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**Datasheet for the decision
of 1 February 2011**

Case Number: T 1209/08 - 3.2.03

Application Number: 97904467.4

Publication Number: 0877900

IPC: F21V 17/06

Language of the proceedings: EN

Title of invention:
Flight obstacle light

Patentee:
Obelux Oy

Opponent:
Oy Ekspansio Engineering Limited

Headword:
-

Relevant legal provisions:
EPC Art. 123(3), 123(2), 56

Relevant legal provisions (EPC 1973):
-

Keyword:
"Main request: extension of protection conferred (yes)"
"Auxiliary request: originally disclosed (yes); inventive step (no)"

Decisions cited:
-

Catchword:
-



Case Number: T 1209/08 - 3.2.03

DECISION
of the Technical Board of Appeal 3.2.03
of 1 February 2011

Appellant: Oy Ekspansio Engineering Limited
(Opponent) Lintulammenkatu 6
FI-04250 Kerava (FI)

Representative: Väänänen, Janne Kalervo
Berggren Oy Ab
P.O. Box 16
Antinjatu 3 C
FI-00101 Helsinki (FI)

Respondent: Obelux Oy
(Patent Proprietor) Kutomotie 6 B
FI-00380 Helsinki (FI)

Representative: Järveläinen, Pertti Tauno Juhani
Heinänen Oy Patent Agency
Airport Plaza
Äyritie 8 D
FI-01510 Vantaa (FI)

Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
8 May 2008 concerning maintenance of European
patent No. 0877900 in amended form.

Composition of the Board:

Chairman: U. Krause
Members: C. Donnelly
K. Garnett

Summary of Facts and Submissions

- I. The appeal lies from the decision of the opposition division, posted on 8 May 2008, to maintain European patent no. 877900 in amended form.
- II. The opponent (hereinafter: "the appellant") filed a notice of appeal on 25 June 2008 and paid the appeal fee on the same day. The grounds of appeal were filed on 11 September 2008.
- III. The patent proprietor (hereinafter: "the respondent") replied to the arguments brought forward in the grounds of appeal by letter of 23 January 2009.
- IV. The appellant cited the following documents in support of its case:
- D1: US-A-4211955
 - D2: EP-A-0348637
 - D3: GB-A-1095673
 - D4: US-A-3912966
 - D7: Diode Reverse Breakdown and Zener and Avalanche Diodes, "The Electrical Engineering Handbook", Editor-in-Chief Richard C. Dorf, 1993, CRC Press Inc. pp. 456-458;
 - D8: WO-A-95/19525
 - D17: "Optoelectronics application manual", 1977, table of content and pages 2.06-2.20, by Hewlett-Packard Company
 - D22: JP-A-7085377 and English translation thereof.
- V. In a communication dated 14 October 2010, pursuant to Article 15(1) RPBA annexed to the summons to oral

proceedings, the Board informed the parties of its provisional opinion. In particular, the Board indicated that it intended to admit D22 into the proceedings.

VI. By letter of 1 December 2010 the respondent filed the first claim of further auxiliary requests 2 to 4, but withdrew them during the oral proceedings.

VII. Oral proceedings were held on 1 February 2011. In conclusion of their cases the parties made the following requests:

Respondent:

- as a main request, to reject the appeal;
- to maintain the patent in amended form on the basis of claim 1 according to the auxiliary request filed on 23 January 2009.

Appellant:

- that the impugned decision be set aside and the patent revoked.

The appellant explicitly withdrew its allegation of a procedural violation and its request for the reimbursement of costs.

VIII. Claim 1 according to the main request and as maintained by the opposition division reads:

"Flight obstacle light to warn pilots about flight obstacles, said light comprising a base (2), a source of light and a cover (5),

wherein the source of light consists of LEDs (4) that are connected next to each other onto a circuit board section (3) in one or more layers in order to achieve the lighting pattern and intensity required,

characterized in

that it comprises an electronically controlled current stabilizer unit (40), such as a constant current power supply, that is connected to the light to stabilize the lighting intensity, and

that Zener diodes (42) are connected in parallel with the LEDs in order to enable the current flow in a failure of one or several LEDs so that the light continues to operate."

Claim 1 according to the auxiliary request of 23 January 2009 reads:

"Flight obstacle light to warn pilots about flight obstacles, said light comprising a base (2), a source of light *that produces a horizontal beam spread of 360 degrees and a vertical beam spread of more than 10 degrees*, and a cover (5),

wherein the source of light consists of LEDs (4) that are connected next to each other onto a circuit board section (3) in one or more layers in order to achieve the lighting pattern and intensity required,

characterized in

that it comprises an electronically controlled current stabilizer unit (40), such as a constant current power supply, that is connected to the light to stabilize the lighting intensity, and

that Zener diodes (42) are connected in parallel with the LEDs in order to enable the current flow in a failure of one or several LEDs so that the light continues to operate."

IX. The arguments of the parties can be summarised as follows:

(a) Main request

Appellant

(i) Article 123(3) EPC

The subject-matter of claim 1 as maintained by the opposition division contravenes Article 123(3) EPC since the feature present in claim 1 as granted which specifies that the source of light "produces a horizontal beam spread of 360 degrees and a vertical beam spread of more than 10 degrees" has been deleted. The feature is not part of all international standards, which in any event are subject to change in the future, and therefore cannot be considered to be implicitly comprised in the claim.

(ii) Articles 84, 123(2) EPC

The term "an electronically controlled current stabilizer unit" has no basis in the originally filed

documents since the only terms disclosed here are "an electronically controlled stabilizer unit" (see claim 5) and the two specific examples of this unit as being either constant current or constant voltage power supplies.

The new feature is therefore a new and vague term which is not directly and unambiguously derivable from the original documents. Thus, Articles 84 and 123(2) are infringed.

Respondent

(i) Article 123(3) EPC

The claim is directed at a flight obstacle light; hence the deleted feature must still be implicitly comprised in order for the light to comply with international standards.

(ii) Articles 84 and 123(2) EPC

Although the term "electronically controlled current stabiliser unit" does not appear explicitly in the originally filed documents the skilled person would understand this from original claim 5 which specifies "an electronically controlled stabilizer unit.....to stabilize to (sic) lighting intensity". It is generally known that the only way to ensure stable lighting intensity from an LED array is to stabilise the current since the lighting intensity is directly proportional to the current. Thus, the reference to stabilizing the lighting intensity makes it clear that an "electronically controlled current

stabiliser unit" is meant. Thus, the requirements of Articles 84 and 123(2) EPC are met.

(b) Auxiliary request

(i) Admissibility of D22

Appellant

D22 should be allowed into the proceedings since it was filed at the first possible occasion with the grounds of appeal in response to the decision of the opposition division to maintain the patent in amended form. Compared with claim 1 as granted, claim 1 as maintained is specifically limited to Zener diodes as opposed to "protecting components". Thus, D22 is prima facie relevant since it shows Zener diodes in use with LEDs.

Respondent

D22 should not be admitted into the proceedings since it was filed too late and is not a prima facie relevant document since it does not relate to flight obstacle lights.

(ii) Inventive step

Appellant

The subject-matter of claim 1, apart from the obvious feature of the beam spread, only differs from the device described in D8 in that:

- Zener diodes are connected in parallel with the LEDs in order to enable the current flow in the event of a failure of one or several LEDs, so that the light continues to operate.

The feature of an electronically controlled current stabilizer unit, such as a constant current power supply that is connected to the light to stabilize the lighting intensity, is implicitly disclosed in D8 at page 6, lines 18 to 24. The purpose of the electronically controlled current stabiliser unit of claim 1 and the electronically controlled current stabilising unit of D8 is the same i.e. to stabilise the lighting intensity. Thus, the stabiliser unit of D8 implicitly corresponds to the electronically controlled current stabiliser unit of claim 1 and there is no difference between them.

Furthermore, it is general knowledge that electronically controlled current stabiliser units, such as a constant current power supply of claim 1, are used in connection with LED lamps (see for example D1, column 2, lines 42 to 51 and D2, column 2, lines 6 to 12 and column 3, lines 23 to 26). Also HP-manual D17, which is a text book of electrical and optical characteristics of LEDs, is relevant in this respect.

The distinguishing feature relating to the Zener diodes solves the problem of how to maintain the operation of series connected LEDs of a branch in the event of one of them failing.

D22, which comes from the same technical field of LED lighting as the contested patent, gives the skilled

person a direct teaching as to how to solve this problem.

Respondent

The subject-matter of claim 1 differs from the device shown in D8 in that:

- a) the light source produces a horizontal beam spread of 360 degrees and a vertical beam spread of more than 10 degrees,
- b) it comprises an electronically controlled current stabilizer unit, such as a constant current power supply, that is connected to the light to stabilize the lighting intensity, and
- c) Zener diodes are connected in parallel with the LEDs in order to enable the current flow in a failure of one or several LEDs so that the light continues to operate.

Document D22 should not be taken into account since no reasons have been given for its late filing. D22 is in any case irrelevant to the subject-matter of claim 1 since from paragraph [0012] it can be seen that the current through the remaining LEDs is allowed to change from the normally required 12mA to either 6mA or 9mA, depending on which LED element fails. Thus, in the arrangement according to D22 the current is not stabilised and a drop in lighting intensity is accepted.

Reasons for the decision

1. The appeal is admissible.
2. *Main request - Article 123(3) EPC*
 - 2.1 The subject-matter of claim 1 according to the respondent's main request does not meet the requirements of Article 123(3) EPC. The deletion of the feature present in claim 1 as granted specifying that the source of light "produces a horizontal beam spread of 360 degrees and a vertical beam spread of more than 10 degrees" results in an extension of the protection conferred since in the amended claim there is no longer any restriction as to beam spread.
 - 2.2 The respondent's argument that the specification for the beam spread is implicitly present in the claim since it is directed at a "flight obstacle light to warn pilots about flight obstacles", which must comply with international standards, is not convincing. The claim is directed at a flight obstacle light in general and not according to a particular standard and the respondent has not shown that the deleted feature is a mandatory part of the specification for all flight obstacle lights. Furthermore, as pointed out by the appellant, such national and international standards are subject to periodical review and subject to change.
3. *Auxiliary request - Article 84, Article 123(2) EPC*
 - 3.1 The subject-matter of claim 1 according to the respondent's auxiliary request meets the requirements of Article 123(2) EPC.

3.2 Claim 5 of the application as filed specifies "an electronically controlled stabilizer unit.....to stabilize to (sic) lighting intensity". It is generally known that the lighting intensity of an LED array is directly proportional to the current. Thus, the skilled person would understand that a specification to stabilize the lighting intensity of an LED is a requirement to stabilise the current supplied to it.

3.3 Thus, the term "electronically controlled current stabiliser unit" is both clear and originally disclosed such that the requirements of Articles 84 and 123(2) EPC are met.

4. Admissibility of D22 and D17

4.1 D22 was allowed by the Board into the proceedings since it was filed at the first possible occasion with the grounds of appeal in response to the decision of the opposition division to maintain the patent in amended form on the basis of the seventh auxiliary request filed with the letter of 20 March 2008. This request introduced for the first time the specific limitation to Zener diodes as opposed to "protecting components". Thus, D22 is prima facie relevant since it shows Zener diodes in use with LEDs.

4.2 D17 was also allowed into the proceedings since it is an explicit example of the skilled person's general knowledge.

5. *Inventive step*

5.1 D8 constitutes the nearest state of the art since it relates to a signal light comprising LEDs suitable for warning pilots about flight obstacles (see D8, page 1, lines 3 to 6, where it is indicated that the signal light device is particularly suitable for ensuring safety lighting on traffic routes ("*un dispositif lumineux de signalisation, notamment destiné à assurer un balisage de sécurité, tel que par exemple, celui de voies de circulation*")).

5.2 The feature of an electronically controlled current stabilizer unit is implicitly disclosed in D8 at page 6, lines 18 to 24, which states that electronically controlled units can be used to stabilise the lighting intensity ("*dispositifs électroniques de régulation, assurant une stabilité de l'intensité lumineuse produite*"). Thus, as reasoned above concerning the original disclosure of the term "electronically controlled current stabiliser unit", since the skilled person knows that the lighting intensity is directly proportionally to the current passing through the LED (see also D17, figure 2.4.2-1) it would be obvious that the electronic unit of D8 is an electronically controlled current stabiliser unit of the type specified in claim 1.

5.3 Thus, D8 describes:

a light suitable for use as a flight obstacle light to warn pilots about flight obstacles, said light comprising a base (implicit in order to receive the pin 8), a source of light and a cover (9),

wherein the source of light consists of LEDs (3) that are connected next to each other onto a circuit board section (1,2) in one or more layers in order to achieve the lighting pattern and intensity required,

and which comprises an electronically controlled current stabilizer unit (see page 6, lines 22 to 24), to stabilize the lighting intensity.

5.4 The subject-matter of claim 1 differs from the device described in D8 in that:

(i) - the light source produces a horizontal beam spread of 360 degrees and a vertical beam spread of more than 10 degrees,

(ii) - Zener diodes are connected in parallel with the LEDs in order to enable the current flow in the event of a failure of one or several LEDs so that the light continues to operate.

5.5 The two distinguishing features (i) and (ii) can be dealt with separately since there is no technical interaction between them.

5.6 The beam spread that the light source is required to produce would in all probability be laid down by the authority responsible for the safety of the particular air-corridor where the light is to be used. Thus, the selection of a beam spread of 360 degrees and a vertical beam spread of more than 10 degrees would not require any inventive activity on the part of the skilled person.

- 5.7 The remaining distinguishing feature (ii) solves the problem of how to maintain the operation of series connected LEDs of a branch in the event of one of them failing.
- 5.8 D22, which comes from the same technical field of LED lighting as the contested patent, gives the skilled person a direct teaching as to how a Zener diode is used to solve this problem (see for example Abstract "Purpose", paragraph [0011] and figure 1).
- 5.9 The respondent has argued that the arrangement of D22 is not relevant since in a failure situation, when the current flows through the Zener diode, the voltage over this LED-Zener diode coupling is increased compared to the normal situation and less current is flows through the other LEDs, which leads to a situation that not enough lighting intensity is achieved.
- 5.10 It is correct that paragraph [0012] of D22 indicates that the current through the remaining LEDs is allowed to change from the normally required 12mA to either 6mA or 9mA depending on which LED element fails. However, this is a description of what happens when the Zener diode is used in a particular arrangement of D22 with specific resistance values for the various components.
- 5.11 It has been demonstrated that D8 implicitly discloses the same electronic current stabiliser unit as claim 1, therefore it is to be expected that employing a Zener diode as taught by D22 to overcome the above problem would achieve the same effect as the device specified in claim 1.

5.12 Thus, the subject-matter of claim 1 according to the respondent's auxiliary request does not meet the requirements of Article 56 EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

Registrar:

Chairman:

A. Vottner

U. Krause