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**Datasheet for the decision
of 5 October 2011**

Case Number: T 0572/08 - 3.4.02

Application Number: 03291996.1

Publication Number: 1391759

IPC: G02B6/16

Language of the proceedings: EN

Title of invention:

Optical fiber

Applicant:

FUJIKURA LTD.

Headword:

Relevant legal provisions:

EPC R. 139

Keyword:

Correction of errors

Decisions cited:

Catchword:



Case Number: T0572/08 - 3.4.02

D E C I S I O N
of the Technical Board of Appeal 3.4.02
of 5 October 2011

Appellant:
(Applicant)

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Representative:

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Decision under appeal:

**Decision of the Examining Division of the
European Patent Office posted 12 December 2007
refusing European patent application No.
03291996.1 pursuant to Article 97(1) EPC, 1973.**

Composition of the Board:

Chairman: A. Klein
Members: M. Rayner
B. Müller

Summary of Facts and Submissions

- I. The applicant has appealed against the decision of the examining division refusing European patent application number 03 291 996.1 concerning an optical fibre.
- II. Reasons given for the decision under appeal can be summarised as follows.

An amendment made to claim 1 caused its subject matter to extend beyond the content of the application as filed, contrary to Article 123(2) EPC 1973. The amendment concerned relates to the definition of V_{core} and, in particular, the introduction of a factor of "2" in place of "" in claim 1, contrary to claims 9 and 12 and the formula (1) given on page 14 of the documents as originally filed.

- III. The examination procedure in advance of the decision had also included other significant points, which can be summarised as follows.

(i) In its communication dated 27.07.2005, the examining division considered the subject matter of claim 12 as originally filed, subject to correction, as patentable (see point 3.4). This position was confirmed in point 2.2 of the communication dated 06.08.2007 and repeated in the Facts and Submissions part of the decision under appeal.

(ii) In its communication dated 27.07.2005, the examining division also remarked that the applicant should bring the description into conformity with the amended claims (see point 4.2). Relevant prior art in document D1 should be discussed.

IV. The appellant requested that the decision under appeal be set aside and a patent granted. The board was requested to consider a request for correction. Should the board intend to refuse this request, oral proceedings were requested.

V. In support of its request, the appellant advanced arguments including the following.

V_{core} designates an effective core area of the fibre, which is defined via a mathematical integration over radius r . A person skilled in the art knows the integration is a sum of individual areas of elemental rings with differential thickness dr between radii r and $r+dr$, with r varying between 0 and r_{core} . The individual area of an elemental ring is equal to the product of its length, i.e. $2r$ and width, i.e. dr . The area of the elemental ring is thus $2r dr$. The individual area is multiplied by the optical efficiency of each elemental ring, which is $\eta(r)$. The meaning of formula (1) is well known for the person skilled in the art and leads inevitably to the factor of 2 in formula (1) and in the corresponding text.

Correction should therefore be permitted.

VI. Independent claim 1 submitted by the appellant is worded as follows.

"1. An optical fiber comprising:
a core (1) having a substantially uniform first refractive index; and
a cladding (2) located outside the core and having a substantially uniform second refractive index,
wherein:
an outer diameter of the core is in a range of 5.5 to

7.0 μm ;
a relative refractive index difference between the first refractive index and second refractive index, the second refractive index being taken as a reference, is in a range of 0.51 to 0.59%;
a chromatic dispersion at a wavelength of 1550 nm is in a range of 6 to 15 ps/nm/km;
an effective area at a wavelength of 1550 nm is 40 μm^2 or more; and
 V_{core} is greater than $-17.25x+25.2$ and less than 20 μm^2 , being the relative refractive index difference and V_{core} being obtained by multiplying 2 by a value obtained by integrating a product of r and $n(r)$ with r being in a range of 0 to r_{core} , $n(r)$ being the relative refractive index difference, and r_{core} being the outermost radius of the core,
and wherein the optical fiber has a mode field diameter (MFD) of 7.8 μm or greater at a wavelength of 1550 nm, and a bending loss of 0.3 dB/m or less at a tolerable bending diameter of 20 mm."

Reasons for the Decision

1. The appeal is admissible.
2. Added subject matter
 - 2.1 The decision of the examining division was based on the introduction of a factor of 2 being considered added subject matter.
 - 2.2 The board concurs with the appellant that the skilled person knows that the circumference of a circle is $2r$ and that the area of the incremental ring is therefore $2rdr$. The submission of the appellant in this respect therefore persuades the board. It is therefore

immediately evident within the meaning of Rule 88, second sentence, EPC 1973 both that "" has to be corrected to "2" and thus both that the formula is incorrect and how to correct it. Correction of the error is therefore permissible.

2.3 The line of argument advanced above was not advanced before the first instance so there is no counter argument from the examining division present in the decision under appeal, which, therefore, need not be further considered.

3. Patentability

3.1 Claim 1 corresponds to claim 13 as originally filed, this latter claim being dependent from claim 12 as originally filed. The examining division established that the subject matter of claim 12 meets the requirements of the European Patent Convention concerning patentability. The board sees no reason to question the position of the examining division with respect to originally filed claim 12 nor does it consider this position affected by the further limitation deriving from claim 13 as originally filed.

4. Procedure

4.1 In view of the foregoing, there is no bar to grant of a patent on the basis of claim 1.

4.2 In assessing whether it is more appropriate to remit the case back to the first instance for adapting the description or, itself, to exercise powers within the competence of the first instance, the board is mindful of the fact that not only did the appellant first advance the key argument on admissibility in the appeal

proceedings but also did not respond adequately to the request of the examining division to bring the description into conformity with the amended claims. In particular, the amendments to pages 4 and 14 offered affect the correction only, there is no consistency clause corresponding to claim 1, and, for example, the reference to less than 20 is only portrayed as a twelfth aspect. Similarly, the detailed description does not make fully clear exactly which embodiments are of the invention, i.e. meet the claim, and which are just examples of fibres. Moreover, the prior art has not been discussed. In this situation, the tardy behaviour of the appellant and the complexity of the amendments needed to comply with the division's request have led the board to conclude that a remittal for the examining division to ensure its requirements have been met is appropriate.

- 4.3 Since the board is not refusing the request for correction, oral proceedings consequent to the appellant's request are not necessary before remittal.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance for further prosecution.

The Registrar:

The Chairman:

M. Kiehl

A. Klein

Decision electronically authenticated