not involve the inventive step required by Articles 52(1) and 56 EPC.

II. The appellant (applicant) lodged an appeal against the decision refusing the application.

In its statement of the grounds of appeal the appellant *inter alia* referred to the "synergy" and "close thermal contact" resulting from the claimed solution, in particular from the use of a copper strip of a constant thickness in the micrometre range, from the deposition of such strip on an aluminum panel and from the interposition therebetween of an extremely thin layer of insulation as provided by the anodizing process.

Document D4 did not teach anything more than a process by which a resistive electric circuit of a usual type of material such as nickel, chromium, cobalt and mixtures thereof was deposited on a sheet of anodized aluminium.

In contrast, the invention disclosed means for obtaining electric resistances in the form of a very

long copper strip producing maximum extension of interface between the electric resistance and the environment, at the same time exploiting the synergy spontaneously created with a metal supporting panel.

III. In a communication pursuant to Article 11(2) of the Rules of Procedures of the Boards of Appeal annexed to summons to attend oral proceedings the Board expressed its provisional opinion that the reasons given by the Examining Division for the refusal of the application seemed convincing.

It was noted in particular that the appellant had invoked a "synergy" effect of the claimed combination, but that it did not so far demonstrate, e.g. on the basis of experimental data, which additional effect beyond those produced in isolation by the heating structure in the arrangement of document D1 and by the support panel in the arrangement of document D4 resulted from the combination.

The Board in its communication also indicated that it was not yet apparent either which technical problem was solved by the use of a panel of anodized aluminium in lieu of the insulating support of the closest prior art construction of document D1.

IV. The appellant did not react to the communication of the Board, neither did its representative appear at the oral proceedings of 23 May 2001, to which he had been duly summoned.

The oral proceedings took place in the appellant's absence, after a telephone call by the registrar to the representative's office had confirmed that this absence

was deliberate.

Reasons for the Decision

1. The appeal is admissible.

2. The apparatus set out in claim 1 in substance comprises the combination of a heating element constituted by one or more thin copper strips as disclosed in document D1 (see the sentence bridging pages 3 and 4) with a support panel of anodized aluminium as disclosed in document D4 (see claim 1).

   The Board in its communication indicated its provisional agreement with the Examining Division's view that this combination did not involve an inventive step within the meaning of Article 56 EPC, for the reasons set out in the appealed decision.

   In particular, although document D4 teaches the use of heating strips made of materials other than copper, it also clearly expresses that these materials are preferred to those forming "printed circuits" for their better resistance to high temperatures as required for the cooking of food (see columns 1, lines 27 to 39). This would not in the Board's view deter the skilled person from using printed circuit materials, like the copper strips of document D1, in applications allowing for lower temperatures, such as for room warming as contemplated by the present application and referred to also in document D4 (see column 1, lines 10 to 12).

3. Since the appellant did not avail itself of the opportunity given to it by the Board in its

communication to object to its provisional opinion and in particular to provide evidence in support of the alleged synergy effect of the claimed combination, and to explain which technical problem was actually solved by the use of a panel of anodized aluminium in lieu of the insulating support of the closest prior art construction of document D1, the Board sees no reason to question the correctness of the Examining Division's decision.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

P. Martorana E. Turrini