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Datasheet for the decision of 11 October 2006

Case Number: T 1314/04 - 3.4.03

Application Number: 99964496.6

Publication Number: 1086610

IPC: H05B 41/08

Language of the proceedings: EN

Title of invention:
Glow discharge starter

Applicant:
Koninklijke Philips Electronics N.V.

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step (no)"

Decisions cited:
T 0003/90

Catchword:
-

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Case Number: T 1314/04 **-** 3.4.03

D E C I S I O N
of the Technical Board of Appeal 3.4.03
of 11 October 2006

Appellant: Koninklijke Philips Electronics N.V.
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Representative: Bosma, Rudolphus Hubertus Antonius
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted 28 May 2004 refusing European application No. 99964496.6 pursuant to Article 97(1) EPC.**

Composition of the Board:

Chair: R. G. O'Connell
Members: G. Eliasson
T. Bokor

Summary of Facts and Submissions

I. This is an appeal against the refusal of European patent application 99 964 496.6 for lack of inventive step over the following prior art documents:

D1: DE 1 254 427 B;
D2: US 4 562 379 A; and
D3: WO 98 09 317 A.

II. In response to a summons to oral proceedings before the board the appellant applicant declared that he would not attend the oral proceedings. The board accordingly cancelled the same; see T 3/90 OJ EPO 1992, 737. The appellant applicant requested in writing that the decision under appeal be set aside and a patent granted on the basis of the following documents:

- claim 1 filed with the statement of grounds of appeal,
- claims 2 to 6 as published;
- description and drawing as published.

III. Claim 1 according to the above request reads as follows:

"1. A glow discharge starter comprising

- a glass discharge vessel (A) sealed in a gastight manner and provided with an ionisable medium,

- a first (C) and second electric conductor (D) passing through a wall of the discharge vessel, one of the conductors being in contact with a

body (F) comprising an element chosen from the group of lanthanum and the lanthanides,

– a bimetallic element (E) which is conductively connected to one (C) of the electric conductors,

characterized in that the discharge vessel comprises neon and argon in a ratio of 0.001 ≤ (mol argon/mol neon) ≤ 0.1 and in that the glow discharge starter does not comprise any radioactive material."

IV. The appellant applicant's arguments can be summarized as follows:

Document D3 teaches that radioactive materials can be dispensed with when the part of the wall, through which the electrical conductors pass, is made of glass comprising at least 5% BaO by weight. The gas mixture (mol argon)/(mol neon) between 0.1 and 0.01 was merely disclosed as a preferred embodiment. Thus, document D3 only teaches the above gas mixture in combination with the glass wall containing BaO and therefore does not provide any incentive for the skilled person to use a gas mixture of the range as defined in claim 1.

Reasons for the Decision

1. The appeal is admissible.

2. *Inventive step*

2.1 It is undisputed that document D1 discloses a glow discharge starter having all the features of the preamble of claim 1 (see D1, column 3, lines 8 to 16, Figure 1).

2.2 The subject matter of claim 1 thus differs from the glow discharge starter of document D1 in that that the discharge vessel comprises neon and argon in a ratio of $0.001 \leq (\text{mol argon/mol neon}) \leq 0.1$ and in that the glow discharge starter does not comprise any radioactive material. Document D1 does not disclose with which gas the discharge vessel should be filled.

2.3 The technical problem addressed by the present application relates to eliminating the use of radioactive materials in a glow discharge starter while maintaining a short ignition delay time t_{delay} between applying a voltage between the two conductors and establishing the glow discharge (see application as published, page 2, lines 21 to 24).

2.4 Document D3 is concerned with the problem of avoiding the use of radioactive materials in a glow discharge starter (see page 2, lines 12 to 14). It is disclosed in document D3 that this can be achieved while still maintaining a short ignition delay time and a low ignition voltage when the portion of the wall through which the electrical conductors are passed is made from

a glass comprising at least 5% BaO by weight and the discharge vessel is filled with a gas mixture of Ne-Ar in a volume ratio of between 90:10 and 99:1 (see page 2, lines 12 to 22; page 3, lines 5 to 7 and lines 14 to 16).

2.5 A skilled person seeking to eliminate the use of radioactive materials in the glow discharge starter of document D1 would apply the teaching of document D3 and would thereby arrive at the subject matter of claim 1. The claim encompasses the range of Ar to Ne disclosed in document D3 and leaves unspecified any materials that may or may not be contained in the wall of the glass discharge vessel.

2.6 Although the board agrees with the appellant applicant that document D3 emphasises the presence of BaO in a portion of the glass wall as a factor in enabling radioactive materials in the glow discharge starter to be dispensed with (see point IV above; D3, page 2, lines 14 to 17), nevertheless the skilled person seeking to avoid the use of radioactive material in a glow discharge starter of the type known from document D1 would be bound also to follow the teaching of document D3 regarding the gas mixture in the vessel, given that document D1 does not teach any specific gas mixture at all. Claim 1 does not disclaim the presence of BaO in the glass wall of the discharge vessel and to that extent the appellant applicant argues more narrowly than he claims.

2.7 For the above reasons, in the board's judgement, the subject matter of claim does not involve an inventive step within the meaning of Article 56 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

Registrar: Chair:

S. Sánchez Chiquero R. G. O'Connell