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**Datasheet for the decision
of 27 September 2012**

Case Number: T 1911/09 - 3.2.05

Application Number: 99115582.1

Publication Number: 955169

IPC: B41J2/175

Language of the proceedings: EN

Title of invention:

Ink jet recording apparatus

Patent Proprietor:

CANON KABUSHIKI KAISHA

Opponents:

Artech GmbH
Pelikan Hardcopy Production AG

Headword:

Relevant legal provisions:

EPC 1973 Art. 56, 76(1), 100(c), 107
EPC Art. 108
EPC R. 99(1)(a), 99(1)(c), 99(2), 101(1), 101(2)

Keyword:

Stay of appeal proceedings in view of G 1/12 (no)
Admissibility of appeal - appellant II (no) - appellant III
(yes)
Divisional application extending beyond content of earlier
application - main request and auxiliary requests 1 to 5 (yes)
Inventive step - auxiliary request 6 (no)

Decisions cited:

G 4/88, G 1/12, T 920/97, T 1137/97, T 1421/05, T 475/07,
T 1519/08, T 445/08

Catchword:



Case Number: T1911/09 - 3.2.05

D E C I S I O N
of the Technical Board of Appeal 3.2.05
of 27 September 2012

Appellant I: Canon Kabushiki Kaisha
(Patent Proprietor) 30-2, 3-chome, Shimomaruko,
Ohta-ku
Tokyo (JAPON)

Representative: TBK
Bavariaring 4-6
80336 München (ALLEMAGNE)

Appellant II: Artech GmbH
(Opponent 1) Feldbachacker 10
44149 Dortmund (ALLEMAGNE)

Appellant III: Pelikan Hardcopy Production AG
(Opponent 2) Gewerbestrasse 9
8132 Egg (SUISSE)

Representative: Stefan Markus Zech
Meissner, Bolte & Partner GbR
Widenmayerstrasse 48
80538 München (ALLEMAGNE)

Decision under appeal: **Interlocutory decision of the opposition
division of the European Patent Office posted
3 September 2009 concerning European patent
EP-B-955 169.**

Composition of the Board:

Chairman: M. Poock
Members: P. Lanz
M. J. Vogel

Summary of Facts and Submissions

- I. Three appeals were filed against the interlocutory decision of the opposition division by appellants I (patent proprietor), II (opponent 01) and III (opponent 02).
- II. The disputed patent is based on a divisional application of the earlier application published as EP-A-626 267.

The opposition against the patent as a whole was based on the grounds set out in Articles 100(a) (lack of novelty, Article 54(2) EPC 1973, lack of inventive step, Article 56 EPC 1973) and 100(c) EPC 1973.

With respect to the patent proprietor's main request, the opposition division held that granted claim 1 had been amended during the opposition proceedings in such a way as to extend the protection conferred by the patent in suit, contrary to the provisions of Article 123(3) EPC.

Regarding the first auxiliary request the opposition division decided that the amended set of claims met the requirements of the EPC.

- III. The notice of appeal by appellant III reads as follows:

"European Patent No. 0955169 – Application No. 99115582.1

"Ink jet recording apparatus"

CANON KABUSHIKI KAISHA

Against the Decision of the Opposition Division dated September 3, 2009, concerning the above mentioned

Patent an **Appeal** (emphasis by appellant) is lodged herewith. The appeal fee (EUR 1.120,--) is paid by a debit order enclosed herewith.

A written statement setting out the grounds of appeal will be filed in due time.

Dr. Stefan M. Zech, LL.M.
European Patent Attorney"

- IV. Oral proceedings were held before the board of appeal on 27 September 2012.

- V. Appellant I requested, as a main request, that the decision under appeal be set aside and that the appeals of appellants II and III be rejected as inadmissible and that the patent be maintained on the basis of claim 1 of the main request of 20 July 2012; or that the decision under appeal be set aside and the patent be maintained on the basis of the documents specified as auxiliary requests 1 to 5 in the letter of 27 August 2012, or on the basis of claims 1 to 8 of auxiliary request 6, filed during the oral proceedings, and the remaining documents as specified with respect to auxiliary request 6 submitted with the letter of 27 August 2012.

- VI. Appellant III requested that the decision under appeal be set aside and that European patent No. 955 169 be revoked.

- VII. The documents referred to in the appeal proceedings included the following:

D2: EP-A-573 274

D4: US-A-4 246 489

D6: EP-A-626 267 (published earlier application)

D15: Contract relating to the merger of Pelikan Hardcopy (International) AG into Pelikan Hardcopy Production AG, filed by appellant III during the oral proceedings before the opposition division on 26 March 2009.

D16: Documents relating to the transfer of business from Pelikan Hardcopy (International) AG to Pelikan Holding AG filed by appellant I, consisting of annexes A to E submitted on 30 March 2009 and annex F submitted on 22 June 2010.

VIII. Independent claim 1 of the main request reads as follows:

"1. An ink tank for use in an ink jet recording apparatus containing ink to be fed from said ink tank, **characterized by** having a light reflection prism (321c) being disposed on an inner surface of the ink tank where a supply portion (336) for supplying ink is provided and comprising an angled part formed by inclined portions (341, 342) for reflecting light emitted from outside of the ink tank, wherein by said light reflection prism a reflected amount of light emitted from outside of the ink tank is different in accordance with whether ink is present or not at at least one of said inclined portions in said ink tank."

The independent claims of the first to fifth auxiliary requests also claim an ink tank for use in an ink jet recording apparatus containing ink to be fed from said ink tank.

Independent claim 1 of the sixth auxiliary request has the following wording:

"1. An jet recording apparatus holding at least one of an ink tank for making a recording by using ink supplied from the ink tank, said ink tank containing ink to be fed from said ink tank to an the ink jet recording apparatus and comprising a light reflection prism (321c) formed integrally with the ink tank (320) for detecting the presence or absence of ink in the ink tank, for reflecting infrared light emitted from outside of the ink tank by a light emitting element (321a) of the ink jet recording apparatus and for causing the reflected infrared light to arrive at the outside at a photodetecting element (321b) of the ink jet recording apparatus, said ink jet recording apparatus comprising a detection means (321) having said light emitting element (321a) for emitting light through said surface of the ink tank where said light reflection prism (321c) is disposed and said photodetecting element (321b) for receiving light reflected by the prism, wherein said light emitting element is arranged on that side of the ink tank where the photodetecting element is arranged, **characterized in that** said light reflection prism (321c) is disposed on a same inner surface of the ink tank where a supply outlet (336) for supplying ink to the ink jet recording head is provided and comprises an angled part formed by inclined portions (341, 342) comprising a first inclined portion (341) for reflecting said infrared light emitted from outside of the ink tank by said light emitting element (321a) and a second inclined portion (342) for reflecting said infrared light reflected by said first inclined portion and returning it to the outside to said photodetecting element (321b), wherein for said detection by said light reflection prism a reflected amount of infrared light

emitted from outside of the ink tank is different in accordance with whether ink is present or not at said inclined portions in said ink tank, wherein the surface provided with said supply portion and said light reflection prism is a surface lower in a vertical direction in a state where the ink tank to be used is mounted to the ink jet recording apparatus."

IX. The arguments of appellant I, in writing and during the oral proceedings, can be summarised as follows:

The appeal by appellant II was inadmissible since the statement setting out the grounds of appeal was not filed.

The appeal by appellant III also had to be rejected as inadmissible since the identity of appellant III was not clear. The appeal could have been filed in the name of Dr. Zech, of Pelikan Hardcopy (International) AG, of its universal successor, Pelikan Hardcopy Production AG, or of Pelikan Holding AG, which had taken over the full business of Pelikan Hardcopy (International) AG on 1 July 2007, ie before the merger with Pelikan Hardcopy Production AG, as indicated in documents D16. Since the questions referred to the Enlarged Board of Appeal in pending referral G 1/12 turned on the subject of the identity of the appellant and possible corrections thereof, the present appeal proceedings should be stayed until the Enlarged Board had issued a decision. In that respect it was noted that the "*Travaux Préparatoires*" for the EPC 1973 envisaged that the extent of corrections regarding the formal requirements of admissibility should generally be the same in appeal and opposition proceedings.

However, even if Pelikan Hardcopy Production AG were considered to be the appellant, the appeal would still be inadmissible for the following reasons: according to G 4/88 (OJ EPO 1989, 480), points 5 and 6 of the Reasons, an opposition that has been instituted in the interest of an opponent's business assets, constituted an inseparable part of those assets in case of their transfer. In the present case, Pelikan Hardcopy (International) AG thus automatically lost the status of opponent once Pelikan Holding AG had fully taken over the business assets of Pelikan Hardcopy (International) AG. For these reasons, the opposition division had been, at least implicitly, requested by the patent proprietor to transfer the opponent status from Pelikan Hardcopy (International) AG to Pelikan Holding AG. Even though this (implicit) request had not been granted, it had nevertheless to be concluded that, at the date of the impugned decision, neither Pelikan Hardcopy (International) AG, nor its universal successor, Pelikan Hardcopy Production AG, were legitimate parties to the proceedings and that the appeal of appellant III had thus to be rejected as inadmissible.

Finally, the notice of appeal by appellant III did not contain any request, which was a further reason for the appeal not being admissible.

In respect of the requirements set out in Article 76(1) EPC 1973, the disclosure of the earlier application D6 was not limited to the claims but was more general, thereby providing a basis for the contested independent claim directed to the ink tank *per se*. Reference was made to the fact that the ink tank was disclosed as being detachably installed in an ink jet recording apparatus in order to be replaceable.

Moreover, Figure 26 of document D6 was presented as another embodiment and as showing an ink cartridge as an isolated part. Finally, the inventive aspect of the present invention lay in the specific configuration of the ink tank.

Furthermore, the subject-matter claimed was based on an inventive step. Document D2 could be considered the closest prior art. In particular, the subject-matter of claim 1 of the sixth auxiliary request differed from the disclosure of document D2 in that the supply outlet and the prism were arranged in the bottom of the ink tank. In addition, the prism shown in document D2 had a different geometrical structure from that of the patent in suit.

Even if document D4 disclosed a prism of the claimed geometry, it was not provided in the bottom wall of the tank. Additionally, it was not compatible with the arrangement of document D2 because of the integrated light source and the small size required for its integration into an ink tank. Consequently, the prior art on file did not render the subject-matter claimed obvious to a person skilled in the art.

- X. The arguments of appellant III, presented in writing and during the oral proceedings, were essentially as follows:

The fact that the notice of appeal by appellant III only indicated the name and address of the professional representative did not render that appeal inadmissible. Already in decision T 920/97 the then competent board stated that in the absence of any clear indication to the contrary a professional representative who was authorised to act for a party adversely affected by a

decision and who then filed an appeal against this decision must be presumed to be acting on behalf of the same party that he acted for in the first instance proceedings and not on behalf of someone else not entitled to appeal. Additionally, in the present case the deficiency was remedied in accordance with Rule 101(2) EPC by indication of the name and address of Pelikan Hardcopy Production AG as appellant. Regarding the referral G 1/12, the questions put forward to the Enlarged Board were only of peripheral relevance for the present appeal case; a stay of proceedings was therefore not appropriate.

Moreover, as explained in decision T 1421/05, the transfer of the opponent status after a transfer of the related business assets was not automatic, but required a corresponding request, which had to be filed by the transferor and not by the patent proprietor. In fact, only a part of the business, namely the sale activities in Germany and Italy, had been transferred from Pelikan Hardcopy (International) AG to Pelikan Holding AG. Neither Pelikan Hardcopy (International) AG nor Pelikan Holding AG had ever requested a transfer of the status of opponent to Pelikan Holding AG. As stated in the impugned decision, Pelikan Hardcopy Production AG was the universal successor of Pelikan Hardcopy (International) AG and had thus validly acquired the status of an opponent in the present proceedings.

Finally, the requirements of Rule 99(1)(c) EPC were likewise met since the request defining the subject of the appeal was clearly derivable from the appeal.

The appeal by Pelikan Hardcopy Production AG as appellant III was therefore admissible.

Regarding the requirements of Article 76(1) EPC 1973. the earlier application D6 did not disclose an isolated ink tank. The subject-matter of the contested claims did not have any basis in the parent application as filed, since the introductory portion and the statement of the problem to be solved in document D6 referred to an ink jet recording apparatus. Figure 26 and the corresponding text in document D6 related to the interaction between the ink tank and the optical sensor and could not form a sufficient basis for a claim directed to the ink tank as such. The fact that a part was detachable was likewise not sufficient to justify a claim directed to the part as such. Thus, the independent claims of the main request and auxiliary requests 1 to 5 directed to the ink tank *per se* did not meet the requirements of Article 76(1) EPC 1973.

Furthermore, the subject-matter of claim 1 according to the sixth auxiliary request was not inventive when starting from document D2 as the closest prior art. It had to be noted that the claim required the prism and the supply outlet to be provided in a tank surface lower in a vertical direction, but not necessarily in the bottom wall. The subject-matter claimed thus differed from the disclosure of document D2 only in the geometry of the prism. The claimed prism structure was, however, suggested in document D4 for the purpose of improving the detection of the liquid level by the liquid level detection sensor. The subject-matter of claim 1 according to the sixth auxiliary request was thus not based on an inventive step.

Reasons for the Decision

1. Admissibility of the appeal by appellant II

Appellant II filed a notice of appeal received on 5 October 2009 and paid the appeal fee on 7 October 2009 but did not file the grounds of appeal in accordance with Article 108, third sentence, EPC.

Hence, the appeal of appellant II is rejected as inadmissible in accordance with Rule 101(1) EPC. Appellant II thus has the status of a party as of right.

2. Admissibility of the appeal by appellant III

2.1 Transfer of the opponent status

2.1.1 During the opposition proceedings appellant III filed document D15, a merger agreement between Pelikan Hardcopy (International) AG and Pelikan Hardcopy Production AG dated 11 June 2008 explicitly stating that the merger was effected by universal succession as of 1 January 2008. Consequently, on that date all the rights and obligations of Pelikan Hardcopy (International) AG, necessarily including its procedural status as opponent against the patent in suit, were transferred to Pelikan Hardcopy Production AG.

Appellant I's main argument hinges on an earlier transfer of appellant III's business assets related to the subject-matter of the opposed patent from Pelikan Hardcopy (International) AG to Pelikan Holding AG on 1 July 2007. The wording of decision G 4/88 (*supra*),

points 5 and 6 of the Reasons, made it clear that an opposition that has been instituted in the interest of an opponent's business assets constituted an inseparable part of those assets in case of their transfer. In the present case, Pelikan Hardcopy (International) AG thus had already lost the status of opponent before the merger agreement with Pelikan Hardcopy Production AG became effective. Consequently, in the opinion of appellant I, at the date of the impugned decision neither Pelikan Hardcopy (International) AG, nor its universal successor Pelikan Hardcopy Production AG were parties to the proceedings and the appeal of appellant III had to be rejected as inadmissible.

- 2.1.2 The board does not share appellant I's conclusions from decision G 4/88 (*supra*). There, in point 6 of the Reasons, the Enlarged Board discusses the situation in which the opposition had been instituted in the interest of the opponent's business: "*... the opposition constitutes an inseparable part of those assets. Therefore, insofar as those assets are transferable or assignable under the applicable national laws, the opposition which is part of them must also be regarded as **transferable or assignable** in accordance with the principle that an accessory thing when annexed to a principal thing becomes part of the principal thing*" (emphasis added by the board).

The cited passage thus makes it clear that decision G 4/88 (*supra*), although referring to the business assets and the opposition as being inseparable, does not provide any basis for a transfer of the opponent status as being an obligation or an inevitable consequence of a transfer of business assets related to the opposition. To the contrary, the wording chosen

("transferable or assignable") stresses that the decision rather seeks to define conditions under which a transfer of the opposition is possible. Therefore, decision G 4/88 (*supra*) does not foresee an "automatic" transfer of the opponent status in cases of a contractually agreed transfer of business assets.

In order to ensure procedural certainty the case law (T 1137/97 (point 4 of the Reasons), T 1421/05 (point 3.3 of the Reasons)) has established that a contractually agreed transfer of an opponent status has to be explicitly requested and supported by sufficient evidence. In the present case, neither the transferor Pelikan Hardcopy (International) AG nor the transferee Pelikan Holding AG ever requested a transfer of the opposition to Pelikan Holding AG. Thus, Pelikan Holding AG never had the status of an opponent in the opposition proceedings against the patent in suit. For the sake of completeness it is added that a transfer of the opponent status as part of a transfer of business assets is generally not at the disposition of the patent proprietor. Hence, appellant I's request for transfer of the opponent status has no legal basis and can therefore not be considered.

The board concludes that Pelikan Hardcopy Production AG, as universal successor of Pelikan Hardcopy (International) AG, is a party to the opposition proceedings. Since it is adversely affected by the impugned decision it is entitled to appeal.

- 2.2 Appellant III's name and address are missing in the notice of appeal
- 2.2.1 Appellant I submits that the notice of appeal by appellant III contained a name and an address as required by Rule 99(1)(a) EPC. However, the person named was not entitled to appeal. A correction of the appellant was not possible, since the "*Travaux Préparatoires*" for the EPC envisaged that the possibilities of correction regarding the formal requirements of admissibility should generally be the same in appeal and opposition proceedings. Moreover, the questions referred to the Enlarged Board of Appeal in pending referral G 1/12 were directed to that subject so that the present appeal proceedings should be stayed until a decision on the referral was issued.
- 2.2.2 The board does not accept these arguments. The notice of appeal by appellant III bears the name of a professional representative, clearly indicated along with his address and function. The board notes that this representative already acted as professional representative for Pelikan Hardcopy Production AG in the opposition proceedings leading to the present appeal case. Under these circumstances it would not be reasonable to conclude that the appeal was filed by this professional representative *privatim*.

Although it readily permits the identification of the appellant by recourse to the opposition file or via the professional representative, the notice of appeal is incomplete in that it does not specify the name and address of the appellant as required by Rule 99(1)(a) EPC. The name and address of Pelikan Hardcopy Production AG as appellant were submitted in

the statement setting out the grounds of appeal based on the remedy provided in Rule 101(2) EPC.

Hence, the board concludes that the requirements of Rule 99(1)(a) EPC are met and thereby follows the jurisprudence established in decisions T 920/97 (point 1 of the Reasons), T 475/07 (point 1.1 of the Reasons) and T 1519/08 (point 2.1 of the Reasons).

2.2.3 Moreover, the board does not agree that the appeal proceedings should be stayed in view of decision T 445/08, pending as referral G 1/12. In that decision, the questions referred to the Enlarged Board as well as the discussion of the case law of the boards of appeal point to a constellation in which *"a notice of appeal, in compliance with Rule 99(1)(a) EPC, **contains the name and the address of the appellant** [...] and it is alleged that the identification is wrong due to an error, the true intention having been to file on behalf of the legal person which should have filed the appeal"* and there being *"**a request for substituting this other legal or natural person**"* (see question (1), emphasis added). By contrast, in the present case, although it also relates to Rule 101(2) EPC, the notice of appeal is incomplete in that it does not contain the name and address of the (identifiable) appellant. Consequently, the present board does not have to decide on a request for substitution of the appellant as was the case in referring decision T 445/08. Taking these factual differences into account, the board does not consider a stay of proceedings until the Enlarged Board has decided on the possibilities of and legal basis for a substitution of an appellant to be expedient.

2.3 Request defining the subject of the appeal

Rule 99(1)(c) EPC requires the notice of appeal to contain a request defining the subject of the appeal, otherwise the appeal is to be rejected as inadmissible.

In the present case, the notice of appeal does not contain such an explicitly formulated request. Since the impugned decision concerns the maintenance of the contested patent based on the documents of the first auxiliary request, which contains one independent and ten dependent claims, the appeal by appellant III can only be aimed at the impugned decision being set aside and the contested patent being fully revoked.

This interpretation is consistent with appellant III's requests set out in the statement of grounds of appeal, page 4, item C.

The subject of the appeal is thus implicitly but unambiguously determined. Hence, the provisions of Rule 99(1)(c) EPC are met.

2.4 The board concludes that the appeal by appellant III is admissible since it meets all requirements set out in Articles 106 EPC, 107 EPC 1973 and 108 EPC, as well as in Rules 97 and 99 EPC.

3. *Extension of subject-matter, Articles 76(1) and 100(c) EPC 1973.*

The parent application D6 of the patent in suit generally relates to an ink jet recording apparatus (see document D6, column 1, lines 5 to 12: *"The present invention relates to an ink jet recording apparatus for*

recording characters and images by discharging fine ink droplets onto a sheet, an OHP sheet, a cloth, or other recording medium. Particularly, the invention relates to an ink jet recording apparatus in which at least either one of a recording head and an ink tank is detachably installed on a carriage." and the corresponding claims as originally filed: *"An ink jet recording apparatus having a carriage [...]"*.

However, the contested patent, based on a divisional application of earlier application D6, is directed to *"An ink tank for use in an ink jet recording apparatus [...]"*.

The board does not see the earlier application D6 as providing a clear and unambiguous basis for claiming the ink tank in isolation. Figure 26 of document D6 shows the ink tank and the sensor in combination (see col. 23, lines 2 to 8), the corresponding text (see col. 21, line 17 to col. 22, line 30) explains their interrelation in detail. Moreover, document D6 explicitly presents Figure 26 in the context of the ink jet recording apparatus of Figure 18 (see col. 17, lines 56 to 58). The fact that the ink tank is detachably installed in an ink jet recording apparatus in order to be replaceable does not alter the general disclosure of the ink tank as an integral part of a structural and functional entity of an ink jet recording apparatus. Finally, the question of whether the subject-matter of a divisional application extends beyond the content of the earlier application has to be answered on the basis of what was, at the date of filing of the earlier application, clearly and unambiguously disclosed in that application to a skilled person familiar with the common general knowledge. In that respect, considerations on the

inventive nature of certain elements of the original disclosure are pointless, since they would inevitably have to rely on the prior art, which is an element outwith the earlier application as originally filed and the common general knowledge.

For the purpose of the ground for opposition under Article 100(c) EPC 1973 and the provisions of Article 76(1) EPC 1973, the board thus concludes that the parent application as filed does not provide a clear and unambiguous basis for a skilled person to arrive at an independent claim directed to an ink tank *per se*. This conclusion applies to the claims according to the main request and to auxiliary requests 1 to 5, which can therefore not be allowed.

4. *Inventive step, Article 56 EPC 1973*

4.1 Document D2 discloses a recording apparatus equipped with an ink amount detecting device. It therefore has the same intended use as and most structural features in common with the subject-matter of claim 1 according to the sixth auxiliary request, which is directed to an ink jet recording apparatus holding at least one of an ink tank. In agreement with appellants I and III document D2 is considered the closest prior art.

4.2 The subject-matter of claim 1 of the sixth auxiliary request differs from the disclosure of document D2 in that the light reflection prism comprises an angled part formed by inclined portions comprising a first inclined portion for reflecting said infrared light emitted from outside of the ink tank by said light emitting element and a second inclined portion for reflecting said infrared light reflected by said first inclined portion and returning it to the outside to

said photodetecting element, wherein for said detection by said light reflection prism a reflected amount of infrared light emitted from outside of the ink tank is different in accordance with whether ink is present or not at said inclined portions in said ink tank.

Appellant I makes reference to the features "*said light reflection prism is disposed on a same inner surface of the ink tank where a supply outlet for supplying ink to the ink jet recording head is provided*" and "*wherein the surface provided with said supply portion and said light reflection prism is a surface lower in a vertical direction in a state where the ink tank to be used is mounted to the ink jet recording apparatus*". It submits that, in the light of the general teaching of the patent in suit and as exemplified in the specific embodiments, these features, in combination, had to be interpreted as meaning "*wherein the surface provided with said supply portion and said light reflection prism is a bottom surface*". This was a further difference from the arrangement known from document D2, in which the prism was not provided in the bottom, but in a side surface of the ink tank.

The board does not agree with appellant I's narrow interpretation of the features in question. While in certain cases the description might help in interpreting an ambiguous term in a claim, generally only features recited in or deducible from the claims can distinguish the invention from the state of the art. Since the wording chosen in present claim 1 "*a surface lower in a vertical direction in a state where the ink tank to be used is mounted to the ink jet recording apparatus*" is relative but unambiguous, the terminology used must be given its normal meaning. This equally applies to the formulation "*same inner surface*

of the ink tank". Accordingly, the disputed features are anticipated by document D2, in which the prism is positioned in the lower section of the ink tank's side wall, which forms part of the lower inner surface of the ink tank. By logical extension, the supply outlet for the ink also has to be provided for in the lower surface of the ink tank. The above-mentioned features can therefore not be accepted as being distinctive.

- 4.3 Based on the distinguishing feature established above, the objective technical problem to be solved resides in improving the detection of the ink level in the tank of the ink jet recording apparatus of document D2.
- 4.4 The solution to this problem proposed in claim 1 of the sixth auxiliary request is not based on an inventive step. Document D4 is directed to optical liquid level detectors with a wide range of possible applications (see col. 7, lines 57 to 61). In particular, two possible shapes are suggested for the optical prism: the surface contacting the liquid either has the same flat shape as already known from the prism of the closest prior art document D2, or, in an improved design enabling a more sensitive responsiveness (see document D4, col. 5, lines 1 to 9), comprises two inclined planes (see Figures 1 to 3 of document D4). Therefore, in order to solve the problem posed, document D4 teaches a skilled person, in the present case an engineer familiar with the design of ink jet printers and ink cartridges, to improve the detector arrangement of document D2 by providing it with a prism having an inner surface comprising two inclined planes in lieu of the flat surface, thereby arriving at the subject-matter claimed. Consequently, the subject-matter of claim 1 according to the sixth auxiliary

request is not based on an inventive step within the meaning of Article 56 EPC 1973.

4.5 In that respect appellant I pointed to the fact that the prism of document D4 had an integrated light source. It was therefore not possible simply to replace the prism of document D2 by the prism of Figure 3 of document D4 without further design modifications. Moreover, it was not clear whether then the prism of Figure 3 of document D4 would still be advantageous. Finally, the applications for the liquid level detector suggested in document D4 all implied a bigger structure than an ink jet cartridge and focused on the detection of a maximum level of liquid and not of a minimum level as in the patent in suit. The combination of documents D2 and D4 was thus based on an *ex post facto* analysis.

4.6 The board does not share this view.

First, it can be safely assumed that an engineer is familiar with the basic optical principles underlying such type of sensors.

Secondly, in document D4 the improved detection of the liquid level in the second embodiment compared with the first embodiment is only due to the different shape of the prism surface, which allows the light source and the light detector to be positioned so that they do not face each other (see document D4, col. 5, lines 1 to 9). Hence, irrespective of whether a maximum or a minimum liquid level is to be detected and independently of whether the light source is integrated into the prism or not, the teaching of document D4 to the skilled person is to improve the detector of document D2 by providing the prism with a reflective inner surface comprising two inclined planes.

Thirdly, using an optical detector for detecting the minimum ink level in an ink tank is undisputedly known from the closest prior art document D2. The fact that in document D4 the list of the possible applications covers a wide range but does not explicitly mention ink cartridges can therefore not prevent the skilled person from applying the generic teaching of document D4 to the optical detector provided in the ink tank of document D2.

Order

For these reasons it is decided that:

1. The appeal of appellant II is rejected as inadmissible.
2. The appeal of appellant I is dismissed.
3. The decision under appeal is set aside.
4. The patent is revoked.

The Registrar:

The Chairman:



D. Meyfarth

M. Poock

Decision electronically authenticated