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D E C I S I O N
of 12 April 2000

Case Number: T 0234/97 - 3.4.2

Application Number: 92905570.5

Publication Number: 0602037

IPC: B01B 1/00

Language of the proceedings: EN

Title of invention:

Gel composition in gels for submerged gel electrophoresis

Applicant:

ELCHROM LTD

Opponent:

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Headword:

-

Relevant legal provisions:

EPC Art. 84, 111(1), 123(2)

Keyword:

"Claims - admissibility and clarity - (yes) after amendment"

"Definition by reference to unclaimed subject-matter"

Decisions cited:

T 0458/96

Catchword:

-



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Boards of Appeal

Chambres de recours

Case Number: T 0234/97 - 3.4.2

D E C I S I O N
of the Technical Board of Appeal 3.4.2
of 12 April 2000

Appellant: ELCHROM LTD
Spätzstrasse 18
CH-8810 Horgen (CH)

Representative: Frei, Alexandra Sarah
Frei Patentanwaltsbüro
Postfach 768
CH-8029 Zürich (CH)

Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 16 October 1996
refusing European patent application
No. 92 905 570.5 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: E. Turrini
Members: S. V. Steinbrener
B. J. Schachenmann

Summary of Facts and Submissions

- I. The appellant lodged an appeal against the decision of the Examining Division refusing European patent application 92 905 570.5 (International Publication No. WO-A-92/15868) under Article 97(1) EPC.
- II. In its decision, the Examining Division held that the then independent claims 1 and 21 directed to an electrophoretic element were unclear in that they did not define such an element *per se* but its relationship to an unclaimed electrophoretic buffer in an electrophoresis apparatus. In particular, the composition and the concentration of the ions in the water insoluble gel of the claimed element were defined relative to, and not independently from, the composition and concentration of the ions in the electrophoretic buffer which was unknown as it was not part of the electrophoretic element as claimed. Thus, the composition and concentration of the ions in the gel being dependent on unknown parameters were undefined.

An allowable claim should either make clear the composition of the electrophoretic element or should be directed to a combination of the electrophoretic element and an electrophoretic buffer. In fact, the application did not concern a defined electrophoretic element but the choice of conditions concerning the electrophoretic element in function of conditions of the use of the element in an electrophoretic apparatus, i.e. an electrophoretic method.

The application was refused on the basis of lack of clarity of claims 1 and 21 (Article 84 EPC).

III. The appellant contested these findings in his statement of grounds of appeal, thereby *inter alia* referring to the following textbooks:

- (1) J. Sambrook et al.: "Molecular Cloning - A Laboratory Manual", 2nd edition, CSH Press, New York 1989, pages 6.2 to 6.19;
- (2) F.M. Ausubel: "Current Protocols in Molecular Biology", John Wiley & Sons, New York 1988, pages 2.5.1 to 2.5.10, and
- (3) T.A. Brown (ed.): "Molecular Biology LabFax", Bios Scientific Publishers, Oxford 1991, page 259.

Moreover, an additional claim 31 and a new claim 1 in accordance with an auxiliary request were submitted.

IV. In a communication pursuant to Article 11(2) of the Rules of Procedure of the Boards of Appeal, the Board shared the Examining Division's opinion that the subject matter of claim 1 lacked the clarity required by Article 84 EPC since the electrochemical properties of an electrophoretic element, i.e. basically an electrophoretic gel, were *inter alia* defined by the electrochemical properties of a buffer solution which was to be used with said gel in an electrophoresis process. It appeared in general doubtful whether a clear teaching was imparted to a skilled person by definitions in claims based on references to further unclaimed subject matter. Similar objections were raised against independent claims 14, 21 and claim 1 of the auxiliary request.

The Board held the provisional view that the

application related to the specific combination of an electrophoretic gel, which as such was in substance conventional, with an electrophoretic buffer, which as such was also conventional, in order to achieve a specific technical effect. Thus, for reasons of clarity the claims should be directed to such a combination.

Moreover, since a full examination of the present application had not yet been carried out by the first instance, the Board in accordance with the appellant's request considered remittal of the case to the Examining Division for further prosecution to be appropriate if the issue of lack of clarity could be settled in the present proceedings.

- V. In preparation for the scheduled oral proceedings requested on an auxiliary basis, the appellant filed a set of amended claims 1 to 16 with his letter dated 10 March 2000.
- VI. Oral proceedings took place on 12 April 2000, in the course of which further amendments of the claims considered necessary by the Board for the claimed subject matter to meet the requirements of Articles 123(2) and 84 EPC were discussed with the appellant. At the end of the oral proceedings the Board's decision was given.
- VII. The appellant requested that the decision under appeal be set aside and that the case be remitted to the first instance for further prosecution on the basis of claims 1 to 16 filed at the oral proceedings.
- VIII. Independent claims 1, 14 and 15 now under consideration read as follows:

"1. A combination of an electrophoresis gel and an electrophoresis buffer, wherein said gel consists of water insoluble polymer and a gel buffer, and is to be immersed in the electrophoresis buffer in contact with electrodes which create an electric field able to cause migration of molecules and their separation into bands in said gel, wherein

the gel contains at least 2% of the insoluble polymer dry weight,

the gel buffer has an ionic composition or concentration different from the ionic composition or concentration of the electrophoresis buffer, and

the ionic composition and concentration of the gel buffer is adjusted to the ionic composition and concentration of the electrophoresis buffer so that at the end of electrophoresis the bands representing separated molecules are substantially normal to the direction of migration of said molecules in the electrophoresis gel."

"14. A method of submerged gel electrophoresis, comprising using the combination of claim 1."

"15. Use of an electrophoresis gel for submerged gel electrophoresis with an electrophoresis buffer, wherein said gel consists of water insoluble polymer and a gel buffer, and wherein the gel is immersed in the electrophoresis buffer in contact with electrodes which create an electric field able to cause migration of molecules and their separation into bands in said gel, wherein

the gel contains at least 2% of the insoluble polymer dry weight,

the gel buffer has an ionic composition or concentration different from the ionic composition or concentration of the electrophoresis buffer, and

the ionic composition and concentration of the gel buffer is adjusted to the ionic composition and concentration of the electrophoresis buffer so that at the end of electrophoresis the bands representing separated molecules are substantially normal to the direction of migration of said molecules in the electrophoresis gel."

In the above wording of claim 15, two clerical mistakes ("submerged" for "sumerged" and "an electric field" for "electric field") have been corrected by the Board.

Claims 2 to 13 and 16 are appended to claims 1 and 15, respectively.

Reasons for the Decision

1. Admissibility of appeal

The appeal complies with the provisions mentioned in Rule 65 EPC and is therefore admissible.

2. Articles 123(2) and 84 EPC

- 2.1 The Board is convinced that the subject matter of claims 1 to 16 does not extend beyond the content of the application as filed.

The subject matter of claim 1 in substance corresponds to that of claim 1 as filed, the feature of result-to-be-achieved type at the end of the claim being based on page 3, lines 19 to 22 and page 9, lines 19 to 27 of the original application documents. The latter passage clearly establishes an equivalence between a constant ratio of current density and conductivity as originally claimed (see claim 1 as filed) and vertical bands as claimed in present claim 1.

Dependent claims 2 to 13 are - apart from being directed to the combination of claim 1 - identical to original claims 2 to 13.

The method of claim 14 can be derived, e.g., from page 3, lines 26 to 28 relating to the use in submerged gel electrophoresis. Similarly, the use of an electrophoresis gel for submerged gel electrophoresis in accordance with claim 15 can be derived from the passages of the original application documents cited above with respect to claims 1 and 14.

Finally, the additional feature of dependent claim 16 can, e.g., be based on page 19, lines 10 to 13 of the description as filed.

2.2 In the Board's opinion, the claims are also clear and thus comply with the requirements of Article 84 EPC.

As suggested in the impugned decision, claim 1 is now directed to the specific combination of an electrophoresis gel and an electrophoresis buffer so that the objection of a definition by reference to unclaimed and unknown subject matter does no longer apply.

The Board wishes to underline that it considers the present case to be distinguished from the case T 458/96 concerning a claim directed to an electrical connector defined *inter alia* by way of features of the connector pins reciting a specific cooperation with respective holes in a printed circuit board. In that case, clarity of the claim was not an issue, but novelty and inventive step. Having regard to patentability, the Board decided that the claim could not be construed as if these features of the connector pins merely defined an (irrelevant) intended use of the connector (see the Catchword). The present case, however, focusses on clarity and there is no such "specific cooperation" between a gel and a standardised buffer which could be considered to be an essential feature of the gel itself. In the Board's view, the present application rather relates to the specific selection of a gel/buffer combination, the respective constituents of which may *per se* be conventional as has been admitted by the appellant at the oral proceedings. Moreover, even in T 458/96 the Board concluded that the claim would actually have to be construed as if directed to a particular combination of two cooperating elements (see point 3.4 of the reasons).

Claim 14 relates to a method of submerged gel electrophoresis using the combination of claim 1, which in the Board's opinion is equivalent to the use of the claimed combination in submerged gel electrophoresis and as such is also clear.

Finally, claim 15 is of standard use type and concerns the use of an electrophoresis gel under specific conditions to achieve a specific technical effect.

The dependent claims have been adapted to the wording of the independent claims to which they refer back.

- 2.3 Thus, claims 1 to 16 submitted at the oral proceedings are found to meet the requirements of Articles 123(2) and 84 EPC, respectively.

3. *Article 111(1) EPC*

The specific combination of features now claimed has not yet been examined by the first instance with respect to patentability in the light of the available prior art, including documents (1) to (3) submitted by the appellant in the appeal proceedings.

Therefore, in order to allow an examination of the claimed subject matter before two instances and in accordance with the appellant's request, the Board exercises its discretion under Article 111(1) EPC to remit the case to the department of first instance 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 on the basis of claims 1 to 16 filed at the oral proceedings, with the corrections of claim 15 as indicated in point VIII of "Summary of Facts and Submissions".

The Registrar:

The Chairman:

P. Martorana

E. Turrini