BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS

BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE

CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

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

Datasheet for the decision of 1 October 2009

Case Number: T 1584/06 - 3.3.06

Application Number: 99202441.4

Publication Number: 0972564

IPC: B01J 19/00

Language of the proceedings: EN

Title of invention:
Method of forming arrays of polymers

Patentee:
Affymetrix, Inc. (a Delaware Corporation)

Opponent:
-

Headword:
Combinatorial array/AFFYMETRIX

Relevant legal provisions:
-

Relevant legal provisions (EPC 1973):
EPC Art. 100(c)

Keyword:
"Added subject-matter: no"

Decisions cited:
-

Catchword:
-

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1584/06 - 3.3.06

D E C I S I O N
of the Technical Board of Appeal 3.3.06
of 1 October 2009

Appellant: (Patent Proprietor)
Affymetrix, Inc. (a Delaware Corporation)
3380 Central Expressway
Santa Clara
CA 95051 (US)

Representative:
Bizley, Richard Edward
HLBBshaw
Merlin House
Falconry Court
Baker's Lane
Epping
Essex CM16 5DQ (GB)

Decision under appeal:
Decision of the Opposition Division of the European Patent Office posted 31 July 2006 revoking European patent No. 0972564 pursuant to Article 102(1) EPC 1973.

Composition of the Board:

Chairman: P.-P. Bracke
Members: P. Ammendola
J. Geschwind

Summary of Facts and Submissions

I. This appeal is from the decision of the Opposition Division revoking European patent No. 0 972 564 relating to combinatorial strategies for polymer synthesis. This patent was based on the European application 99 202 441.4 which was a divisional application of European application No. 92 925 414.2 filed as an international application having the publication No. WO-A-93/09668 (hereinafter parent application). The description of the divisional application and that of the parent application were substantially identical.

II. The patent-in-suit as granted contained only one claim, reading as follows:

> "*1. A method of forming a polymer array comprising a substrate and 100 or more groups of polymers with diverse known sequences coupled to the surface thereof in discrete, known locations, the density of said groups being at least 1000 per* cm^2*, wherein said discrete known locations are separated from one another by inert regions, and wherein said polymers are delivered to said locations by spotting.*"

III. An Opponent had sought revocation of the patent for *inter alia* insufficient disclosure (Article 100(b) EPC) and added subject-matter (Article 100(c) EPC). It had then withdrawn its opposition with letter dated 2 February 2006.

IV. In the decision under appeal, the Opposition Division found that the patent-in-suit sufficiently disclosed the patented subject-matter and, thus, that the requirements of Article 100(b) EPC were fulfilled.

However, the granted claim contained added subject-matter because the parent application did not unambiguously disclose that the polymers of the array might be delivered by "*spotting*".

In particular, the sentence on page 4, lines 4 to 6 of the parent application (hereinafter **the polymer delivery sentence**) disclosed "*alternative embodiments*" vis-à-vis the immediately preceding paragraph describing the "*spotting*" of monomers for preparing the polymers *in-situ*.

Hence, and since polymers could also be delivered by other techniques, like "*flowing*", the not further specified polymer delivery disclosed in such sentence did not necessarily imply "*spotting*".

Moreover, the passage at page 25, lines 8 to 10, referred only to monomers or "*other reactants*" and no portion of the parent application suggested that the term "*reactants*" therein encompassed also polymers.

Finally, page 11, lines 20 to 24 of the parent application only disclosed the depositions of synthetic chemical compounds or natural product extracts on predefined regions of the substrate, however synthetic chemical compounds or natural product extracts were not necessarily polymers, and the deposition on predefined regions was not equivalent to "*spotting*".

Hence, nowhere in the parent application there was a direct link between preformed polymers and "*spotting*".

V. The Patent Proprietor (hereinafter Appellant) appealed this decision. It submitted with the grounds of appeal two sets of amended claims respectively labelled as 1st and 2nd auxiliary request.

VI. The grounds of appeal mentioned the following arguments in respect of the patent claim as granted.

The disclosure in the parent application provided clear and unambiguous basis for the "*spotting*" of preformed polymers.

Firstly, the teaching at page 12, lines 26 to 30, that the methods for delivering reagents to the substrate regions are "*flowing*" or "*spotting*" should be combined with the disclosure given in the polymer delivery sentence.

Secondly, this sentence was a portion of the paragraph starting at line 36 on page 3 of the parent application which was the paragraph describing the "*spotting*" aspect of the invention. This would be evident when considering that the "*alternative embodiments*" referred to in the polymer delivery sentence consisted in the use of preformed polymers instead of individual monomers.

Thirdly, the teaching at page 25, lines 8 to 10 of the parent application that "*monomers (or other reactants) are deposited from a dispenser in droplets*

that fill predefined regions" necessarily applied also to the delivery of preformed polymers. Indeed, these latter were, similarly to monomers, capable of reacting with the substrate surface and destined to survive in the array.

Finally, the Opposition Division had not given any reason in its decision for disbelieving the skilled technical evidence provided by the Appellant during the opposition proceedings that a deposition in predefined regions to achieve localisation of synthetic compounds or natural product extracts, as referred to in the originally filed specification at page 11 in the paragraph starting at line 20, should be understood as "*spotting*".

VII. The Appellant requested that the decision under appeal be set aside and the case be remitted to the first instance for further prosecution on the basis of the patent as granted or alternatively of any of the 1st or 2nd auxiliary requests submitted with the grounds of appeal.

Reasons for the Decision

Patent as granted

1. Added subject-matter (Article 100(c) EPC 1973)

1.1 The decision under appeal is based on the grounds of opposition of Article 100(c) EPC 1973 according to which a European patent may be opposed on the grounds that its subject-matter extends beyond the content of the application as filed or of its parent application as filed, in the case of a patent originating from a divisional application.

1.2 The Opposition Division has found that the parent application does not disclose the method of forming a polymer array defined in claim 1 as granted (see section II of the Facts and Submissions above) only because the application would not disclose "*spotting*" of the preformed polymers.

1.3 The Board concurs with the Opposition Division that the sole portion of the description of the parent application (or of the identically worded description of the divisional application) explicitly mentioning the delivery of preformed polymers to the substrate is the polymer delivery sentence reading "*In alternative embodiments, the polymers or other compounds of the array are delivered to the regions as complete species, and thus the above polymer synthesis steps are unnecessary*" (see the parent application page 4, lines 4 to 6).

1.3.1 The Board notes that such sentence is part of the section entitled "*Summary of the invention*" (starting at page 2, line 24, of the parent application). This section discloses - in the portion thereof preceding the polymer delivery sentence - that the claimed invention aims at rendering available arrays in which distinct polymer sequences are coupled onto specific locations of the substrate. These arrays may be formed by initially bringing **a first monomer** onto each distinct reactive region of the array substrate and coupling it thereto, followed by several polymer synthesis steps in which **further monomers** are sequentially brought into contact with such region and coupled with the (still reactive other end of the) already selectively delivered monomer(s), thereby forming *in-situ* the desired distinct polymer sequences. The teaching that the selective monomer delivery steps are carried out by "*flowing*" or by "*spotting*" compositions of matter containing the monomers is also given in this section of the description of the parent and divisional applications. In particular, the "*spotting*" embodiments are described in the paragraphs immediately preceding the polymer delivery sentence.

1.3.2 The Board concurs with the Opposition Division that the disclosure of the "*spotting*" method in the paragraphs immediately preceding this sentence is *per se* insufficient for concluding that in (all) these "*alternative embodiments*" referred to in such sentence the preformed polymers are **necessarily** delivered by "*spotting*".

Yet the subject-matter described by the polymer delivery sentence can only refer to further embodiments

of the previously summarized invention. Hence, the unspecified methods for delivering preformed polymers must be **variants** of the previously disclosed methods, whereby preformed polymers are **coupled** to the substrate. Since all the methods for making the arrays of the invention disclosed in the portions of description of the parent and divisional application that precede the polymer delivery sentence consist exclusively in monomer delivery steps carried out either by "*flowing*" or by "*spotting*", and since in all these methods the bonds that in the final array will constitute the coupling between the substrate and the polymer are formed in the initial monomer delivery steps, it becomes apparent to the skilled person that the methods for delivering preformed polymers undisclosed in the polymer delivery sentence can reasonably only be variants corresponding to the initial "*flowing*" or "*spotting*" steps in which the compositions of matter that are flowed or spotted comprise the fully preformed polymer sequences instead of just the first monomer unit thereof.

Therefore, the Board concludes that the descriptions of the parent and of the divisional application also imply that the polymer delivery is carried either by "*flowing*" or by "*spotting*".

1.3.3 Already for the above reasons the Board concludes that both the divisional and the parent applications implicitly, but nevertheless directly and unambiguously, disclose, *inter alia*, "*spotting*" of preformed polymers.

Thus, the Board cannot concur with the finding of the Opposition Division that the maintenance of the patent as granted would be prejudiced by the grounds of opposition mentioned in Article 100(c) 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 first instance for further prosecution on the basis of the patent as granted.

The Registrar: The Chairman:

G. Rauh P.-P. Bracke