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**Datasheet for the decision
of 11 February 2014**

Case Number: T 1882/10 - 3.4.02

Application Number: 06008948.9

Publication Number: 1722263

IPC: G02B27/09, G02B21/00, H01S3/00,
G02B9/16, G02B9/06

Language of the proceedings: EN

Title of invention:
Optical system for providing a uniform intensity distribution
and optical microscope

Applicant:
Yokogawa Electric Corporation

Relevant legal provisions:
EPC Art. 84, 123(2)

Keyword:
Claims - Support in the description (all requests: no)
Added subject-matter (all requests: yes)



**Beschwerdekammern
Boards of Appeal
Chambres de recours**

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Case Number: T 1882/10 - 3.4.02

D E C I S I O N
of Technical Board of Appeal 3.4.02
of 11 February 2014

Appellant: Yokogawa Electric Corporation
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Musashino-shi
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Representative: Grünecker, Kinkeldey,
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 2 March 2010
refusing European patent application No.
06008948.9 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman: A. G. Klein
Members: F. J. Narganes-Quijano
D. Rogers

Summary of Facts and Submissions

- I. The appellant (applicant) lodged an appeal against the decision of the examining division refusing European patent application No. 06008948.9 (publication No. 1722263).

In its decision the examining division held by reference to its previous communications dated 23 February 2010 and 5 October 2009 that the sets of claims amended according to the main and the first and second auxiliary requests submitted with the letter dated 21 January 2010 did not satisfy the requirements of Articles 83, 84 and 123(2) EPC and that in any case the claimed subject-matter, if novel at all, did not involve an inventive step (Article 56 EPC) with regard to the prior art on file.

The wording of claim 1 amended according to the main request reads as follows:

"An optical system comprising:

a light source (1) configured to emit light with a Gaussian distribution or an Airy distribution and wherein the light source (1) is a point light source (1) that generates incident light;

a first lens group (2) having a positive refracting power;

a second lens group (3) which includes at least one lens and has a negative refracting power, the second lens group (3) being positioned behind the first lens group (2) in a direction of incident light coming from the light source (1); and

a third lens group (4) which includes at least one lens and has a positive refracting power, the third lens group (4) being positioned behind the second lens

group (3) in the direction of the incident light coming from the light source (1);

characterized in that

the first lens group (2) has a spherical aberration of about 40 % or more of the composite focal length of the first lens group (2) such that the intensity distribution of the light passed through the third lens group (4) is flat and flatter than the Gaussian distribution or the Airy distribution of the incident light."

The wording of claim 1 amended according to the first auxiliary request differs from that of claim 1 of the main request in that

- the expressions "a first lens group (2) having a positive refracting power", "a second lens group (3) which includes at least one lens and has a negative refracting power" and "a third lens group (4) which includes at least one lens and has a positive refracting power" have been replaced by "a first lens (2) that is a convex lens having a positive refracting power", "a second lens (3) that is a concave lens which has a negative refracting power" and "a third lens (4) that is a convex lens has a positive refracting power", respectively,

- the expressions "first lens group" and "second lens group" in the remaining wording of the claim have been replaced by "first lens" and "second lens", respectively, and

- the term "composite" in the characterizing part of the claim has been omitted.

The wording of claim 1 amended according to the second auxiliary request differs from that of claim 1 of the first auxiliary request in that the claim further requires a series of features defined in the dependent

claims of the first auxiliary request. The wording of these additional features is not pertinent for the present decision.

- II. With the statement setting out the grounds of appeal the appellant requested that the decision under appeal be set aside and a patent be granted on the basis of one of the main and the first and second auxiliary requests underlying the decision under appeal.
- III. Oral proceedings were appointed by the Board. In a communication annexed to the summons to attend oral proceedings the Board gave a preliminary assessment of the appellant's case on appeal. In particular, the Board expressed doubts as to whether the application as amended according to the requests of the appellant satisfied the requirements of Articles 83, 84 and 123(2) EPC and as to whether the claimed subject-matter involved an inventive step (Article 56 EPC). More particularly, as regards the compliance of claim 1 of the main and the first and second auxiliary requests with the requirements of Articles 84 and 123(2) EPC, the Board reasoned as follows:

"The application as originally filed contains two different disclosures concerning the relationship between the spherical aberration(s) and the focal length(s) of the optical system of the invention:

i) The amount of spherical aberrations is equal to or more than 40% of the focal length of the first lens group (see dependent claim 7 and paragraph bridging pages 9 and 10 of the application as originally filed). In the context of the corresponding disclosure the said "amount of spherical aberrations" appears to correspond not to the spherical aberrations of the first lens group, but to that of the system constituted by the

three lens groups (see in the application as filed dependent claim 2 together with page 8, second paragraph, page 10, lines 8 to 13, sentence bridging pages 12 and 13, and page 14, lines 18 to 22 of the description).

ii) The spherical aberration of the first lens is of about 40% or more of the "composite focal length" (see page 14, lines 22 to 24 of the description). This disclosure pertains to a particular embodiment in which each of the three lens groups is constituted by a single lens (Figure 1 together with page 12, line 5 to page 13, line 9 and page 14, lines 5 to 22) and consequently the expression "composite focal length" would be understood by the skilled reader in its technical context as referring to the focal length of the system constituted by the three lenses. In any case, there appears to be no clear and unambiguous disclosure in the application as originally filed in support of the submission of the appellant that the "composite" focal length corresponds to the focal length of the first lens or of the first lens group.

The question arises whether these two different disclosures of the application as originally filed define two alternative ways of achieving the invention, i.e. of rendering more uniform the illumination distribution of the light from the light source, or whether there is an inconsistency between the two disclosures.

In any case, the feature of claim 1 amended according to the present main request and according to which "the first lens group has a spherical aberration of about 40% or more of the composite focal length of the first lens group" appears to be inconsistent with the two

disclosures referred to above and therefore the claimed feature

- *does not appear to be supported by the description within the meaning of Article 84 EPC, and*
- *appears to extend beyond the content of the application as originally filed within the meaning of Article 123(2) EPC.*

The same objections raised above under Articles 84 and 123(2) EPC apply to the feature of claim 1 of the first and second auxiliary requests according to which "the first lens has a spherical aberration of about 40% or more of the focal length of the first lens".

- IV. Oral proceedings were held before the Board on 11 February 2014. The appellant was neither present nor represented at the oral proceedings. At the end of the oral proceedings the Board announced its decision.

- V. No substantive submission was submitted by the appellant in response to the preliminary opinion of the Board given in the communication annexed to the summons to oral proceedings. The arguments in the statement of grounds of appeal in support of the appellant's requests predate, and have no bearing on the issues subsequently raised by the Board in the aforementioned communication.

Reasons for the Decision

1. The appeal is admissible.

2. In the communication annexed to the summons to oral proceedings the Board *inter alia* explained in detail (see point III above) why in its preliminary opinion claim 1 amended according to each of the main and the first and second auxiliary requests of the appellant did not satisfy the requirements of Articles 84 and 123(2) EPC. In the course of the proceedings the appellant made no substantive submissions in reply to the detailed objections raised by the Board in the aforementioned communication. In particular, the appellant chose neither to attend the oral proceedings nor to take a written position on the matters raised by the Board. The appellant has therefore not availed itself of the opportunity to reply to the preliminary assessment of the case given by the Board in the aforementioned communication.

The Board sees no reason to depart from its preliminary opinion expressed in the communication. The Board notes that the appellant has had, and has failed to use, the opportunity to present comments on the objections raised by the Board in its communication (Article 113(1) EPC). The Board therefore concludes that the application as amended according to the appellant's requests does not comply with the requirements of the EPC within the meaning of Article 97(2) EPC, and that consequently none of the requests are allowable.

The appeal must therefore be dismissed for the reasons already communicated to the appellant and reproduced in point III above.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



M. Kiehl

A. G. Klein

Decision electronically authenticated