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**D E C I S I O N**  
**of 7 June 2005**

**Case Number:** T 0614/04 - 3.4.2

**Application Number:** 00956389.1

**Publication Number:** 1198726

**IPC:** G02B 5/18

**Language of the proceedings:** EN

**Title of invention:**

Optical polarizing device and laser polarisation device

**Applicant:**

Université Jean Monnet

**Opponent:**

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**Headword:**

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**Relevant legal provisions:**

EPC Art. 84  
EPC R. 29(2)

**Keyword:**

"Oral proceedings before the examining division in the absence of the applicant"

"Negative decision on grounds communicated to applicant in the annex to summons"

"Clarity (yes): optical device defined in terms of the wavelength of operation"

**Decisions cited:**

T 0055/91

**Catchword:**

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Case Number: T 0614/04 - 3.4.2

**D E C I S I O N**  
of the Technical Board of Appeal 3.4.2  
of 7 June 2005

**Appellant:** Université Jean Monnet  
34, rue Francis Baulier  
F-42000 Saint Etienne (FR)

**Representative:** Thévenet, Jean-Bruno  
Cabinet Beau de Loménie  
158, rue de l'Université  
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**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted 5 December 2003  
refusing European application No. 00956389.1  
pursuant to Article 97(1) EPC.

**Composition of the Board:**

**Chairman:** A. G. Klein  
**Members:** M. P. Stock  
C. Rennie-Smith

## Summary of Facts and Submissions

I. The applicant and appellant has appealed against the decision of the examining division refusing European patent application number 00 956 389.1 on the ground that it did not meet the requirements of Article 84 EPC. The examining division reasoned that the subject-matter of claim 1 according to the request then on file was not clear and that claims 22 and 23 were two independent claims in the same category contrary to Rule 29(2) EPC.

II. In a statement setting out the grounds the appellant has requested that the decision under appeal be set aside and the examination be resumed. In view of the arguments and amendments submitted interlocutory revision should take place. Oral proceedings have been requested should the Board take the view that the application be refused. A new set of claims 1 to 23 has been submitted in replacement of the claims underlying the decision.

The appellant made reference to the letter of the applicant's representative sent to the EPO on November 7, 2003 accompanied by a new set of claims 1 to 24 and including the following paragraphs:

*"It is respectfully submitted that the new set of claims 1 to 24 remedies all the deficiencies listed in the annex to the summons to attend Oral Proceedings and that therefore notwithstanding the fact that the applicant will not be present nor represented at the Oral Proceedings of November 19, 2003 further*

*examination of the new claims 1 to 24 could occur in the usual way.*

*It is believed that a communication under Rule 51(4) EPC could be issued shortly. However, should some further other problem remain, the Examining Division is invited to issue a further communication under Article 96(2) EPC in due course."*

The appellant stated that he was puzzled by the fact that the examining division refused the application at the end of the oral proceedings without providing a further opportunity for the applicant to reply to the objections raised concerning the new claims 1 to 24 filed on November 7, 2003.

The appellant provided arguments that claim 1 as amended is clear and that claims 22 and 23 underlying the decision meet the requirements of Rule 29(2) EPC.

However, according to the appellant, to speed up the procedure and to obtain interlocutory revision a new set of claims 1 to 23 was filed, where former independent claim 23 is deleted and dependent claim 24 renumbered. In the event interlocutory revision was refused the right was reserved to reinstate former claim 23 during the appeal procedure to obtain a decision from the Board on this specific point.

III. The independent claims 1 and 22 as filed with the grounds of appeal read as follows:

"1. An optical device working at a predetermined wavelength of operation  $\lambda$  within a spectral bandwidth  $\beta$ ,

where  $k_0 = 2\pi/\lambda$  is the spatial frequency of a free space wave in vacuum, said optical device comprising a substrate (10), a multilayer mirror (20), a pair of low and high refractive index layers (31, 32) disposed on said multilayer mirror (20), and a diffraction grating (40) in said high refractive index layer (32), whereby the coupling of one incident polarization into a mode of the high and low refractive index layers results in a decrease of the multilayer reflection coefficient of said polarization, and wherein the following condition in the spatial frequency domain is fulfilled:

$$K_g = n_e k_0 \quad (2),$$

where  $K_g = 2\pi/\Lambda$  is the grating spatial frequency,  $\Lambda$  being the period of the grating and  $n_e$  is the effective index of a mode coupled into high index layer (32)."

"22. A method of damping or filtering a first polarization of an incident light comprising a first and a second polarization components, said method comprising directing said beam of light toward an optical device, comprising a substrate (10), a multilayer mirror (20), a pair of low and high refractive index layers (31, 32), and a diffraction grating (40) in said high refractive index layer (32), whereby said first polarization is coupled into a mode of said last index layer (32) and is thereby damped or filtered."

Independent claim 23 underlying the appealed decision reads as follows:

"23. A method of damping or filtering a first polarization of an incident light comprising a first and a second polarization components, said method comprising directing said beam of light toward an optical device according to any of claims 1-20."

### **Reasons for the Decision**

#### 1. *Procedure before the examining division*

1.1 The decision of the examining division is based on grounds mentioned inter alia in an annex to summons to attend oral proceedings. In particular, it was argued in this annex that claim 1 then on file was not clear according to Article 84 EPC and that the different independent claims related to a method were not in accordance with Rule 29(2) EPC. Even though the applicant had amended the claims and submitted arguments for consideration at the oral proceedings, he should have expected that these issues would be reviewed at the oral proceedings and a decision taken without further contact with him. The main purpose of oral proceedings is to settle a case by taking a final decision as can be gathered from Rule 71a(1) EPC, and this can be done in the absence of a duly summoned applicant who was, for reasons already communicated to him, see T 55/91 cited in Case Law of the Boards of Appeal, 4th edition 2001, page 269. In the present case such reasons had been forwarded by the examining

division to the applicant in the above-mentioned annex to the summons.

- 1.2 The appellant suggested in his statement of grounds of appeal that interlocutory revision should take place. However, the examining division being apparently of the opinion that the grounds for the rejection of the application applied also to the amended claims, interlocutory revision was not granted.

2. *Claim 1*

- 2.1 Claim 1 defines an optical device comprising inter alia a pair of low and high refractive index layers disposed on a multilayer mirror and a diffraction grating in the high refractive index layer. From mathematical relations indicated in the claim it can be derived that for a predetermined wavelength  $\lambda$  and suitable materials having at this wavelength a low and high refractive index, respectively, the period of the diffraction grating  $\Lambda$  is determined in dependence on the wavelength  $\lambda$  and the effective refractive index  $n_e$  of the high refractive index layer for the polarisation mode for which the reflectivity of the multilayer is lowered. This is due to a phase shift of  $\pi$  occurring when this polarisation mode is coupled by the grating in the high refractive index layer, as is explained in the description; see page 16, lines 20 to 28, in connection with Figure 1. Therefore this definition is sufficiently clear for the skilled person to understand for which invention protection is sought.

2.2 The examining division agrees in its decision that conditions in claim 1 to be fulfilled critically depend on the wavelength which is not part of the claimed subject-matter, and only apply to normal incidence. In this context reference was made to the Guidelines C-III, 4.8a. Moreover, a claim for a device seeks protection for the device per se irrespective of the use to which it may be put. In the present case a device having the concrete features of claim 1 would fulfil the conditions in claim 1, when used with one wavelength, but not when used at other wavelengths.

2.3 The Board however finds this argument unconvincing. The wavelength in the mentioned conditions serves to define the claimed device in terms of functional features. If a certain wavelength is selected, the remaining features can be adapted to provide the required function, i.e. the materials of the layers and the grating period can be chosen, accordingly. Expressed the other way round, for a completed device the appropriate wavelength can be determined. Normal incidence is implicit, since equation (2) in claim 1 does not contain a factor depending on the angle. Point C-III 4.8a of the Guidelines mentioned above is related to the "definition by reference to use or another entity". It is stated there that a lack of clarity can result where a claim seeks to define an invention by reference to features relating to the entity's use. This would particularly be the case where a claim not only defines the entity itself but also specifies its relationship to a second entity which is not part of the claimed entity. In contrast to that, the present claim specifies an optical device working



at a predetermined wavelength, which is evidently not a use of the kind discussed in the Guidelines cited.

- 2.4 In the Board's view the aspect of whether a device having the concrete features of claim 1 and used with a wavelength not fulfilling the mentioned conditions falls within the scope of claim 1, is irrelevant during the examination of a patent application. Article 84 EPC requires that the matter shall be defined, for which protection is sought. The Board considers that in an optical device comprising features dependent upon wavelength it is appropriate to introduce this dependence in a generalised way, e.g. by definition of a grating period as a function of wavelength as in the present case. Such a definition is evidently clear. It is in the present case also supported by the description, as is further required by Article 84 EPC. Any other definition, e.g. based on absolute dimensions, would lead to undue restriction.

3. *Multiplicity of independent method claims*

- 3.1 Objections raised by the examining division under Article 84 in connection with Rule 29(2) EPC do not apply to the present set of claims containing only one independent claim related to a method (claim 22). The appellant has deleted the second independent claim related to a method, namely former claim 23. According to the appellant this was done to give a chance to the examining division to accept interlocutory revision, but the right was reserved to reinstate former claim 23 in the appeal procedure to obtain a decision from the Board on this claim.

3.2 The appellant was, however, notified on 21 May 2004 that the appeal has been referred to the present Board and has since not reinstated former independent claim 23. In view of the fact that the Board after consideration of the issue fully endorses the view of the examining division on the inadmissibility of the second independent method claim, it refrained from offering the appellant a further opportunity to reinstate such an inadmissible claim.

4. It is not necessary to conduct oral proceedings since the decision of the examining division is set aside as requested by the appellant. The case is remitted to the examining division for further prosecution.

## **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:

P. Martorana

A. G. Klein