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**Datasheet for the decision
of 28 September 2022**

Case Number: T 2168/19 - 3.4.02

Application Number: 13153597.3

Publication Number: 2660640

IPC: G02B21/00, G02B21/16

Language of the proceedings: EN

Title of invention:

Microscope provided with plural optical units

Patent Proprietor:

Olympus Corporation

Opponent:

Carl Zeiss Microscopy GmbH

Headword:

Relevant legal provisions:

EPC Art. 56, 111(1)

RPBA 2020 Art. 11

Keyword:

Inventive step - main request (no)

Remittal to the department of first instance - (yes)

Decisions cited:

Catchword:



Beschwerdekammern
Boards of Appeal
Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 2168/19 - 3.4.02

D E C I S I O N
of Technical Board of Appeal 3.4.02
of 28 September 2022

Appellant: Carl Zeiss Microscopy GmbH
(Opponent) Carl-Zeiss-Promenade 10
07745 Jena (DE)

Representative: Schiffer, Axel Martin
Rundfunkplatz 2
80335 München (DE)

Respondent: Olympus Corporation
(Patent Proprietor) 2951 Ishikawa-machi, Hachioji-shi,
Tokyo 192-8507 (JP)

Representative: Schicker, Silvia
Wuesthoff & Wuesthoff
Patentanwälte PartG mbB
Schweigerstraße 2
81541 München (DE)

Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 4 June 2019
rejecting the opposition filed against European
patent No. 2660640 pursuant to Article 101(2)
EPC.**

Composition of the Board:

Chairman R. Bekkering
Members: A. Hornung
T. Karamanli

Summary of Facts and Submissions

- I. The opponent appealed against the decision of the opposition division rejecting the opposition against European patent No. 2 660 640.

Opposition had been filed against the patent as a whole and was based on the ground for opposition under Article 100(a) EPC together with Article 56 EPC. The opposition division had found that this ground for opposition did not prejudice the maintenance of the patent as granted.

- II. Oral proceedings before the board were held on 28 September 2022.

- III. The opponent (appellant) requested that the decision under appeal be set aside and that the patent be revoked.

The patent proprietor (respondent) requested that the appeal be dismissed (main request) or, in the alternative, that the decision under appeal be set aside and that the patent be maintained as amended on the basis of the claims of any of auxiliary requests 1 to 5 filed by letter dated 15 November 2018 or of auxiliary requests 6 to 8 filed by letter dated 9 July 2021.

- IV. The following documents will be referred to in the present decision:

D1: EP 1 582 904 A1,

D10: "Biophotonics, Part 1, Methods in Enzymology", vol. 360, 2003, Gerard Marriott et al., pages 351 and 352,

T1: "Handbook of Optical Filters for Fluorescence Microscopy", Jay Reichmann, HB 1.2, December 2007, Chroma Technology Corp, pages 1 to 36,

T2: Hamamatsu Filter Block A10033,

T3: Thorlabs product page "Microscope Filter Cubes".

- V. Independent claim 1 of the patent as granted (patent proprietor's main request) reads as follows:

"A microscope (100, 101) having a plurality of optical units (10, 20) each including a filter block (11, 21) between an objective (7) and a tube lens (8, 51), an optical unit (10) closest to the objective (7) in the plurality of optical units (10, 20), having a first filter block (11) provided with an optical filter (11b, 11c) which has a first effective diameter; and an optical unit (20) closest to the tube lens (8) in the plurality of optical units (10, 20), having a second filter block (21) provided with an optical filter (21b, 21c) which has a second effective diameter, characterized in that the second effective diameter is larger than the first effective diameter."

Reasons for the Decision

1. Patent as granted (main request) - ground for opposition of lack of inventive step

The subject-matter of granted claim 1 does not involve an inventive step in view of D1 and common general knowledge.

- 1.1 Closest prior art and distinguishing feature

It is undisputed that the embodiment of D1, shown in figures 4 and 5, represents the closest prior art and that the subject-matter of claim 1 differs from this embodiment of D1 in that the effective diameter of the second filter is larger than the effective diameter of the first filter.

Indeed, D1 is silent about the relative size of the first filter (33) and the second filter (54).

1.2 Objective technical problem

The board agrees with the opponent's submission during the oral proceedings before the board that the objective technical problem solved by the distinguishing feature of claim 1 is to make optimum use of the space available in the microscope, to use as little material as possible and to proceed in a cost-saving manner. This is a task that the skilled person basically always faces in the development of every microscope.

1.3 Obvious solution defined by the distinguishing feature

As explained by the opponent during the oral proceedings before the board, it is common general knowledge that the light emitted from an object (3), positioned in the focal plane of the objective lens (29), emanates from the objective lens (29) in the form of parallel rays propagating in a diverging manner towards the tube lens (37). This common general knowledge is exemplified by the disclosure of D10, figure 3B, page 352, second paragraph. As a consequence, the section of light in the plane of the first filter (33) closest to the objective lens (29) has a smaller diameter as compared to the section of light in the plane of the second filter (54) closest to the tube lens (37). In other words, the effective optical diameter of the first optical filter (33) is smaller than the effective optical diameter of the second optical filter (54). The reference signs mentioned above refer to those of figures 4 and 5 of D1.

Furthermore, it is undisputed "that the skilled person knows that microscopes, in particular the microscope of

D1, are designed with specific aperture stops and axial distances to provide that no vignetting occurs" (see patent proprietor's letter dated 9 July 2021, page 5, second paragraph; highlighted in the original).

Starting from the microscope shown in figures 4 and 5 of D1 and confronted with the objective technical problem, namely making optimum use of the available space, the skilled person would have designed a microscope in which the diameter of the optical filters is as small as possible. This means, taking account of the fact that the section of light in the plane of the first filter (33) is smaller than the section of light in the plane of the second filter (54), that the skilled person would have selected a first filter having an effective diameter which is smaller than the effective diameter of the second filter. At the same time, by choosing filter sizes as small as possible, the skilled person solves the further tasks of using as little material as possible and proceeding in a cost-saving manner.

Moreover, since the skilled person knows that vignetting has to be generally suppressed in microscopes, the skilled person would have selected filters being sufficiently large, namely a second filter whose effective diameter is larger than the effective diameter of the first filter. The option of selecting optical filters having large but identical effective optical diameters would mean that either the first filter is too large, thereby not using the available space in an optimum manner, or the second filter is too small, thereby vignetting the light beam.

In conclusion, when solving the objective technical problem, the skilled person would obviously have chosen the effective diameter of the second filter (54) to be larger than the effective diameter of the first filter

(33), thereby arriving at a microscope falling under the scope of granted claim 1 without exercising any inventive skills.

1.4 Patent proprietor's counter-arguments

1.4.1 The patent proprietor, referring to paragraphs [0020] to [0022] of the patent and to the documents T1 to T3, was of the view that the optical filters disclosed in D1 were not filter blocks as defined in claim 1. As argued in its letter dated 9 July 2021, page 3, third paragraph, a filter block had to be block shaped and to have a filter block frame to remove the optical filter either together with the filter frame or without it. Therefore, the subject-matter of claim 1 further differed from the embodiment of D1 in that it comprised filter blocks.

The board is not convinced by this argument. Contrary to the patent proprietor's view, the description of the patent, paragraphs [0020] to [0022], describing specific features of a filter block, cannot limit the scope of claim 1. The subject-matter of a claim is only defined by the features which are actually present in the claim. The claim wording has to be interpreted as broadly as reasonable. In the present case, the expression "filter block" defines a general item comprising at least a filter. In particular, nothing speaks against considering the "upper illumination reflecting member 33" and the "second upper illumination reflecting member 54" of document D1 (see figures 4 and 5 of D1) as being filter blocks. Moreover, in the board's view, a filter block in general is not restricted to an item comprising the specific technical properties described by the patent proprietor in its letter dated 9 July 2021. The general words "block" or "filter block", as such, have a broader meaning in the field of optical microscopes. Documents T1

to T3 merely disclose properties of specific optical filter blocks which cannot be considered to represent a generally valid definition of a filter block.

- 1.4.2 During the oral proceedings before the board, the patent proprietor argued that the objective technical problem relating to the distinguishing feature of claim 1 was not merely about mechanical positioning of optical filters inside an optical microscope. See also its letter dated 9 July 2021, pages 4 to 7. Further tasks of the skilled person had to be considered, namely how to cost-effectively facilitate the addition of further optical filters between the objective lens and tube lens, and how to efficiently suppress the occurrence of vignetting.

The board acknowledges that cost-effectiveness and vignetting play a role in the design of a microscope. However, these aspects have already been taken into account in the above reasoning why the skilled person would have arrived at the claimed microscope in an obvious manner. As explained in point 1.3 above, by providing a second optical filter (54) having a larger effective diameter than the first optical filter (33), cost-effectiveness and suppression of vignetting are automatically fulfilled by the solution implemented by the skilled person. Indeed, using a first optical filter having a smaller effective diameter than the second optical filter is cost-effective in comparison to using a first optical filter having an unnecessarily large effective diameter. Moreover, using a second optical filter having a larger effective diameter than the first optical filter avoids vignetting of the parallel light beam propagating in a divergent manner from the first optical filter towards the second optical filter.

1.4.3 Accordingly, the ground for opposition under Article 100(a) EPC in combination with Article 56 EPC prejudices the maintenance of the patent as granted.

2. Remittal of the case

As requested by the patent proprietor, the board considers it appropriate to make use of its discretion under Article 111(1), second sentence, EPC and Article 11 RPBA 2020 in remitting the case to the opposition division for further prosecution.

2.1 For the reasons provided in point 1. above, the board came to the conclusion that the subject-matter of claim 1 of the patent as granted (main request) lacked an inventive step and that, therefore, the appealed decision rejecting the opposition had to be set aside.

2.2 The board notes that the patent proprietor filed a total of eight auxiliary requests during the appeal-opposition proceedings and that currently it maintained all these requests. The board further notes that five of these requests are identical to the requests filed by the patent proprietor during the first-instance opposition proceedings so that there is no reason for not admitting at least some of these requests into the appeal-opposition proceedings. Claim 1 of each of these auxiliary requests comprises additional features compared to claim 1 of the patent as granted in order to overcome the objection of lack of inventive step. The decision under appeal did not deal with the subject-matter claimed in any of these auxiliary requests. The patentability of the subject-matter of claim 1 of the auxiliary requests would therefore have to be assessed for the first time in the appeal proceedings.

In addition, in view of the numerous objections of lack of inventive step, lack of clarity and added subject-matter raised by the opponent throughout the appeal proceedings the board considers that the assessment of the patentability of claim 1 of the auxiliary requests comprises a complexity in terms of the number of new issues which is not compatible with the primary object of the appeal proceedings to review the decision under appeal in a judicial manner (Article 12(2) RPBA 2020).

- 2.3 The opponent requested that the case not be remitted but that the board decide on the objection of lack of inventive step to the subject-matter of claim 1 of the auxiliary requests on file. In the opponent's view, a review of inventive step would be possible within the framework of Article 12(2) RPBA 2020 defining the primary object of the appeal proceedings to be a review of the decision under appeal in a judicial manner. The opponent recalled that there is no right of a party to have the case remitted to the department of first instance. Moreover, the opponent submitted that remitting the case would delay the proceedings, increase the costs and maintain legal uncertainty.

The board is not convinced by the opponent's arguments. As submitted by the patent proprietor during the oral proceedings before the board, the appealed decision only dealt with the objection of lack of inventive step of the feature relating to the relative sizes of the filters' effective diameters. In the case at hand, examining new features for the first time and deciding whether they comply with all the requirements of the EPC goes beyond the task of an appellate instance. Moreover, the board concurs with the patent proprietor that the negative consequences of a remittal (delay, cost, legal uncertainty) are to be considered acceptable under the

circumstances of the present case.

- 2.4 In view of the above, there are special reasons within the meaning of Article 11 RPBA 2020 in the case at hand which justify remitting the case to the opposition 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 department of first instance for further prosecution.

The Registrar:

The Chairman:



L. Gabor

R. Bekkering

Decision electronically authenticated