

Internal distribution code:

- (A) [] Publication in OJ
(B) [] To Chairmen and Members
(C) [X] To Chairmen
(D) [] No distribution

D E C I S I O N
of 30 April 2003

Case Number: T 0831/00 - 3.4.2
Application Number: 90105004.7
Publication Number: 0388812
IPC: G02B 21/00, G02B 7/16

Language of the proceedings: EN

Title of invention:
Microscope

Patentee:
Olympus Optical Co., Ltd.

Opponent:
Leica Microsystems AG Corporate Patents + Trademarks
Department

Headword:

-

Relevant legal provisions:
EPC Art. 56

Keyword:
"Availability to the public (yes, established by official
export/import documents)"
"Inventive step (no)"

Decisions cited:

-

Catchword:

-



Case Number: T 0831/00 - 3.4.2

D E C I S I O N
of the Technical Board of Appeal 3.4.2
of 30 April 2003

Appellant: Leica Microsystems AG
(Opponent) Corporate Patents + Trademarks Department
Ernst-Leitz-Strasse 17-37
D-35578 Wetzlar (DE)

Representative: -

Respondent: Olympus Optical Co., Ltd.
(Proprietor of the patent) 43-2, 2-chome, Hatagaya
Shibuya-ku
Tokyo 151-0072 (JP)

Representative: Zenz, Joachim Klaus, Dipl.-Ing.
Zenz, Helber, Hosbach & Partner
Patentanwälte
Huysseallee 58-64
D-45128 Essen (DE)

Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 13 June 2000
rejecting the opposition filed against European
patent No. 0 388 812 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: E. Turrini
Members: A. G. Klein
V. Di Cerbo

Summary of Facts and Submissions

- I. The opposition filed against European patent No. 0 388 812 (application No. 90 105 004.7) was rejected by the Opposition Division.

The opposition was founded on the ground under Article 100(a) EPC that the subject-matter of the patent did not involve an inventive step within the meaning of Article 56 EPC in view *inter alia* of the contents of the following documents:

EI: Heidelberg Instruments GmbH, Heidelberg;
"LINIEN-PROFIL-MESSYSTEM LPM" Benutzer Handbuch;
Dezember 1987; and

EII: EP-B-0 307 421 (first published as International Patent Application WO 88/07217, to which reference will be made hereinafter as document EII).

The Opposition Division in its decision held that document EI being a user manual associated with an equipment "LINIEN-PROFIL-MESSYSTEM LPM", the date of December 1987 printed on the manual was no evidence that it was actually made available to the public at this date. Since the opponent had provided no further evidence that the LPM equipment itself had been sold or otherwise made publicly available before the priority date of the patent, the opponent had not proved that reference EI was prior art.

The Opposition Division also held that reference EII, the only citation put forward by the opponent which it considered to be part of the prior art, did not put

into question the patentability of the subject-matter of the patent, since it did not even remotely mention the problem posed in the contested patent nor give any suggestion in the direction of the solution proposed.

II. The appellant (opponent) lodged an appeal against the decision rejecting the opposition.

With its statement of grounds of appeal of 20 October 2000, the appellant *inter alia* filed an **Annex 2** consisting of a copy of the following documents:

- a carbon copy of a request for an export licence dated 23 June 1988 in the name of Heidelberg Instruments GmbH;
- an export licence granted to Heidelberg Instruments GmbH and dated 5 July 1988, with a stamp of the main customs office of Heidelberg, bearing the same date;
- a carbon copy of an export declaration by Heidelberg Instruments GmbH on European Community Form AE T 750502 with a stamp from the main customs office of Heidelberg dated 5 July 1988; and
- an International Import Certificate delivered by the government of Japan dated 17 June 1988.

III. Oral proceedings were held on 30 April 2003, at which the appellant requested that the decision under appeal be set aside and that the European patent be revoked.

The respondent (patentee) as its main request requested that the appeal be dismissed and that the patent be maintained as granted. Claim 1 of the patent in the granted version reads as follows:

"1. An optical microscope comprising detecting means (4) for detecting any one of a plurality of objective lenses (10, 11, 12); an electric revolver (3) having switching means for switching said plurality of objective lenses; and focusing means (6) for moving a stage (8) or said revolver (3) along an optical axis to focus each of said plurality of objective lenses (10, 11, 12) attached to said revolver (3), wherein said optical microscope further comprises input means (1) for inputting data, memory means (2) for storing the data input by said input means and control means;

characterized in that the memory means is arranged to store inputted data representing a parafofocality position along the optical axis of said stage or revolver corresponding to the focussed condition of each of said plurality of objective lenses,

and in that the control means (5) is connected to the input means (1) and the memory means (2), which control means (5) reads the parafofocality position of the one of the objective lenses (10, 11, 12) inserted in the optical path upon switching the lenses by the electric revolver (3) and outputs a control signal to the focusing means (6) to cause the latter to move to said stage (8) or revolver (3) along the optical axis to the parafofocality position previously input and read-out such that the switched objective lens maintains parafofocality."

As its first auxiliary request the respondent requested

that the patent be maintained on the basis of a set of claims of which claim 1 reads as follows:

"1. An optical microscope comprising detecting means (4) for detecting any one of a plurality of objective lenses (10, 11, 12); an electric revolver (3) having switching means for switching said plurality of objective lenses; and focusing means (6) for moving a stage (8) or said revolver (3) along an optical axis to focus each of said plurality of objective lenses (10, 11, 12) attached to said revolver (3), wherein said optical microscope further comprises input means (1) for inputting data, memory means (2) for storing the data input by said input means and control means (5);

characterized in that the memory means is arranged to store inputted data representing parafofality position along the optical axis of said stage or revolver corresponding to the focussed conditions of each of said plurality of objective lenses,

and in that the control means (5) is connected to the input means (1) and the memory means (2), which control means (5) reads the inputted data representing the parafofality position for one of the objective lenses (10, 11, 12) inserted in the optical path upon the electric revolver (3) switching the lenses to select the same objective lens (10, 11, 12), and outputs a control signal to the focusing means (6) to cause the latter to move to said stage (8) or revolver (3) along the optical axis by an amount equal to the distance between the parafofality positions for the presently selected objective lens (10, 11, 12) and a previously selected objective lens (10, 11, 12) using the readout data so that the presently selected objective lens maintains parafofality."

As its second auxiliary request the respondent requested that the patent be maintained on the basis of an amended set of claims of which claim 1 is distinguished from claim 1 of the first auxiliary request by the addition, at the end of the claim, of "and in that said stage (8) or said revolver (3) is equipped with a position detecting sensor (14)".

As its third auxiliary request, the respondent requested that the patent be maintained on the basis of an amended set of claims of which claim 1 is distinguished from claim 1 of the first auxiliary request by the addition, at the end of the claim, of "and in that said stage (8) is equipped with an encoder (15) connected to the focusing means (6) for storing output of the encoder (15) as stage position data into the memory means (2)", and by the deletion, throughout the claim, of the alternatives "or said revolver (3)" and "or revolver (3)".

The Board announced its decision at the end of the oral proceedings.

- IV. The appellant in support of its request submitted that document EI, a user manual for the LPM line profile measurement system manufactured and sold by the company Heidelberg Instruments GmbH was part of the relevant prior art, as evidenced not only by the date of December 1987 printed on the document itself but also by the set of documents of Annex 2 which clearly established that this equipment had actually been both sold and exported to the Japanese company Seiko Instruments Inc. before the priority date of the patent.

From the description in document EI of the functionalities of the equipment and of the way it had to be calibrated before use so that the parafocality position for one of the objective lenses was automatically corrected upon selecting another objective lens by rotation of the revolver, it necessarily followed that this prior art equipment comprised most of the features of claim 1 of the patent in suit. The only feature not explicitly derivable from document EI, namely the provision of detecting means for detecting anyone of a plurality of objective lenses, was commonplace in microscopes equipped with rotary revolvers, as was evidenced for instance by the second paragraph of document EII, which referred to the use of optical sensors and mechanical contacts for the control of the selection of a particular objective lens to be brought into the light path of an automatic microscope by a motor-actuated revolver.

The subject-matter of the patent in suit therefore lacked an inventive step within the meaning of Article 56 EPC.

- V. The respondent for its part contested that the availability to the public of the LPM system itself or of the contents of user manual EI had been adequately proved, in the absence in particular of any acknowledgement of receipt or accounting document establishing that any such equipment had actually been delivered to a client before the priority date of the patent.

Document EI also failed to disclose the claimed detecting means for identifying the microscope objective currently in use or switching means for

changing the microscope objective by rotating the revolver. The document also failed to describe the coupling and interaction of the technical features stated in the characterising portion of claim 1 or even to suggest that focused condition was maintained upon switching of the objective lenses, by adequate movement of the stage or revolver.

Since proper operation of the equipment of document EI necessarily implied that identification of the objective lens currently in use was already achieved, the skilled person had no obvious reason to incorporate in this equipment any further detecting means of type disclosed for instance in document EII.

Reasons for the Decision

1. The appeal is admissible.
2. *Admissibility into the procedure of Annex 2*

The documents forming Annex 2 were filed with the appellant's statement of grounds of appeal dated 20 October 2000, which is largely after expiry of the time delay for filing an opposition.

These documents however are copies of official export/import certificates and licences, relating to the LPM equipment referred to in the user manual EI already considered in the opposition procedure, which the appellant filed to overcome the rejection by the Opposition Division in the appealed decision of reference EI as a prior art citation, on the ground that, "the opponent had provided no further evidence

that the LINIEN-PROFIL-MESSYSTEM LPM itself was sold or otherwise made publicly available before the priority date of the patent" (see paragraph 2.1 of the reasons).

The late filing of Annex 2 can therefore be considered as a legitimate reaction to the rejection of the opposition by the Opposition Division, which was not contested by the respondent.

Annex 2 is admitted into the procedure, accordingly.

3. *Main request*

3.1 Availability to the public of the contents of document EI

The patent in suit benefits from the priority date of 20 March 1989.

Document EI is a user manual relating to a line profile measurement system LPM designed by Heidelberg Instruments GmbH. The user manual comprises about 170 pages, of which the first bears the printed mention "Dezember 1987".

Although it is quite unlikely that a user manual of such extent may have been printed without the equipment to which it relates having been sold or at least disclosed to potential buyers before the priority date of the patent, which is 15 months after the printing date of the user manual, the fact that it was printed in December 1987 is not by itself an absolute proof that its content or the equipment to which it relates were actually available to the public at the priority date of the patent.

However, Annex 2 comprises official customs documents which show that:

- on 17 June 1988 Seiko Instruments Inc. was delivered an International Import Certificate by the Japanese government, which allowed it to import from Heidelberg Instruments GmbH a LPM-line profile measurement system and corresponding installation and training documentation, for a price of DM 428,428.00;
- on 23 June 1988 Heidelberg Instruments GbmH requested from the German customs authorities an authorisation of exporting to Seiko Instruments Inc. a "LINIEN-PROFIL-MESSYSTEM" for the same price of DM 428,428.00;
- the corresponding export licence was delivered to Heidelberg Instruments GmbH on 5 July 1988, and the equipment itself actually left the main customs office of Heidelberg for Japan on the same date of 5 July 1988.

These consistent official documents in the Board's view certainly establish the existence, before the priority date of the patent, of a sale agreement between Heidelberg Instruments GmbH, the seller, and Seiko Instruments Inc., the buyer, for the selling at an agreed price of about 215,000 Euros of a LPM equipment which actually left Germany for the premises of Seiko Instruments Inc. in Japan about 8 months before the priority date of the patent.

In the Board's view, it is extremely unlikely that this equipment may not have arrived at destination within

this period, and it is just as unlikely that the buyer may have acquired an equipment of such a price without knowing its main functionalities, as are immediately apparent to any potential client and disclosed for instance in the corresponding user manual.

There is no indication in the file that Heidelberg Instruments GmbH might have substantially modified the design of its LPM equipment between the printing of the extensive user manual EI in December 1987 and the shipping of the equipment to Seiko Instruments Inc. in July 1988, and this was not alleged by the respondent either.

The respondent rightly noted that the appellant did not submit any accounting document or acknowledgement of receipt signed by the recipient of the equipment, as a direct proof of the actual delivery of a LPM equipment to a third party. The appellant however convincingly explained that the company Heidelberg Instruments GmbH no longer existed, that only part of its technical development staff and projects had been taken over by the appellant's company, and that the only pieces of evidence relating to the selling of the LPM system to Seiko still available were the few papers of Annex 2 which the technical staff taken over happened to have taken with them and kept since.

Accordingly, in the circumstances of the present case, the Board is satisfied that the evidence produced by the appellant establishes that an optical microscope comprising the features which are apparent from document EI was made available to the public before the priority date of the patent in suit.

3.2 Patentability

- 3.2.1 The optical microscope described in document EI comprises an electric revolver having switching means for switching a plurality of objective lenses (see page 4-2, point 4.3), focusing means for moving a stage along an optical axis to focus each of said plurality of objective lenses attached to said revolver (see page 10-7), input means for inputting data, memory means for storing the data input by said input means and control means (see the desktop computer and keyboard on Figures 1.1 or 3.2).

The description in document EI of the procedure to be followed for calibrating the objectives (see page 10-2 the paragraph "Objective" and page 10-5) shows that the aim of the calibration is to guarantee that the stage is so moved after switching of the objective that the object remains in a focused condition. To this effect, for each objective lens, the stage is brought in a calibration step to a position corresponding to the focused condition (see the first paragraph on page 10-7) in order obviously to produce and store data representing a parafocality position along the optical axis of said stage corresponding to the focused condition of each of the plurality of objective lenses, as is set out in the first characterising feature of claim 1.

Similarly, the fact that the stage is automatically moved after switching of an objective lens so that the object remains focused (see page 10-5) necessarily implies that the parafocality position of the one of the objective lenses inserted in the optical path upon switching the lenses by the electric revolver (as

determined upon calibration) is read out and a control signal is output to the focusing means to move the stage along the optical axis such that the switched objective lens maintains parafofality, within the meaning of the second characterising feature of claim 1.

The respondent in this respect submitted that the LPM system did not achieve automatic refocusing after switching of the objective lenses because it was stated on page 10-2 of the user manual that calibration of the measurement should be performed whenever a new wafer material was examined, which meant that the parafofality positions were not stored from one material observation to the other. The Board, however, notices that the statement referred to by the respondent only relates to the calibration of the measurement procedure, which aims at providing an indication of the sizes of the observed structures in the x, y and z directions and is disclosed more in details from page 10-8 to page 10-9 of the user manual, not to the calibration of the objectives so as to maintain parafofality, which in the paragraph "Objective" on page 10-2 preceding the paragraph "Measurement" is explicitly said to be required only once.

Thus, the optical microscope defined in claim 1 is distinguished from the apparatus described in document EI, which undisputedly constitutes the closest prior art, in that it explicitly comprises detecting means for detecting anyone of a plurality of objective lenses.

3.2.2 The purpose of the above detecting means is to provide

the control means of the optical microscope with information as to which of the plurality of objective lenses switched by rotation of the revolver is currently located in the optical path of the microscope, which is obviously required to allow the apparatus to operate correctly.

- 3.2.3 The skilled person striving at designing a practical embodiment of the optical microscope generally described in document EI, and searching for a means for assessing which objective lens is located in the optical path of the microscope at a given time, would find in document EII, which also discloses an electric revolver for switching a plurality of objective lenses in an optical microscope, the teaching that optical detectors or mechanical contacting elements can generally be used for this purpose (see the second paragraph of the description).

The provision of detecting means must therefore be considered an obvious option for the skilled person faced with the technical problem underlying the invention.

The subject-matter of claim 1 of the patent in suit for these reasons does not involve an inventive step within the meaning of Article 56 EPC.

4. *Auxiliary requests*

Claim 1 of the respondent's first auxiliary request in substance only comprises the additional indication that movement of the stage or revolver along the optical axis to the parafofality position is "by an amount equal to the distance between the parafofality

positions for the presently selected objective lens and a previously selected objective lens using the read out data". The amount of movement of the stage or revolver which is required for re-focusing after a change of objective lenses necessarily corresponds to the distance between the parafocality positions from the one to the other objective lens. This additional feature thus expresses no more than an evidence.

Claim 1 of the respondent's second and third auxiliary requests define obvious technical means for achieving monitoring of the movement of a stage, namely a position detecting sensor (second auxiliary request) or an encoder (third auxiliary request).

5. Since for the above reasons the grounds for opposition mentioned in Article 100 EPC prejudice the maintenance of the European patent, it shall be revoked (Article 102(1) EPC).

Order

For these reasons it is decided that:

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

The Registrar:

The Chairman:

P. Martorana

E. Turrini