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D E C I S I O N
of 11 June 2003

Case Number: T 0128/01 - 3.4.2

Application Number: 96911156.6

Publication Number: 0821784

IPC: G01N 21/03, B01L 3/08

Language of the proceedings: EN

Title of invention:
Capillary Microcuvette

Patentee:
Hemocue AB

Opponent:
BIOTEST MEDIZINTECHNIK GmbH
(withdrawn)

Headword:
-

Relevant legal provisions:
EPC Art. 100(a) (Art. 54, 56), 100(b)

Keyword:
"Novelty and inventive step of claim 1 - yes"
"Sufficiency - yes"

Decisions cited:
-

Catchword:
-

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Case Number: T 0128/01 - 3.4.2

D E C I S I O N
of the Technical Board of Appeal 3.4.2
of 11 June 2003

Appellant: (Proprietor of the patent)
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Decision under appeal:
Decision of the Opposition Division of the European Patent Office posted 1 December 2000 revoking European patent No. 0821784 pursuant to Article 102(1) EPC.

Composition of the Board:

Chairman: E. Turrini
Members: M. A. Rayner
G. E. Weiss

Summary of Facts and Submissions

I. The appellant (patent proprietor) has appealed against the decision of the opposition division revoking the European patent No. 821 784 (application No. 96 911 156.6, International publication Number WO-A-96/33399), relating to a capillary microcuvette.

II. Claim 1 of the patent as granted reads as follows:

"An integral capillary microcuvette (1) comprising a body member (2) and a cavity (3) including a measuring zone (4) within the body member (2), the cavity (3) being defined by two opposite, substantially parallel inner surfaces (5,6) of the body member, an outer peripheral edge (7) including a sample inlet (8) and an inner peripheral zone (9) having a channel (10) of higher capillary force then the measuring zone (4), both ends of the channel (10) communicating with the exterior of the microcuvette (1)."

Claims 2 to 8 of the patent as granted are dependent from claim 1.

III. In the opposition proceedings, Articles 100(b) and 100(a) (Articles 54 and 56) EPC were cited as grounds for opposition and during these proceedings reference was made, amongst others, to the following document:

D12: US-A-4 088 448

Document D12 had been mentioned in the International application WO-A-96/33399. With respect to documents other than document D12 cited during the opposition

proceedings, in its summons to oral proceedings, the opposition division expressed the opinion that a channel of the inner peripheral zone having a higher capillary force than the measuring zone was not known. In the decision under appeal the opposition division however held that the subject matter of claim 1 was not novel with respect to document D12. The opposition division considered in particular that both ends of the left of the three stepped zones shown in Figure 5 of document D12 communicate with the exterior of the microcuvette, the left zone being of less depth and thus exerting higher capillary force. The middle zone can be interpreted as the measuring zone within the meaning of claim 1 of the patent. Furthermore, the cuvette according to Figure 5 of document D12 discloses a flow pattern as shown in the patent and use of the channel as a measuring zone was not excluded by claim 1 of the patent.

The opposition division observed in its decision, with reference to the summons to oral proceedings, that documents cited during the opposition proceedings other than document D12 were less relevant than this document, there being no channel of the inner peripheral zone of higher capillary force than the measuring zone disclosed therein. Furthermore, in the assessment of the division, the objections of the opponent under Article 100(b) EPC including that relating to "capillary force" were unfounded.

IV. In the appeal proceedings, oral proceedings were requested by both parties on an auxiliary basis. Subsequent to issue of summons consequent to these requests, the respondent (opponent) withdrew the

opposition and was thus no longer a party to the proceedings and did not attend the oral proceedings. In its submissions, the former respondent had submitted the term "capillary force" in the context of the channel of claim 1 means no more than some cross sectional reduction of the cavity. With respect to substantive patentability of the subject matter of claim 1 the respondent referred solely to document D12, lack of novelty being alleged.

V. The case of the appellant can be summarised as follows:

V.i *Requests*

Maintenance of the patent as granted or alternatively on the basis of claim 1 according to one of the auxiliary requests 1 to 4.

V.ii *Arguments*

Sufficiency

The term capillary force is a synonym of capillarity and clearly defined in the patent in dispute. Thus the invention is sufficiently and clearly described.

Novelty

Document D12 does not show any cuvette comprising a channel of higher capillary force as required by claim 1 of the patent. According to document D12, no significant stepping of the side walls is provided in the end portion of the cavity so that no channel of higher

capillary force communicating with the exterior is present.

Inventive step

Owing to the presence of the channel, the present invention provides a flow pattern for the sample which avoids bubbles being generated. Solving this problem by the claimed features involves an inventive step.

During the oral proceedings, the appellant explained that the skilled person would understand the teaching of document D12 in relation to Figure 5 to mean that sample was drawn from the receiving cavity to the measurement cavities, which is a different construction to that claimed, not recognising the possibility of bubble formation. Figures 5 and 6 do not show that both ends of the leftmost cavity communicate with the exterior.

VI. The wording of claim 1 of the patent as granted is given in section II above, the wording of claim 1 according to the auxiliary requests is not given as this is not necessary for the decision (see section 6 of the reasons).

VII. At the end of the oral proceedings, the board gave its decision.

Reasons for the Decision

1. *Admissibility of the appeal*

The appeal complies with the provisions mentioned in Rule 65(1) EPC and is therefore admissible.

2. *Article 100(b) EPC - Sufficiency*

In the context of the term challenged by the former respondent, i.e. "capillary force", the passage from line 55 of column 2 to line 19 of column 3 of the patent for example, includes disclosure that the channel is filled along its entire length due to its high capillary action. After filling of the channel the sample liquid propagates into the rest of the cavity in a flow pattern which prevents air bubbles being captured in the measuring zone. The channel may have any appropriate shape of form as long as the capillary force of the channel is higher that the capillary force of the measuring zone. In the light of this disclosure and in agreement with the opposition division and the appellant, the board is satisfied that the disclosure of the patent is sufficiently clear and complete for the skilled person to carry out the invention and accordingly that the requirements of Article 100(b) EPC are met.

Prior art Document D12

3.1 Various measuring cuvettes are described in this document, for example according to Figure 1 a body 10 is provided with a cavity 11 intended to accommodate a liquid sample. In Figures 3 and 4, there are two

channels 13 which extend from opposite sides of the cuvette and open into the cavity.

3.2 The cuvette according to Figures 5 and 6 of document D12 has a cavity 14 of varying depth, realized by stepping one of the surfaces of the cavity to form levels 15 spaced different distances from the opposite surface. The number of such levels can be varied and the height difference between the levels is determinative for the measuring exactitude. The outermost cavity can serve as a receiving cavity which is devoid of reagent and from which a sample can be drawn at a suitable rate into the other cavities.

3.3 If the cuvette has a receiving cavity into which the sample is drawn by vacuum, gravity or capillary force and from which the sample is supplied, by capillary force, to a plurality of cavities containing different reagents and/or gels a large number of analyses can be rapidly made.

Main request - Novelty (Article 54 EPC)

4.1 The opposition division relied in its chain of argument establishing lack of novelty of the subject matter of claim 1 on two rather doubtful links, namely (1) the leftmost measuring cavity in Figure 5 of document D12 being able to be interpreted as a channel within the meaning of claim 1 and (2) the drawing of Figure 5 showing clearly that both ends of the leftmost measuring cavity communicating with the exterior of the cuvette.

4.2 With respect to the first link the board can see no reason for interpreting the leftmost cavity in the embodiment of Figure 5 as a channel because this figure simply discloses a stepped measuring cavity of varying depths. Significantly and as argued by the appellant, document D12 explicitly even teaches a receiving cavity, which is the term applied to the outermost cavity at the right in Figure 5, from which sample is supplied to the other cavities, contrary to what would happen were, if as assumed by the opposition division, the leftmost cavity really to be a channel according to the wording of claim 1 of the patent in dispute. The board thus reached the view that there is no reason in document D12 to call the leftmost cavity a channel, but should the skilled person nonetheless wish to use the term "channel" in relation to this figure, it could at most be applied to the rightmost receiving cavity because sample is supplied to the other cavities therefrom.

4.3 Moreover, with respect to the second link, Figure 5 is schematic but nonetheless in its upper part shows that the leftmost cavity does **not** communicate with the exterior. In view of the heavier lining used, any disclosure of the contrary is also questionable in the lower part of the figure. The sectional view in Figure 6 also fails to show any details of the inner lateral wall. Thus in the view of the board, the skilled person might be able to derive from what is understandable from the inconclusive figures, consistent with supplying sample from the receiving cavity to the other cavities, at most that document D12 discloses that the leftmost cavity communicates with another cavity.

4.4 In developing its reasoning about the leftmost cavity of Figure 5 of document D12, the opposition division also went on to speculate about the channel not being excluded as a measuring zone in claim 1, but since as pointed out in points 4.2 and 4.3 the leftmost cavity is not a channel as claimed, such speculation need not be pursued further in assessing the novelty of the subject matter of claim 1 with respect to the disclosure of document D12.

4.5 Thus the board agrees with the submission of the appellant that no channel as defined in claim 1 is provided in the teaching of document D12.

4.6 The board has not been presented with any reason for questioning the view of the opposition division that the other cited prior art is less relevant than document D12, concurring especially with the view of the division that there the channel as claimed is not disclosed therein.

4.7 The subject matter of claim 1 is therefore novel within the meaning of Article 54 EPC.

5. *Main request - Inventive step (Article 56 EPC)*

5.1 Document D12 as been viewed as pertinent prior art right from the international application and the board considers this document an appropriate starting point for the assessment of inventive step. The problem solved by the novel features of claim 1 is avoiding formation of air bubbles. Since this problem is not even recognised in document D12, the board does not see any hint at all towards providing a channel as defined in claim 1 at the periphery of any of the various cavities

disclosed in document D12 including the stepped cavity of Figure 5. Contrary to the view of the opposition division that the same flow pattern as in the patent in issue is disclosed in document D12, the disclosure of this document that it is the receiving cavity from which sample is supplied to the other cavities leads away from the flow pattern of the patent. Thus no convincing challenge to inventive step of the subject matter of claim 1 can be advanced on the basis of document D12. Since the remaining cited prior art also lacks a channel as claimed, no suggestion towards the invention can be derived therefrom.

5.2 In view of the foregoing, the board is thus satisfied that the subject matter of claim 1, and that of claims 2 to 8 which depend therefrom, can be considered to involve an inventive step within the meaning of Article 56 EPC.

Auxiliary requests

6. Since the main request was accepted by the board, consideration of the claims of the auxiliary requests is not necessary.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is maintained unamended.

The Registrar: The Chairman:

P. Martorana E. Turrini