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Datasheet for the decision of 22 November 2017

Case Number: T 2301/12 - 3.4.03

Application Number: 05758280.1

Publication Number: 1780772

IPC: H01L21/027, G03F7/20

Language of the proceedings: EN

Title of invention:
EXPOSURE EQUIPMENT AND DEVICE MANUFACTURING METHOD

Patent Proprietor:
Nikon Corporation

Opponent:
ASML NETHERLANDS B.V.

Headword:

Relevant legal provisions:
EPC 1973 Art. 54(2), 83, 84, 87(1), 100(b), 107, 111(1)
EPC Art. 54(3), 101(3)(a), 123(2)
RPBA Art. 12(4)
EPC R. 80, 116

Keyword:
Amendment occasioned by ground for opposition - (yes)
Sufficiency of disclosure - (yes)
Claims - relationship between Article 83 and Article 84
Late-filed document - admitted (yes)
Remittal to the department of first instance - (yes)

Decisions cited:
G 0003/14, T 0409/91, T 1018/05

Catchword:

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Case Number: T 2301/12 - 3.4.03

D E C I S I O N
of Technical Board of Appeal 3.4.03
of 22 November 2017

Appellant: (Patent Proprietor)	Nikon Corporation 15-3, Konan 2-chome Minato-ku Tokyo 108-6290 (JP)
Representative:	Hoffmann Eitle Patent- und Rechtsanwälte PartmbB Arabellastraße 30 81925 München (DE)
Respondent: (Opponent)	ASML NETHERLANDS B.V. P.O.Box 324 5500 AH Veldhoven (NL)
Representative:	J A Kemp 14 South Square Gray's Inn London WC1R 5JJ (GB)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 28 August 2012 revoking European patent No. 1780772 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman	G. Eliasson
Members:	S. Ward
	C. Heath

Summary of Facts and Submissions

I. This is an appeal by the patent proprietor against the decision of the Opposition Division to revoke the European patent EP 1 780 772 on the grounds that the subject-matter of the main request was not new over document K4, cited by the opponent as prior art according to Article 54(3) EPC, and that the first to third auxiliary requests were not admissible into the proceedings.

II. At the end of the oral proceedings held before the Board the appellant/proprietor (hereinafter referred to as the proprietor) requested that the decision under appeal be set aside and that the patent be maintained according to the main request, or one of auxiliary requests 1-15, all filed with the grounds of appeal, or one of auxiliary requests 16-47 filed with letter dated 26 September 2013.

The respondent/opponent (hereinafter referred to as the opponent) requested that the appeal be dismissed.

III. The following documents are cited in this decision:

K4: EP 1 528 431 A2
K4P: JP 2003 373 084 (claimed priority for K4)
K4PT: Certified English translation of K4P
K24: WO 2005/010962 A1

IV. Claim 1 of the main request reads as follows:

"An exposure apparatus (EX) arranged to expose a substrate (P) via a liquid (LQ), comprising:
a movable table (PT, PT1, PT2);

a base member (41) having an upper surface (41A) arranged to guide the movement of the table; characterised in comprising:
a detecting device (60) arranged to detect whether there is a liquid on and in contact with the upper surface of the base member."

Claim 21 of the main request reads as follows:

"An exposure apparatus according to any one of claims 1-20, wherein:
the movable table includes a first table (PT1) and a second table (PT2) that are movable on the base member independently of each other, and wherein in use while the first table is performing a predetermined operation in a predetermined position, a liquid is detected by using the detecting device provided on the second table, during the second table and the base member are relatively moved."

Claim 22 of the main request reads as follows:

"An exposure apparatus according to any one of claims 1-20, further comprising:
a projection optical system (PL); and
a liquid immersion mechanism (10) that is arranged to supply a liquid in a predetermined region (AR3) directly beneath the projection optical system to form a liquid immersion region (AR2), wherein
the movable table includes a first table (PT1) and a second table (PT2) that are movable, in a two-dimensional plane, on the base member independently of each other; and
a driving mechanism that in a state that the first table and the second table are close to or in contact with each other, is arranged to move the first table

and the second table together within a region including the predetermined region such that the liquid immersion region (AR2) is moved between the upper surface of the first table and the upper surface of the second table, and wherein
the detecting device is arranged to illuminate a region, on the base member, corresponding to the predetermined region with a detecting light."

The first, second and third auxiliary requests are identical to the main request apart from the following: in the first auxiliary request claim 21 has been deleted, in the the second auxiliary request claim 22 has been deleted and in the third auxiliary request both claim 21 and claim 22 have been deleted.

V. The findings of the Opposition Division in the contested decision, insofar as they are relevant to the present decision, may be summarised as follows:

(a) Of the requests on file at the start of the oral proceedings, neither the main request nor any one of the first to seventh auxiliary requests were admitted into the proceedings. The "subject-matter of claim 21 of the Main Request extends beyond the content of the application as filed, in violation of Article 123(2) EPC so that the Main Request is not admissible." The same applied to the first to third auxiliary requests.

The fourth to seventh auxiliary requests were also inadmissible. The reason was that the subject-matter of claim 22 of the main request complied with the requirements of Article 123(2) EPC, and hence "in that claim 22 as granted has been deleted in the Fourth to Seventh Auxiliary Requests, the amendment made was not

occasioned by a ground for opposition, in violation of Rule 80 EPC."

(b) The new main request filed at oral proceedings was admissible.

(c) The ground for opposition of Article 100(b) EPC did not prejudice the maintenance of the patent according to the main request.

(d) The subject-matter of claim 1 lacked novelty over document K4 of the main request.

(e) The amendments to claim 1 of the respective new first to third auxiliary requests filed at oral proceedings only addressed the issue of improving clarity, which was not occasioned by a ground for opposition, in violation of the requirement of Rule 80 EPC. Hence, these requests were inadmissible.

VI. The proprietor's arguments, insofar as they are relevant to the present decision, may be summarised as follows:

(a) Regarding the admissibility of the main request, this request was filed at the very first opportunity in appeal. It was the same as the main request on file at the start of the oral proceedings before the Opposition Division, and was not withdrawn during the oral proceedings (nor was any other request). Rather, it was not admitted into the proceedings, and nor were the seven auxiliary requests. Having been put into a position of having no requests on file, the proprietor was under considerable pressure to adjust its case during the oral proceedings by filing new requests. The labelling of these requests was immaterial, and since

the Opposition Division had decided that there were no admissible requests it would not have made sense to file new requests starting with a request called "the eighth auxiliary request". There was no attempt to avoid a decision on these requests, in fact they were dealt with in the written decision.

The inclusion of the phrase "and in contact with" (which was not in granted claim 1) was a legitimate attempt to overcome a ground for opposition, and therefore admissible under Rule 80 EPC.

(b) The subject-matter of claim 1 of the main request complied with the requirements of Article 123(2) EPC. The skilled person would understand "on" in the present context to mean in contact with the upper surface.

The subject-matter of claims 21 and 22 of the main request also complied with the requirements of Article 123(2) EPC. The application as filed disclosed at page 42, line 12 to page 44, line 8, a configuration in which substrate table PT1 and substrate table PT2 form a movable table.

This teaching was not restricted to the first and second table being a substrate table and a measuring table (as in paragraph [0091] of the published application), but extended to two substrate tables (as in paragraph [0097]).

(c) The application contained sufficient information to allow the person skilled in the art to perform the invention over the whole area claimed, and there was therefore no insufficiency of disclosure.

(d) The documents K4P and K4PT should be admitted into the proceedings, as the priority status of the document K4 was decisive for the decision under appeal.

VII. The opponent's arguments, insofar as they are relevant to the present decision, may be summarised as follows:

(a) The main request and the third auxiliary request corresponded to requests withdrawn by the proprietor at the oral proceedings, as clearly shown in the minutes, and therefore they should not be admitted into the appeal proceedings. The second auxiliary request and the fourth to fifteenth auxiliary requests were not presented by the proprietor at first instance despite being given the opportunity to do so, and should not be admitted into the appeal proceedings.

In opposition there was a need to balance the interests of both parties. An opponent should be able to rely on an explicit withdrawal of a request, and the boards generally did not admit requests which were previously withdrawn. Whether the decision of the Opposition Division not to admit the corresponding request was correct or not was immaterial. The proprietor did not have to withdraw its existing requests, nor was it invited to do so by the Opposition Division; it could simply have filed new requests starting from an "eighth auxiliary request".

If the phrase "on and in contact with" in claim 1 is held not to change the meaning from the previous "on", then this amendment would have no substantive effect and would therefore not be allowable under Rule 80 EPC.

(b) Claim 1 of the main request did not have a basis in the application as filed, contrary to Article 123(2)

EPC, due to the addition of the feature "and in contact with", since "on" and "in contact with" did not mean precisely the same thing. For example, if water was in a glass on the table, the water was on the table, but not in contact with the table.

The only mention of the word "contact" in the original application documents related to the disclosure of a contact angle associated with a liquid drop, which was more limited than the term "liquid" in the claim. The liquid might be present on a surface as a film, which might flow over the edges, and thereby not have a contact angle associated with it. Additionally Figure 5 made it clear that it was liquid at the top of a droplet that was detected, and not the liquid which was in actual contact with the upper surface (which would be the case for an electrode sensor, for example).

Regarding claims 1 and 22, a single table comprising a first table and a second table was not disclosed. The description clearly described two different tables, a substrate table and a measurement table, which were configured differently and performed different functions. Claim 21 and claim 22 therefore added matter, contrary to Article 123(2) EPC.

(c) The invention was not sufficiently disclosed within the meaning of Article 100(b) EPC. The claim wording implied detection of liquid in real time, despite the patent not disclosing any means whereby this could be achieved, thereby failing to disclose even a single working embodiment. The claim wording also implied that liquid present on the surface in any amount whatsoever could be detected, and no embodiment was disclosed capable of achieving this either.

The submissions of the proprietor (letter of 26 September 2013, page 11, final paragraph) led to a further objection in this regard, in that the arrangement of K4 was said to be capable of detecting a loss of liquid from the system, but not capable of determining whether the lost liquid was on the surface of the base member. This implied that the present invention had to be interpreted as one in which such false positives could be eliminated, but none of the disclosed embodiments could guarantee this.

Even if the claim were to be interpreted as not *only* defining arrangements involving real time detection, the detection of very small quantities of liquid, and the elimination of false positives, such embodiments certainly fell under the claim, and the patent failed to disclose how to implement them. Hence, the invention was insufficiently disclosed over the whole area claimed.

(d) The document K4P and its translation (K4PT) was new evidence and related to a new fact which was filed for the first time with the statement setting out the grounds of appeal, and should not be admitted into the appeal proceedings.

Reasons for the Decision

1. The appeal is admissible.

2. *Admissibility of the main request*

2.1 For convenience of reference, the main request and the seven auxiliary requests which were on file at the start of the oral proceedings before the Opposition Division will be referred to as the proprietor's "initial requests".

2.2 According to Article 12(4) RPBA the Board has the power to hold inadmissible requests which could have been presented, or which were not admitted, in the first instance proceedings.

2.3 The current main request is identical to the initial main request, which was not admitted into the proceedings. The opponent argues that, regardless of whether this decision of the Opposition Division was correct, the initial main request was subsequently withdrawn (as were all of the initial requests). It was therefore not presented for a decision by the Opposition Division, and the Board should use its discretion under Article 12(4) RPBA not to admit it into the proceedings at this stage. The proprietor denies that it was ever withdrawn. The first issue to decide is therefore whether the initial requests were in fact withdrawn.

2.4 The accuracy of the minutes of the oral proceedings has never been challenged, and the Board starts from the position that they represent a faithful account of events.

According to the minutes, the Opposition Division decided not to admit any of the initial requests, and the oral proceedings were interrupted "to allow the proprietor to prepare an admissible request". The proprietor subsequently "filed a new main request and auxiliary requests 1-3 ... to replace the [initial]

main request and auxiliary requests 1-3 ... Auxiliary requests 4-7 ... were withdrawn" (page 2, third paragraph).

The use of the word "replace" clearly implies that the initial main request was no longer the current main request, and since there was no attempt to retain it as a new auxiliary request either, it is difficult to avoid the conclusion that it was simply withdrawn.

2.5 The new requests were annexed to the minutes and the first of them is clearly entitled "MAIN REQUEST". The Board does not accept the argument that the titles of requests should be considered mere labels for identification. Where a proprietor files multiple requests, there must be a single main request, and it must be apparent at every stage of the proceedings which request this is. One reason why this is essential is that where the main request is not allowed, the proprietor is adversely affected by the decision, and may appeal pursuant to Article 107 EPC, whereas this would not normally be the case if the main request is allowed.

The Board therefore takes the view that filing a new main request "to replace" the initial main request constitutes withdrawal of the initial main request.

2.6 The opponent points out correctly that cases exist in which the boards have used their discretion under Rule 12(4) RPBA to refuse to admit a request in appeal proceedings on the grounds that it had been withdrawn before the department of first instance. However, this remains a matter of discretion to be exercised on a case by case basis.

In the present case the communication annexed to the summons to oral proceedings included the provisional opinion of the Opposition Division that claims 21 and 22 of the granted patent failed to meet the requirements of Article 123(2) EPC and that the subject-matter of claim 1 was not new. In response, the proprietor filed new requests ("the initial requests") one month prior to the oral proceedings, thus respecting the time limit set by the Opposition Division pursuant to Rule 116 EPC. That the initial requests were an attempt to address the above objections has not been disputed.

It was therefore not unreasonable for the proprietor to assume that these requests would be the focus of the substantive discussions at the oral proceedings. In fact, the proprietor was confronted at oral proceedings by the decision of the Opposition Division not to admit any of the initial requests. While the opponent is correct in saying that the proprietor had options available other than withdrawing the initial requests, for example, filing new auxiliary requests, the Board accepts that the proprietor had been put into the uncomfortable position of having to decide - during the oral proceedings - how to react to an unexpected turn of events.

2.7 It is for this reason that the Board considers that the correctness - or otherwise - of the Opposition Division's decision is a factor to be considered in the present case. If the Opposition Division was justified in deciding not to admit the initial requests, then the predicament in which the proprietor found itself at oral proceedings was a result of the proprietor's own actions in filing inadmissible requests. If the decision of the Opposition Division was wrong, then the

proprietor arguably should not be penalised for making an inappropriate choice, under pressure, in response to an incorrect decision of the Opposition Division.

2.8 In relation to the main request, the Opposition Division decided, according to the minutes of the oral proceedings, two things: firstly that the initial main request did not meet a requirement of the EPC (namely, Article 123(2) EPC), and secondly that it "therefore was not admitted into the proceedings".

2.9 According to Article 101(3)(a) EPC, if the Opposition Division is of the opinion that, taking into consideration the amendments made by the proprietor of the European patent during the opposition proceedings, the patent and the invention to which it relates meet the requirements of the EPC, it shall decide to maintain the patent as amended, provided that the conditions laid down in the Implementing Regulations are fulfilled.

Conversely, the consequence of an amended request being judged *not* to meet the requirements of the EPC is that the Opposition Division shall decide that the patent cannot be maintained according to this request. The finding of the Opposition Division that the initial main request did not meet the requirements of Article 123(2) EPC should therefore have led to a decision that the patent could not be maintained according to this request.

Failure to meet the requirements of Article 123(2) EPC does not - by itself - render a request inadmissible, and the decision not to admit the initial main request into the proceedings therefore required a separate legal basis. No such basis was cited, and in the

present case it is not apparent to the Board which provision of the EPC could have been cited as grounds for refusing to admit the initial main request.

The decision not to admit the initial main request into the proceedings was therefore flawed, and the same applies to the initial first to third auxiliary requests, which were not admitted for the same reasons.

2.10 The fourth to seventh auxiliary requests were not admitted for failure to meet the requirements of Rule 80 EPC.

Both claim 21 and claim 22 of the granted patent had been attacked by the opponent for failure to meet the requirements of Article 123(2) EPC, and the Opposition Division provisionally agreed with this conclusion in the communication annexed to the summons to oral proceedings. In response, both claims were deleted from the initial fourth to seventh auxiliary requests.

Subsequently, at the oral proceedings, the Opposition Division came to the conclusion that claim 21 did not meet the requirements of Article 123(2) EPC, but that claim 22 did. As a result, the fourth to seventh auxiliary requests were not admitted, since "deletion of claim 22 was not occasioned by a ground for opposition" contrary to the requirements of Rule 80 EPC.

2.11 This does not correspond to the Board's understanding of the functioning of Rule 80 EPC. If an opponent objects to a request on the grounds that one or more dependent claims fail to meet the requirements of Article 123(2) EPC, the filing of an amended set of claims in which these claims are deleted is certainly

"occasioned by a ground for opposition", and the requirements of Rule 80 EPC are met.

For the purposes of applying Rule 80 EPC, whether subsequent examination confirms the opponent's objections under Article 123(2) EPC or not (a judgement which could, in any event, be overturned on appeal) is neither here nor there.

2.12 The Board therefore concludes that for the initial main request, and for each of the initial first to seventh auxiliary requests, the decision not to admit these requests into the procedure was not justified according to the EPC.

2.13 The Board fully accepts that it is necessary to consider the interests of both parties, and that the argument that it is unfair on the opponent to readmit requests which were previously withdrawn has merit. However, in the opinion of the Board, this is outweighed in the present case by the unfairness of penalising the proprietor for withdrawing the main request in response to an incorrect decision of a department of the EPO.

2.14 The opponent also raised the objection that the amendment to claim 1 of the main request did not comply with the requirements of Rule 80 EPC. The Board does not agree. In the notice of opposition (point 7.2.2.3) the subject-matter of claim 1 was was alleged to lack novelty based on an argument that "on" in claim 1 did not necessarily imply "in contact with". This interpretation was provisionally endorsed by the Opposition Division (point 4.2 of the annex to the summons to oral proceedings). The amendment to "on and in contact with" is a clear response to this objection

and therefore complies with Rule 80 EPC. For the purposes of applying Rule 80 EPC, it is immaterial whether the opponent's novelty argument was valid or not, or if valid, whether the proprietor's response actually succeeds in overcoming it.

2.15 The main request is therefore admitted into the proceedings.

3. *Main request: Article 123(2) EPC*

3.1 In claim 1 as originally filed, the detecting device was arranged to detect whether there is liquid "on the upper surface of the base member". In claim 1 of the main request this is amended to "on and in contact with the upper surface of the base member".

The opponent argues that "on" does not necessarily mean "directly on"; there could also be intervening structures. For example, if water is in a glass on a table, the water is - according to the opponent - "on" the table (see point VII(b), above). The feature "and in contact with" is therefore a further limitation which is undisclosed (at least at the level of generality in claim 1).

3.2 The Board does not agree. Whether there are contexts in which "on" could reasonably be interpreted in the manner suggested by the opponent is debatable, but beside the point. What is at issue is what a person skilled in the art would understand by the feature that the detecting device is "arranged to detect whether there is a liquid on the upper surface of the base member"?

In the opinion of the Board, the skilled person would not interpret "liquid on the upper surface of the base member" to include liquid on a surface of a completely different structure, which is in some way mounted to the base member, nor is there any hint in the description and drawings that this is the intended meaning. The skilled person would understand "a liquid on the upper surface" to mean exactly the same thing as "a liquid on and in contact with the upper surface". If the liquid is on the upper surface, then it is in contact with the upper surface; if it is not in contact with the upper surface, then it is not on the upper surface.

The amendment to claim 1 of the main request, although superfluous, does not add subject-matter, and does not contravene the requirements of Article 123(2) EPC.

3.3 Original claims 21 and 22 disclosed a first table and a second table, but they were not said to be part of the same table, hence the feature that "the movable table includes a first table (PT1) and a second table (PT2)" was not part of the subject-matter of the original claims.

A basis for this feature would therefore have to be sought in the relevant embodiment of the description and drawings (that of Fig. 19 and paragraphs [0090] to [0096]). The Board, however, can find nothing in these passages to the effect that the first and second tables form part of a single table.

3.4 Moreover, these paragraphs disclose two very specific tables, the first table PT1 being a substrate table, and the second table PT2 being a measurement table, located on the side of the substrate table PT1 for

performing various measurement processes. The measurement table is provided with (paragraph [0091]):

- measurement marks which may be measured by a FIA (Field Image Alignment) type substrate alignment system;
- measurement marks which may be measured by a VRA (Visual Reticle Alignment) system;
- light sensors; and
- a dose sensor.

Even if these passages provided a basis for the formulation used in claims 21 and 22 (which the Board does not accept), it would only be in the context of these specific types of first and second tables, and not more generally.

3.5 Paragraph [0097] of the published application, cited by the proprietor, establishes that the invention could also be applied to a twin-stage type exposure apparatus (as opposed to an arrangement with a substrate stage plus a measurement stage). Again there is no disclosure that these two stages form a single movable table that includes a first table and a second table, nor can the Board see any reason why it would be implicit to a skilled person that a "twin-stage type exposure apparatus" should be understood in this sense.

3.6 The amendments to claims 21 and 22 are therefore found to contravene the requirements of Article 123(2) EPC, and consequently the patent cannot be maintained according to the main request according to Article 101(3)(a) EPC.

4. *The first and second auxiliary requests*

4.1 Since the first and second auxiliary requests comprise the subject-matter of claim 22 or claim 21, respectively, of the main request, it follows from the previous paragraph that they contravene the requirements of Article 123(2) EPC, and that the patent cannot be maintained according to these requests (Article 101(3)(a) EPC).

4.2 In view of this conclusion, the opponent agreed that it was unnecessary to consider the question whether the second auxiliary request was admissible.

5. *Admissibility of the 3rd auxiliary request*

5.1 The third auxiliary request corresponds to the initial fourth auxiliary request. In the minutes of the oral proceedings it is explicitly stated that this request was "withdrawn". However, for the reasons given above in connection with the main request, this is not seen as a bar to admission into the proceedings in the present case. In addition, the Board has already given its reasons why this subject-matter is considered to comply with the requirements of Rule 80 EPC (see points 2.10 to 2.12, above).

5.2 The third auxiliary request is therefore admitted into the proceedings.

6. *Third auxiliary request: Article 123(2) EPC*

The Board has found that claim 1 of the main request meets the requirements of Article 123(2) EPC, but that claims 21 and 22 do not. The third auxiliary request corresponds to the main request, but with the said claims 21 and 22 deleted, and it therefore meets the requirements of Article 123(2) EPC.

7. *Third auxiliary request: Article 84 EPC*

Although an objection under Article 84 EPC was raised in the response to the statement of grounds of appeal, the opponent accepted in oral proceedings that the subsequent publication of decision G 3/14 has rendered this objection obsolete.

8. *Third auxiliary request: Article 100(b) EPC*

8.1 The exposure apparatus of claim 1 of the third auxiliary request comprises:

"a detecting device arranged to detect whether there is a liquid on and in contact with the upper surface of the base member".

8.2 The first argument of the opponent is that this wording (present tense: "whether there is a liquid") *defines* a detecting device with the capability of determining, at any instant of time, whether liquid is present on the surface or not, i.e. it effectively defines real time detection. Furthermore, "whether there is a liquid" *defines* the capability of determining whether liquid *in any amount* is present on the surface.

It is not disputed that numerous configurations of an exposure apparatus having a liquid detecting device are disclosed in the description and drawings in a way which would allow the skilled person to put them into practice. The argument of the opponent is that the wording of claim 1 means that *only* arrangements which are capable of real time detection and the detection of very small amounts of liquid are claimed, whereas none of the arrangements disclosed in the description and

drawings would be capable of either of these types of detection. The invention as defined in claim 1 is therefore insufficiently disclosed.

8.3 Even if the Board accepted the argument that there is a discrepancy between the claims and the description in this regard, the question would arise whether this would justify an objection of insufficiency of disclosure under Article 100(b) EPC 1973 or an objection that the claims are not supported by the description under Article 84 EPC 1973. The Board accepts that the distinction is often rather subtle, and the matter has to be judged having regard to the facts of the particular case in question.

In the present case, the argument is effectively that claim 1 has been drafted in such a way that it does not reflect, indeed that it excludes, the teaching of the description and drawings. In the Board's view, this objection, which is chiefly focused on the way in which the invention has been presented in the claims, must be seen as an objection that the claims are not supported by the description within the meaning of Article 84 EPC 1973, rather than an objection that the invention is insufficiently disclosed. Objections under Article 84 EPC 1973 are not the subject of the present proceedings (see point 7, above).

8.4 Moreover, the Board does not agree with the basic premise of the argument, as it requires reading limitations into the claim which are simply not there. The Board can see no valid reason to conclude that claim 1 is only limited to detecting devices having the capacity for instantaneous detection or the detection of minute traces of liquid.

8.5 The second argument of the opponent is that even if claim 1 is judged not to *define* real-time detection and the detection of minute amounts of liquid, it nevertheless *encompasses* embodiments which are capable of these types of detection, and since no such embodiments are disclosed, the invention is insufficiently disclosed over the whole scope claimed.

8.6 In the opinion of the Board, at least some of the disclosed embodiments would be capable of real-time detection. In the embodiment of Fig. 12, for example, as soon as liquid LQ falls onto the upper surface 41A of base member 41, its presence would be detected as a result of the respective beams in the light beam matrix being blocked. The fact that very small amounts of liquid might evade detection by, for example, falling between beams is a separate issue (dealt with in the next section). The relevant point is that when liquid is detected on the surface in the embodiment of Fig. 12, that detection would be essentially instantaneous, i.e in real time. The Board is therefore not persuaded by this line of argument.

8.7 The opponent also contends that the inability of the disclosed embodiments to detect very small amounts of liquid leads to an insufficiency of disclosure over the whole range claimed. In support of this, decision T 409/91 (OJ EPO 1994, 653) is cited.

In T 409/91, claim 1 was directed to a distillate fuel oil with wax crystals "having an average particle size less than 4000 nanometres". Although the application taught a method to obtain a fuel oil containing wax particles having a size of 1200 nm, there was no information available as to how to obtain smaller wax particles. The Examining Division found, and the Board

agreed, that the subject-matter of claim 1, insofar as it related to particle sizes below 1000 nm, was insufficiently disclosed. The application as filed had to contain sufficient information to allow a person skilled in the art, using his common general knowledge, to carry out the invention within the whole area claimed.

8.8 As is generally the case, to fully understand the significance of this decision it is necessary to refer to the underlying case which led to the appeal (the refusal of EP 87 308 436, published as EP 0 261 958).

According to the application, prior art distillate fuel oils were known to comprise wax crystals "generally of particle size 10000 nanometres or bigger", which, in diesel engines at low temperatures, had the disadvantage that they would not pass through the vehicle paper fuel filters. As set out in the passage on page 3, lines 4-8 of the published application, the invention was based on the realisation that:

"providing the average size is less than 4000 nanometres the wax will begin to pass through the typical paper filters used in diesel engines together with the fuel although we prefer that the size be below 3000 nanometres, more preferably below 2000, even more preferably below 1500 nanometres most preferably below 1000 nanometres where the real benefits of passage of the crystals through the paper fuel filters is achieved."

The claims reflected this teaching, with claims 1-5 defining particle sizes less than 4000, 3000, 2000, 1500, and 1000 nanometres respectively.

Hence, a range of less than 1000 nanometers not only fell within the general scope of claim 1 (less than 4000 nanometers), but was itself explicitly claimed (in claim 5) and explicitly acknowledged in the description as the most preferred embodiment. Since the appellant "has admitted that no way of obtaining such fuel oils [with wax crystals smaller than 1000 nanometers] was disclosed or could be found in the body of relevant common general knowledge", the Board found, unsurprisingly, that the requirements of Article 83 EPC were not met.

8.9 The facts underlying the present case are not comparable to those of T 409/91.

Whilst it is true that, in a literal sense, arrangements for detecting microscopic amounts of liquid fall within the scope of claim 1, it would be perfectly clear to the skilled person that this is not what the invention is about (let alone the preferred embodiment).

8.10 In the opinion of the Board, a decision which is more relevant to the facts of the present case than that cited by the appellant is T 1018/05, in which the following is stated:

"in the Board's view the above-mentioned established principle of the case law ..., according to which a detailed disclosure of all the variants encompassed by a claim is not necessary if the skilled person, who has common general knowledge at his immediate disposal, is capable of putting them into practice without the burden of exercising inventive skill, is not to be understood as also referring to those variants falling under the literal wording of the claim but which the

skilled person would immediately exclude as being clearly outside the scope of practical application of the claimed subject-matter. That is, in cases where the skilled person would construe the claim as not extending to those variants. This is the case, for example, with claims including an open-ended range for a parameter where it is clear for a skilled person that the open-ended range is limited in practice ... Values of the parameter not obtainable in practice would not be regarded by the skilled person as being covered by the claims and thus could not justify an objection of insufficiency of disclosure" (T 1018/05, Reasons, point 2.3).

Applying this to the present case, the Board does not regard the absence of embodiments capable of detecting minute amounts of liquid as justifying the opponent's objection of insufficiency of disclosure.

8.11 A final objection of insufficiency of disclosure was based on the fact that the patent does not teach how to avoid false positive results.

The Board does not fully understand this objection, as the elimination of false positive results is not part of the invention as claimed (or even as described in the patent). The argument that the claim should be interpreted as including this feature appears to be based on a consideration of an arrangement disclosed in document K4, but the Board fails to see why this would have a bearing on the question of sufficiency of disclosure of the present invention.

8.12 For the above reasons the Board concludes that the invention defined by claim 1 of the third auxiliary

request is sufficiently disclosed within the meaning of Article 100(b) EPC.

9. *Admissibility of documents K4P, K4PT*

9.1 The document K4 was introduced in the notice of opposition as "citable under Article 54(3) EPC", and was said to anticipate the claimed subject-matter, as the "water leakage sensor" of paragraph [0091] was a detecting device arranged to detect whether there is a liquid on the upper surface of the base member" (notice of opposition, point 7.6.3.3).

In the contested decision the Opposition Division agreed that the claimed subject-matter was not novel over K4, the reasoning making reference *inter alia* to the water leakage sensor.

9.2 In the statement of grounds of appeal the proprietor filed documents K4P (the priority document of K4) and K4PT (a certified translation K4P), and argued that since the filing date of K4 (29 October 2004) was after the priority date of the opposed patent (12 July 2004), the status of K4 as prior art under Article 54(3) EPC was dependent on the validity of its own priority claim.

The proprietor went on to point out that the portion of K4 disclosing a water leakage sensor, namely the final sentence of paragraph [0091], was wholly absent in K4P and in the certified translation K4PT. These documents should therefore be admitted into the proceedings, as they proved that the final sentence of paragraph [0091] of K4 did not form part of the state of the art under Article 54(3) EPC, and hence that the conclusion

reached in the contested decision of lack of novelty could not stand.

9.3 Article 12(4) RPBA gives the Board the power to hold inadmissible facts and evidence which could have been presented in the first instance proceedings. The question therefore arises whether the priority application (and a translation thereof) of a document which was already in the proceedings before the Opposition Division constitutes newly introduced evidence within the meaning of Article 12(4) RPBA. The Board leaves this question open, since, even assuming Article 12(4) RPBA gives the Board the discretion not to admit these documents, for the reasons given below, the Board exercises this discretion in favour of admitting them.

9.4 Firstly, it must be borne in mind that it was the opponent which introduced document K4 into the proceedings together with the argument that the embodiment comprising the water leakage sensor constituted prior art under Article 54(3) EPC. Whilst it is regrettable that the documents K4P/K4PT were not filed in the proceedings before the Opposition Division, the responsibility in this case does not only fall on the proprietor; it is also incumbent on an opponent asserting that a document constitutes novelty-destroying prior art under Article 54(3) EPC to ascertain and accurately present the full facts in this respect.

Secondly, even if documents K4P and K4PT are regarded as constituting new evidence, they are documents which are clearly very closely connected to evidence which played an important part in the proceedings before the Opposition Division, and which may have a bearing on

considerations (alleged lack of novelty over document K4) which were central to the contested decision.

Thirdly, the attempt to introduce these documents was made in the statement of grounds of appeal, i.e. at the earliest possible moment in the appeal proceedings, giving the opponent ample time to consider them.

9.5 For these reasons the Board decides to admit documents K4P and K4PT, and the arguments based thereon, into the proceedings.

10. *The question of Novelty in relation to K4*

10.1 Having got this far, it was the intention of the Board to take a decision on the prior art status of document K4, and on whether the claimed subject-matter is novel over K4. This would, for example, have included an examination of the opponent's argument that even if the water leakage sensor is excluded from the state of the art, there are other disclosed embodiments in document K4 which are entitled to the claimed priority and which anticipate the claimed detecting device.

10.2 In the light of events at the oral proceedings, however, this course of action now appears inadvisable. In the oral proceedings, the opponent asserted for the first time that document K24 - cited by the opponent during the appeal procedure - represented the "first application" within the meaning of Article 87(1) EPC, and that consequently the priority claim of the opposed patent is invalid.

10.3 If this were upheld, it could have numerous consequences. For example, K4 (published 4 May 2005)

would become prior art under Article 54(2) EPC for the contested patent (filing date 11 July 2005).

Hence, prior to any decision on the patentability of the claimed subject-matter vis-a-vis K4, it would have to be decided whether to admit K24 (and the related documents K24a, K24b and K24c) into the proceedings (this is contested by the proprietor), and whether the validity of the priority claim of the opposed patent is a subject of the proceedings. If so, it would then be necessary to examine the validity of the priority claims of the contested patent and K4, and decide on the prior art status of K4.

The Board believes that this analysis can best be undertaken by a single deciding body. As both parties have asked that matters which were not dealt with in the contested decision should be decided before two levels of jurisdiction, the case will in any event be remitted to the department of first instance pursuant to Article 111(1) EPC. It therefore makes sense to allow this matter also to be considered by the Opposition Division.

11. *Further procedure*

11.1 The Board has decided to exercise its discretion under Article 111(1) EPC 1973 to remit the case to the department of first instance for further prosecution, thereby allowing both parties to have the other matters referred to above considered before two instances.

11.2 For the avoidance of any doubt, in the present decision the Board has decided the following:

- the main request and the first to third auxiliary requests filed with the notice of appeal are admitted into the proceedings;
- the patent cannot be maintained according to the main request or the first or second auxiliary requests, as these requests do not meet the requirements of Article 123(2) EPC;
- the claims of the third auxiliary request meet the requirements of Article 123(2) EPC;
- the claims of the third auxiliary request meet the requirements of Article 84 EPC 1973;
- the invention defined by claim 1 of the third auxiliary request is sufficiently disclosed within the meaning of Article 100(b) EPC 1973;
- the documents K4P and K4PT are admitted into the proceedings.

All other matters remain to be decided by the Opposition Division in the remitted procedure.

Order

For these reasons it is decided that:

The decision under appeal is set aside.

The case is remitted to the department of first instance for further prosecution.

The Registrar: The Chairman:

S. Sánchez Chiquero G. Eliasson

Decision electronically authenticated