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# Datasheet for the decision of 17 February 2009

**Case Number:** T 0439/08 - 3.3.05

**Application Number:** 03765916.6

**Publication Number:** 1539353

**IPC:** B01L 7/00

**Language of the proceedings:** EN

**Title of invention:**
Slip cover for heated platen assembly

**Patentee:**
Applied Biosystems Inc.

**Opponent:**
Eppendorf AG

**Headword:**
Heated platen assembly/APPLIED BIOSYSTEMS

**Relevant legal provisions:**
EPC Art. 54, 56
RPBA Art. 13(1)(3)

**Relevant legal provisions (EPC 1973):**
-

**Keyword:**
"Novelty (yes)"
"Inventive step (no): all requests - obvious alternative"
"Late filed documents: not admitted"

**Decisions cited:**
-

**Catchword:**
-

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**Case Number:** T 0439/08 **-** 3.3.05

# D E C I S I O N
**of the Technical Board of Appeal 3.3.05**
**of 17 February 2009**

**Appellant I:** (Opponent)
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**Decision under appeal:** **Interlocutory decision of the Opposition Division of the European Patent Office posted 15 February 2008 concerning maintenance of European patent No. 1539353 in amended form.**

**Composition of the Board:**

**Chairman:** G. Raths
**Members:** H. Engl
S. Hoffmann

## Summary of Facts and Submissions

I. The appeals lie against the decision of the opposition division to maintain European patent EP-B-1 539 353 in amended form on the basis of the claims of the first auxiliary request filed during oral proceedings on 21 January 2008.

II. The following documents were cited, among others:

E1: US-B1-6 337 435
E4: US-A-4 039 247
E5: US-A-5 475 610

III. The opposition division held that claim 1 as granted lacked novelty having regard to the disclosure of document E1. Consequently, the main request was not allowed. However, the claims in accordance with the first auxiliary request were considered novel. An inventive step was acknowledged, based on the reasoning that, starting from E1 as the closest prior art, the skilled person would not have modified the known platen assembly by inverting the location of the recess with respect to its position disclosed in document E1.

IV. The grounds of appeal of the opponent (henceforth: appellant I) were received with letter dated 25 June 2008; further submissions were filed with letter dated 14 November 2008. Appellant I asked for accelerated prosecution of the case.

A still further submission was received on 10 February 2009, in which appellant I submitted additional arguments and new documents, among which

E11: Affidavit by Prof Brinkmeyer, dated 19 January 2009, including appendices 1 to 4.

V. With the statement of the grounds of appeal, dated 25 June 2008, the patentee (henceforth: appellant II) filed new claims as auxiliary requests 1 and 2, the main request being to maintain the patent as granted. As a third auxiliary request, it was requested that the patent be maintained in the version approved by the opposition division. As an annex to a further submission dated 14 November 2008, appellant II submitted

Enclosure P5: Affidavit of Mr D. Grunewald.

VI. Oral proceedings were held on 17 February 2009. Appellant II withdrew the first auxiliary request, thereby making previously filed auxiliary requests 2 and 3 the new auxiliary requests 1 and 2, respectively.

VII. Claim 1 in accordance with the **main request** (*i.e.* the claims as granted) reads:

*"1. A heated platen assembly for use in a biological testing device, comprising:*
*a heated platen (10) defining a plurality of optical openings (12), the optical openings configured to permit radiation to pass through the heated platen, the heated platen having a first side configured to face away from a plurality of sample wells and a second side configured to face toward the plurality of sample wells;*

*a light transmissive slip cover (40) configured to cover at least one of the plurality of optical openings on the first side of the heated platen; and means (50, 52) for retaining the slip cover over the at least one of the plurality of optical openings."*

The sets of claims in accordance with the **first and second auxiliary requests** each comprise claim 1 as maintained by the opposition division. Said claim 1 reads as follows:

*"1. A heated platen assembly for use in a biological testing device, comprising:*
*a heated platen (10) defining a plurality of optical openings (12),* ***wherein said openings (12) pass entirely through the heated platen,*** *the optical openings configured to permit radiation to pass through the heated platen, the heated platen having a first side configured to face away from a plurality of sample wells and a second side configured to face toward the plurality of sample wells;*
*a light transmissive slip cover (40) configured to cover at least one of the plurality of optical openings on the first side of the heated platen; and means (50, 52) for retaining the slip cover over the at least one of the plurality of optical openings,* ***wherein said means comprises a recessed portion defined by a part of the heated platen, configured to surround and retain the slip cover.****"*

(New features with respect to the version as granted in bold).

The set of claims in accordance with the **second auxiliary request** additionally comprises an independent product claim 2.

VIII. Appellant I essentially argued as follows:

Appellant I concurred with the opinion of the opposition division that claim 1 should be properly construed as encompassing both **directly and indirectly** heated platens. Likewise, the features described by terms such as *"slip cover"* and *"configured to cover at least one opening"* should be construed broadly. In contrast, the feature of the claim relating to a *"first side configured to face away from a plurality of sample wells and a second side configured to face a plurality of sample wells"* should not be taken into account because it sought to characterize the claimed heated platen by way of its intended orientation towards the sample wells. The wells were not part of the claimed device and the patent did not disclose a special function or effect of the orientation of these first and second sides. The feature should therefore be disregarded as merely relating to the intended use of the device, without contributing to the solution of the underlying problem. By consequence, any prior art platen having a first side and a second side would also satisfy the said feature of claim 1.

Furthermore, claim 1 lacked an inventive step having regard to E1. Said document unquestionably disclosed all the features of claim 1 as granted, as was acknowledged by the opposition division in its decision to reject the main request. Regarding the provision of

a recess in the heated platen for mounting the slip cover, appellant I argued that, contrary to the opinions of appellant II and of the opposition division, there was no advantage in reversing the mounting principle, *i.e.* in providing the heated platen with the recessed portion and accommodating the glass plate or slip cover in that recess. Appellant I relied on Document E4 and in particular on Affidavit E11 and the Appendices thereto in order to demonstrate that it was common practice to mount optical components, such as windows, lenses, filters, etc, in a recessed portion. The claimed construction was therefore to be regarded only as an obvious alternative which was readily available to the skilled person.

In a further submission dated 14 November 2008, appellant I rejected the other party's construction of the claim. Appellant I maintained that the *"slip cover"* according to E1 fulfilled the same functions as the *"transparent slip cover*" according to the opposed patent in terms of heat loss prevention, reduction of warm-up time and prevention of accumulation of dust and foreign particles. With reference to Figures 4 and 6 of E1, it followed from basic physical principles that the heating of the glass plate 76 resulted in the heating of the upper aperture plate 73, which in turn was in contact with the sealing sheet 71 and caps 87, in the same manner as claimed in the opposed patent. Therefore, construing claim 1 correctly and broadly, E1 was novelty destroying.

The subject matter of claim 1 in accordance with the second auxiliary request lacked an inventive step

having regard to E1 in combination with common general knowledge, as exemplified by E10.

IX. Appellant II essentially argued as follows:

Claim construction should be carried out with a mind willing to understand; terms used in a patent should be given their normal meaning unless otherwise stated. Appellant II admitted that there was no explicit mention in the wording of claim 1 that the heated platen was heated **directly**, for instance by way of a resistive element connected to the platen. However, proper claim construction and the explanations given in the description in respect of the heated platen left no doubt that the claimed heated platen was supposed to be **directly** heated. Only by way of such direct heating could condensation inside the sample wells effectively be inhibited and the warm-up time be made as short as possible. Therefore, claim 1 should be construed as relating to directly heated platen assemblies. Said feature was directly and unambiguously derivable from the originally filed documents, expressly and by way of reference to the prior art cited in the description.

Appellant II argued that the subject matter of claim 1 of all of the requests was novel. Furthermore, Enclosure P5 was submitted in order to prove that said cover plate in the referenced ABI PRISM 7900 HT was actually made of metal.

The technical concept of E1 differed completely from the claimed invention because the *"heated platen"* for inhibiting condensation was provided by the heated transparent lid 76, not by the aperture plate 73, as

assumed by the opposition division. E1, in particular the embodiments of Figures 4 to 6, did not contained a disclosure of a heated platen, either. As explained in E1, it was the heated transparent glass plate 76 which *"prevented condensation of vapors on the sealing sheet and the caps…, applied force to enclosures placed over the tops of the wells…, and pressed the wells down against the heating or cooling block"*, and thus effectively performed the function of a *"heated platen"*. Neither said heated transparent glass plate 76 nor, in the alternative considered by the opposition division, the protective transparent window 86 could be equated with the *"transmissive slip cover (40)"* called for by the claimed invention. Therefore, the subject matter of claim 1 as granted was novel with respect to E1. It was also novel having regard to the remaining documents.

Starting from E1 as the closest prior art, appellant II defined the technical problem as residing in the prevention of heat loss and heat waste and, at the same time, prevention of accumulation of dust in the optical openings. The transparent glass plate of E1 could not prevent such heat loss as the heat was emitted in both directions, downwards and upwards. Only a part of the generated heat was available for heating the aperture plate and preventing condensation. Due to the physics involved, E1 produced a different heat distribution than the opposed patent. In the appellant's view there was no incentive for the skilled person to modify the assembly of E1 so as to arrive at the claimed invention.

Claim 1 of the first auxiliary request corresponded to the subject matter which the opposition division had already found to meet the patentability requirements of the EPC. As a particular advantage, the features relating to the retaining means allowed for easy removal for repair and replacement of the slip cover. In contrast, the platen assembly of E1 had to be completely disassembled before the transparent lid could be removed.

New independent claim 2 defined the means for retaining the slip cover as being selected from a gasket, an adhesive and a clip device. This feature was supported by page 10, lines 4 to 6 of the application documents as originally filed. The claimed subject matter was novel and involved an inventive step for the reasons already given with respect to claim 1.

In a further submission dated 14 November 2008, appellant II rejected the other party's arguments on claim construction. It pointed out three "major components" of the claimed heated platen assembly, *i.e.*

- the *"heated platen"* having optical openings (12), configured to permit radiation to pass through the heated platen;
- the *"light transmissive slip cover"* configured to cover at least one of the plurality of optical openings on the first side of the heated platen; and
- the *"means for retaining the slip cover",* comprising a recessed portion defined by a part of the heated platen, configured to surround and retain the slip cover.

These "major components" interacted in order to provide for the desired suitability the claimed assembly was supposed to have. According to the language of the claim, the *"heated platen"* possessed a *"first side"*, *i.e.* an upper surface configured to face away from the sample wells. Further according to the claim, the "light transmissive slip cover" was positioned **on** the said first side of the said heated platen, *i.e.* on its upper surface, thereby covering at least one of the plurality of openings on the said first side of the heated platen. In overlooking said features, appellant I had misinterpreted the claim.

X. **Requests**:

**Appellant I** requested that the decision under appeal be set aside and that the European patent be revoked.

**Appellant II** requested that the decision under appeal be set aside and the patent be maintained as granted or, in the alternative, on the basis of the set of claims of the first or second auxiliary request both filed during the oral proceedings.

## Reasons for the Decision

1. Amendments

The board is satisfied that all claims meet the requirements of Article 123(2) and (3) EPC.

2. Late filed documents

Documents E11 and E12 were filed with letter of 10 February 2009, that is, seven days before the date of the oral proceedings. Following Article 13(1) and (3) RPBA, the board decided to disregard said documents as late filed.

The board also decided that it was not necessary to hear the expert who was announced in the said letter to comment at the oral proceedings *"on all technical issues that may arise"*. Moreover, the Affidavit E11 of the expert, rather than concentrating on technical expertise, was more an assessment of patent law aspects, which is a matter for the members of the board and not for a technical expert.

3. Claim construction

Appellant II argued that the explanations given in the description (in particular column 4, lines 22, 23 and lines 44 to 50) in respect of the "heated platen" left no doubt that the claimed heated platen was supposed to be **directly** heated, *i.e.* by means such as described in said paragraph [0003] of the patent. Only by way of direct heating could it be ensured that condensation inside the sample wells be effectively prevented and that the warm-up time required to raise the platen temperature from ambient to a desired operating temperature was as short as possible. Furthermore, the interaction between the *"heated platen"* and the *"light transmissive slip cover (40)"* as taught by the opposed patent would be rendered impossible if the heated platen was heated indirectly, for instance by a heated

transparent glass plate resting on the first side of the heated platen as assumed by the opposition division and by appellant I. The advantage of a reduced warm-up time would also be lost. Therefore, it could not be contested that the claimed *"heated platen"* called for direct heating, *e.g.* by way of a resistive element connected to the platen.

Noting the absence in the patent in suit of anything suggesting otherwise, the board can accept these arguments. The "heated platen" of claim 1 of the opposed patent can therefore only be understood as a directly heated platen.

4. Novelty (all requests)

4.1 Document E1 discloses in Figures 4 and 5 thereof an aperture plate 73 corresponding to the "platen" of the opposed patent. Although the platen does receive some heat from the heated transparent glass plate 76 resting on top of it ("indirect heating") (see column 6, lines 14 to 20), it is not a heated platen in the sense of the opposed patent (see section 3 above).

Consequently, the subject matter of the claims is novel over E1 for that reason alone.

4.2 Document E5 (cited in the application) relates to instruments performing the polymerase chain reaction (PCR) having a sample block in microtiter tray format, in particular to the temperature control of the samples. It discloses in Figures 15 and 19 and at column 33, lines 47 to 57; column 34, line 20 to column 35, line 28; column 43, lines 30 to 60 thereof a platen (14,

314) heated by resistance heaters which can be brought in contact with the plastic caps 338 covering the sample tubes 384 sitting in the wells (see Figure 15). Thermoplastic caps 338 are thereby softened and melted onto the samples tubes. The heated platen keeps the temperature of the caps above the condensation point of water and thus keeps the insides dry (column 35, lines 23 to 28). However, the platen has no apertures and thus does not allow optical interaction with the samples. There is also no slip cover.

Consequently, the subject matter of the claims is novel over E5.

4.3 As regards the other documents on file, the board is satisfied that none of these anticipates the subject matter of claim 1 of any request.

The requirements of Article 54 EPC are therefore met.

5. Inventive step

5.1 *Main request*

5.1.1 Closest prior art

E1 was considered by both parties to represent the closest prior art. The board can accept this, as the said document is also concerned with an apparatus similar to that of the patent in suit for carrying out the polymerase chain reaction (PCR) and in particular as it discloses platen assemblies for use in said PCR apparatus having a plurality of optical openings (apertures) passing entirely through the platen.

The embodiment shown in Figure 4 of E1 comprises, from bottom to top, the following parts:

- a heating element 63
- an array of reaction vessels 65
- a transparent sealing sheet 71
- an aperture plate 73 having openings 74 corresponding with the positions 75 of the sample vessels
- a transparent glass plate 76 carrying on its upper surface an electrically conductive coating
- a lens (81, 82)
- frame 85 and a protective window 86
- an optical detection component 90.

5.1.2 *Problem to be solved*

The next step is to define the problem underlying the patent in suit in the light of document E1.

One technical problem addressed by the patent in suit (see description, paragraph [0002], last two sentences, and paragraph [0004]), is the prevention of evaporation of the reaction mixture and of condensation on the undersides of the lids. Document E1 more specifically discloses temperature control blocks for use in multi-well reaction plates, such as those used in PCR procedures. The express aim is to improve such temperature control blocks so as to achieve either a uniform temperature or a defined temperature gradient across the well array. The heat generated through resistance heating in the coating of the transparent

glass plate 76 passes through the platen and warms the sealing sheet 71 that seals the open tops of the reaction vessels and prevents condensation of vapours from the reaction mixture on the undersides of the well enclosures (see column 1, lines 53 to 67; column 6, lines 26 to 40). Therefore, this technical problem was already solved by the prior art of E1.

Another technical problem addressed in the opposed patent was the prevention of dust or foreign particles accumulating in the optical opening (description, paragraph [0004], last sentence). By virtue of the transparent glass plate 76 covering the apertures 74 of the aperture plate 73, as shown in Figures 4 and 5 of E1, this problem is also solved by the prior art of E1.

Appellant II drew attention to yet another problem addressed by the patent in suit, namely, to prevent heat loss and to reduce heat-up time (*cf*. paragraph [0050] of the patent). It was argued that the indirectly heated platen assembly of E1 could not prevent heat from dissipating in the direction away from the wells in the same way as the slip cover of the opposed patent did, as it was the cover lid (77) itself which was heated.

Indeed, according to paragraph [0050] of the opposed patent, a comparison was made between a heated platen having optical openings and a heated platen bearing a slip cover. The slip cover may reduce warm-up time to an operating temperature of 103°C by, for example, nearly 50%. However, this reduction in warm-up time is not significant because the comparison is made with a platen the apertures of which are **not** covered by a lid

or slip cover. This reduction in warm-up time obtained with a slip cover cannot be regarded as an improvement over E1 since according to the embodiment shown in Figure 4 of E1 there is also a sealing sheet 71 covering the reaction vessels. The board therefore concludes that the claimed effect and corresponding advantage are not sufficiently substantiated, having regard to the closest prior art, for it to be taken into account in the definition of the technical problem.

The technical problem underlying the patent in suit in the light of E1 may thus be defined as providing an alternative platen assembly.

5.1.3 *Technical solution*

As a solution to the problem, the patent in suit proposes a platen assembly according to claim 1 of the main request, characterized in that the platen is directly heated.

5.1.4 It is plausible that the proposed solution solves the above defined problem.

5.1.5 *Obviousness*

It remains to be decided whether the proposed solution to the above defined technical problem is obvious or not.

Document E5 discloses, in a PCR apparatus, a heated platen which is directly heated by electric resistance heaters. E5 also clearly sets out the advantages of

said heated platen, among others in terms of preventing condensation (see Figures 15 and 19; column 6, lines 26 to 43; column 33, lines 55 to 57; column 35, lines 22 to 28). Moreover, the use of resistance heated platens for transferring heat to the caps of the wells, thereby inhibiting condensation, is acknowledged as prior art in the opposed patent itself (see paragraph [0003] and the patent literature cited therein). It was therefore obvious for the person skilled in the art to substitute the indirectly heated platen of E1 (reference 73 in Figure 4) by a directly heated platen (patent in suit, Figure 7, heated platen 5), thereby achieving essentially the same effects and advantages.

The subject matter of claim 1 of the main request therefore does not involve an inventive step (Article 56 EPC).

5.2 *Auxiliary requests*

At the level of claim 1 in accordance with the first and second auxiliary requests, the claimed invention additionally proposes retaining means, as defined in said claims, in the form of a **recessed portion** in a part of the heated platen.

The additional features in accordance with claim 1 of the first and second auxiliary requests pertaining to the means for retaining the slip cover do not *per se* or in combination with the rest of the claim features, involve an inventive step, for the following reasons.

As described in paragraph [0039] of the opposed patent, the slip cover is generally held in position by a

fastening apparatus. Said apparatus may include a frame member, such as shown in Figure 1, but also a recessed area, a gasket, an adhesive, or a clip device or clip devices positioned on the heated platen. These various means are presented as being equivalent.

Appellant I argued that the provision of a recessed portion for retaining flat optical components, such as windows, filters, lenses and other glass plates, was common at the priority date and in fact belonged to the general knowledge of the skilled person. Reference was also made to E4 (Figure 1), disclosing a plurality of rectangular glass slides resting in correspondingly shaped recesses of a base template. In view of the simplicity of the design, the board considers it to be within the general knowledge of the skilled person to select retaining means for a slip cover in the form of a recessed portion, in the same way as it would have been obvious to choose from other well known retaining means, such as frame members, gaskets, adhesives and clip devices. It is plausible that retaining means in the form of a recess allow for easy disassembling and removal of the slip cover; however, this advantage (in comparison, for instance, to using an adhesive as a retaining means) is easily foreseeable and cannot support an inventive step.

Consequently, the subject matter of claim 1 of the first and the second auxiliary requests does not involve an inventive step (Article 56 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

C. Vodz | G. Raths