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**Datasheet for the decision
of 15 July 2009**

Case Number: T 0829/07 - 3.4.02

Application Number: 98107797.7

Publication Number: 0875779

IPC: G02B 21/00

Language of the proceedings: EN

Title of invention:

Transparent heating instrument for use in microscope and
transparent heating instrument for examining object

Applicant:

Kabushiki Kaisha Kitazato Supply

Headword:

-

Relevant legal provisions:

EPC Art. 123(2)

Relevant legal provisions (EPC 1973):

EPC Art. 56

Keyword:

"Added subject-matter (no - after amendment)"
"Inventive step (yes)"

Decisions cited:

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Catchword:

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Case Number: T 0829/07 - 3.4.02

D E C I S I O N
of the Technical Board of Appeal 3.4.02
of 15 July 2009

Appellant: Kabushiki Kaisha Kitazato Supply
1144-3, Nonaka
Fujinomiya-shi,
Shizuoka 418-0039 (JP)

Representative: Casalonga, Axel
Bureau Casalonga & Josse
Bayerstraße 71/73
D-80335 München (DE)

Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 20 December 2006
refusing European patent application
No. 98107797.7 pursuant to Article 97(1) EPC
1973.

Composition of the Board:

Chairman: A. G. Klein
Members: F. J. Narganes-Quijano
B. Müller

Summary of Facts and Submissions

- I. The appellant (applicant) lodged an appeal against the decision of the examining division refusing European patent application No. 98107797.7 published with the publication No. 0875779.
- II. In its decision the examining division first found that, as previously notified to the appellant, no consent could be given under Rule 86(3) EPC 1973 to the sets of claims amended according to the requests submitted by the appellant in response to the invitation to oral proceedings on the grounds that the omission of the expressions "thin", "hard" and "substantially insulating property" in the amended claim 1 of each of the requests was contrary to the requirements of Article 123(2) EPC 1973, and subsequently found that, in view of the absence of the appellant at the oral proceedings, there was no text of the application documents agreed by the appellant within the meaning of Article 113(2) EPC 1973 and on the basis of which a patent could be granted, so that the application was to be refused under Article 97(1) EPC 1973.

In its decision the examining division also expressed its view that the claimed subject-matter did not involve an inventive step (Article 56 EPC 1973) for reasons analogous to those already given during the examination procedure with respect to the claims of previous requests, this assessment having been based on the following documents:

D1: EP-A-0758756

- D2: JP-A-8108080 together with the corresponding abstract published in "Patent Abstracts of Japan" and a translation in English filed by the appellant with the letter dated 19.10.2006
- D3: WO-A-8703703
- D4: JP-A-63208819 together with the corresponding abstract published in "Patent Abstracts of Japan"
- III. With the statement setting out the grounds of appeal the appellant submitted new sets of claims amended according to a main request and two auxiliary requests and requested that the decision under appeal be set aside and a patent be granted on the basis of the amended sets of claims.
- IV. In reply to a telephone consultation with the rapporteur of the Board, the appellant submitted with its letter dated 05.06.2009 a new set of amended claims 1 to 11 replacing the previous set of claims of the main request, and amended description pages 2 to 7, 10, 11, 14, 15, 19, 20, 23 to 25, 29, 30, 35, 40, 42, 43, 45 and 46.
- V. Claim 1 of the main request reads as follows:
- "A transparent heating instrument (1) for use in a microscope comprising a transparent heat-generating plate (2) having a transparent glass plate (5) having an upper and a lower surface, a transparent heat-generating conductive thin coat (7) formed on said lower surface of said transparent glass plate (5) and formed of a conductive metal film, a pair of heat-generating electrodes (10a, 10b) in contact with said transparent heat-generating conductive thin coat (7)

and opposed to each other, and a temperature sensor (14) fixed to a lower surface of the transparent heat-generating plate (2),

characterized in that: said transparent heat-generating plate has a transparent thin hard coat (8) that covers said transparent heat-generating conductive coat (7), has substantially insulating property, and is formed of any one of zirconium oxide, alumina, silicon oxide, titanium carbide or a composite containing two or more of these substances as a main component,

an upper surface of said transparent heat-generating plate (2) is formed by said upper surface of said transparent glass plate (5) and said lower surface of the transparent heat-generating plate (2) is formed by said transparent thin hard coat (8),

and said transparent heat-generating plate (2) has a thickness less than 1 mm, and said transparent thin hard coat (8) has a thickness in the range of 0.01-100 μm ."

The main request also includes dependent claims 2 to 11 all referring back to claim 1.

The wording of the claims of the auxiliary requests is not relevant for the present decision.

VI. The arguments of the appellant, insofar as they are pertinent to the main request, are essentially the following:

The amended claims overcome the objections raised by the examining division under Article 123(2) EPC 1973. In particular, the expressions "thin", "thin hard" and

"substantially insulating property" are now recited in the amended claims.

Documents D1 to D3 disclose devices comprising two transparent glass plates with a predetermined distance between them; the devices are not thin and do not comprise a coat as claimed. The device of document D4 has one transparent plate; however, the device has no coat as claimed and does not have a high strength. The claimed invention solves the problem of providing a thin and rigid transparent heating plate. None of the documents addresses this problem. Starting from document D1, a series of modifications are required to result in a device as claimed. Documents D1 to D3 incite the skilled person to use two separate glass plates giving strength and thickness to the device, and document D4 teaches a single glass plate but having poor strength. There is no possible or logical combination of these documents leading to the claimed invention. In particular, the skilled person is not incited to remove the second glass plate of document D1 even when consulting D4 because of the poor rigidity of the plate of D4.

Reasons for the Decision

1. The appeal is admissible.
2. *Main request - Amendments*

Claim 1 amended according to the main request is based on claim 1 as originally filed together with the features of the embodiment disclosed with reference to

Figures 1 to 3, and in particular the passages on page 6, lines 29 and 30, page 7, lines 1 to 4 and 12 to 25, page 8, lines 2 and 3, page 9, lines 12 to 14 and 22 to 24, and page 10, lines 13 and 14 of the application as originally filed. Dependent claims 2 to 11 are respectively based on the following passages of the application as originally filed: page 10, lines 5 to 12, page 8, lines 2 to 12, page 18, line 29 to page 19, line 9 and page 19, lines 28 and 29, page 23, lines 20 to 22, page 23, line 25 to page 24, line 1, claim 10, claim 11, and claims 16 to 18. The description has been brought into conformity with the invention defined in the claims of the main request and the pertinent prior art has been acknowledged (Article 84, second sentence and Rule 27(1), paragraphs (b) and (c) EPC 1973).

In addition, claim 1 amended according to the present main request requires a "transparent heat-generating conductive thin coat" and a "transparent thin hard coat" having a "substantially insulating property", so that the amendments overcome the objections raised under Article 123(2) EPC 1973 by the examining division in the decision under appeal in respect of the omission of the corresponding expressions in the amended claims then on file and justifying in its opinion the non-admissibility into the proceedings of the amended claims under Rule 86(3) EPC 1973 (see point II above).

In view of the above, the Board is satisfied that the application documents amended according to the main request comply with the requirements of Article 123(2) EPC and the Board sees no reason for not admitting into

the proceedings the application documents amended according to the main request.

3. *Main request - Novelty and inventive step*

3.1 Novelty was not an issue addressed in the decision under appeal, nor has the Board doubts on novelty of the claimed subject-matter with regard to the prior art on file.

3.2 In its decision the examining division expressed its view that the invention defined in the claims then on file did not involve an inventive step with regard to documents D1 to D4.

3.2.1 The disclosure of document D1 appears to constitute the closest state of the art. The document discloses a transparent heating instrument for use in a microscope comprising a transparent heat-generating plate (abstract and column 1, lines 5 to 14). According to the pertinent disclosure considered during the proceedings (Figures 1 to 6 and the corresponding disclosure), the transparent heat-generating plate comprises all the features of the preamble of claim 1, i.e. a transparent glass plate 5 (column 7, lines 8 and 9, and column 8, lines 27 to 36), a transparent heat-generating conductive metal thin film 7 on the lower surface of the glass plate (column 7, lines 15 and 16 and 43 to 45, and column 9, lines 5 and 6), a pair of heat-generating electrodes 9a and 9b in contact with the conductive film and disposed opposite to each other (column 7, lines 17 to 19), and a temperature sensor 14 fixed to the lower surface of the conductive film

(column 7, line 31, column 8, lines 1 and 2, and column 9, lines 35 to 38).

The subject-matter of claim 1 differs from the instrument disclosed in document D1 in the following features:

i) claim 1 further requires an insulating transparent thin hard coat having a thickness in the range 0.01 to 100 μm , covering the lower surface of the conductive coat, and made of zirconium oxide, alumina, silicon oxide, titanium carbide or a composite containing two or more of these substances as a main component;

ii) while in document D1 the heat-generating plate is constituted by the glass plate having thereon the conductive film and, in addition, a second plate spaced from the conductive film by an insulating material (Figures 2 and 6 and column 7, lines 8 to 14, 19 to 24 and 33 to 43), claim 1 requires that the upper and the lower surfaces of the heat-generating plate are respectively formed by the corresponding surfaces of the glass plate and the hard coat, i.e. the claimed subject-matter excludes the provision of any other element superposed on or covering the upper surface of the glass plate and the lower surface of the hard coat; and

iii) the claimed heat-generating plate has a thickness of less than 1 mm.

3.2.2 According to the description of the application (page 2, lines 3 to 8, page 9, lines 18 to 21, page 23, lines 6 to 9, paragraph bridging pages 41 and 42, and page 45, lines 8 to 13 and 24 to 30) and the appellant's submissions, the distinguishing features identified

above result in a heating plate that is thinner but still has a high strength.

Accordingly, the objective problem solved by the claimed subject-matter over the disclosure of document D1 can be seen in the provision of a transparent heat-generating plate of reduced thickness while still having a relatively high strength.

- 3.2.3 None of the remaining documents considered by the examining division during the proceedings addresses the objective problem formulated above or gives a hint towards the claimed combination of features.

In particular, document D2 discloses a device for maintaining a specimen under a microscope at a predetermined temperature (Figure 1 and abstract), the device comprising two glass plates 5 and 15 spaced from each other and with an insulating sheet 14 and a temperature sensor 11 therebetween, one of the plates being formed with a heating conductive transparent film and two electrodes 6 and 7 disposed opposite to each other, and document D3 discloses a heating stage for a microscope (abstract and Figure 2) comprising a thermometer and a transparent conductive film 16 having two electrodes 18 disposed opposite to each other and sandwiched between two glass plates 12 and 14 spaced from each other. The devices proposed in these two documents are therefore relatively rigid but also relatively thick, and none of the documents contains a teaching suggesting a thinner structure, let alone eliminating one of the two glass plates without jeopardizing the strength of the devices.

As regards document D4, the document discloses a slide glass for heating a sample during microscope observation (abstract and Figures 1 to 3), the slide glass being constituted by a glass substrate 1 having on at least one of its surfaces a transparent conductive film 2 and two electrodes 7 and 8 disposed opposite to each other. Although the structure is relatively thin, there is no teaching on how to integrate a sensor and/or improve the strength of the slide glass as claimed without providing an additional glass plate as taught in documents D2 and D3.

Consequently, none of the documents on file discloses or suggests a solution to the objective problem formulated above, let alone the claimed solution involving the use of one single glass plate having a transparent thin hard coat having the specific characteristics (thickness and composition) required by the claimed subject-matter.

- 3.3 In view of the above, the Board concludes that the available prior art does not anticipate or render obvious the subject-matter of claim 1 within the meaning of Article 52(1) EPC together with Articles 54(1) and 56 EPC 1973. The same conclusion applies to dependent claims 2 to 11 by virtue of their dependence on claim 1.
4. The Board is also satisfied that the amended application documents and the invention to which they relate meet the remaining requirements of the EPC within the meaning of Article 97(2) EPC. The Board therefore concludes that the decision under appeal is to be set aside and a patent be granted on the basis of

the application documents amended according to the present main request of the appellant (Article 97(2) EPC and Article 111(1) EPC 1973).

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 with the order to grant a patent on the basis of the following documents:
 - claims 1 to 11 of the main request filed with the letter dated 05.06.2009,
 - description pages 1, 8, 9, 12, 13, 16 to 18, 21, 22, 26 to 28, 31 to 34, 36 to 39, 41 and 44 as originally filed and pages 2 to 7, 10, 11, 14, 15, 19, 20, 23 to 25, 29, 30, 35, 40, 42, 43, 45 and 46 filed with the letter dated 05.06.2009, and
 - drawing sheets 1/16 to 16/16 as originally filed.

The Registrar:

The Chairman:

T. Buschek

A. G. Klein