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Datasheet for the decision of 8 November 2016

Case Number: T 1811/13 - 3.2.05

Application Number: 04030458.6

Publication Number: 1547784

IPC: B41J2/175

Language of the proceedings: EN

Title of invention:
Liquid container, liquid supplying system, manufacturing method therefor, circuit board therefor and liquid containing cartridge

Patent Proprietor:
CANON KABUSHIKI KAISHA

Opponent:
Pelikan Hardcopy Production AG

Relevant legal provisions:
EPC 1973 Art. 54(1), 56, 83, 84
EPC Art. 123(2)

Keyword:

Claim intepretation
Clarity (yes)
Inadmissible extension (no)
Novelty (yes)
Inventive step (yes)

Decisions cited:

G 0003/14, T 0256/87, T 0387/01, T 0252/02, T 0611/02, T 0464/05, T 1886/06, T 0608/07, T 0018/08, T 0593/09, T 1507/10, T 1948/10, T 0971/11, T 2331/11, T 0909/12, T 0608/12

Catchword:

Lack of clarity vs. insufficiency of disclosure (see point 5.1 of the reasons)

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European Patent Office
D-80298 MUNICH
GERMANY
Tel. +49 (0) 89 2399-0
Fax +49 (0) 89 2399-4465

Case Number: T 1811/13 - 3.2.05

D E C I S I O N
of Technical Board of Appeal 3.2.05
of 8 November 2016

Appellant I: (Patent Proprietor)	CANON KABUSHIKI KAISHA 3-30-2, Shimomaruko, Ohta-ku Tokyo (JP)
Representative:	TBK Bavariaring 4-6 80336 München (DE)
Appellant II: (Opponent)	Pelikan Hardcopy Production AG Haldenstrasse 28 8620 Wetzikon (CH)
Representative:	Stefan Markus Zech Meissner Bolte Patentanwälte Rechtsanwälte Partnerschaft mbB Widenmayerstraße 47 80538 München (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 1 July 2013 concerning maintenance of the European Patent No. 1547784 in amended form.**

Composition of the Board:

Chairman	S. Bridge
Members:	O. Randl
	D. Rogers

Summary of Facts and Submissions

I. Both the patent proprietor and the opponent filed an appeal against the interlocutory decision of the opposition division to maintain European patent No. 1 547 784 in amended form.

The opposition division held that the patent as granted did not meet the requirements of Article 100(c) EPC but that the first auxiliary request met the requirements of the EPC.

The opposition division considered in particular the following documents:

HL4: EP 1 270 236 A1;
HL8: JP 04275156 A;
HL8a: English translation of document HL8;
HL12: US 2002/0008724 A1;
HL13: JP 2002 301829 A;
HL13a: Machine translation of document HL13.

Documents HL13 and HL13a were not admitted by the opposition division but cited afresh in the statement of grounds of appeal of appellant II (opponent).

II. The oral proceedings before the board took place on 8 November 2016.

III. The final requests of appellant I (patent proprietor) were to dismiss the appeal of appellant II and hence to uphold the decision of the opposition division to maintain the patent with the claims of the first auxiliary request (now third auxiliary request before the board), filed under cover of a letter dated 27 November 2013.

The final requests of appellant II were to set aside the decision under appeal and to revoke the patent.

IV. The independent claims of the request which the opposition division had found to be allowable (claims of the first auxiliary request before it, i.e. of the third auxiliary request before the board) read:

"1. A liquid container (1) detachably mountable to a recording apparatus (200) to which a plurality of liquid containers are detachably mountable, wherein said recording apparatus includes apparatus electrical contacts (152) corresponding to the liquid containers, respectively, photoreceptor means (210, 214) for receiving light, and a electric circuit (300) connected with a line (206) which is commonly connected with said apparatus electrical contacts, said liquid container comprising:
a) a container electrical contact (102) electrically connectable with one of said apparatus contacts,
b) an information storing portion (103B) capable of storing at least information (CLR) relating to colour and amount of the liquid in said liquid container,
c) a light emitting portion (101) for emitting light towards the photoreceptor means,
d) an actuating portion (103C) for actuating said light emitting portion,
e) a controller (103A)
e1) for controlling access to said information storing portion and actuation of said light emitting portion by said actuating portion in response to reception of liquid color information and a command (CTLR) supplied from the electric circuit (300) through said container electrical contact, and

e2) for causing, in response to the reception, said actuating portion to actuate said light emitting portion of such a liquid container, of which said ink amount is insufficient."

"7. A recording apparatus (200) comprising:
a carriage (205) which is movable while carrying a plurality of liquid containers (1),
apparatus electrical contacts (152) corresponding to the liquid containers, respectively,
photoreceptor means (210, 214) for receiving light,
an electric circuit (300) connected with a line (206) which is commonly connected with said apparatus electrical contacts,
a liquid container (1) detachably mountable to said carriage, said liquid container including:
a container electrical contact (102) electrically connectable with one of said apparatus contacts,
an information storing portion (103B) capable of storing at least information (CLR) relating to colour and amount of the liquid in said liquid container,
a light emitting portion (101) for emitting light towards the photoreceptor means,
an actuating portion (103C) for actuating said light emitting portion,
a controller (103A) for controlling access to said information storing portion and actuation of said light emitting portion by said actuating portion in response to reception of liquid color information and a command (CTRL) supplied from the electric circuit (300) through said container electrical contact, and for causing, in response to the reception, said actuating portion to actuate said light emitting portion of such a liquid container, of which said ink amount is insufficient."

V. Appellant I (patent proprietor) argued as follows:

(a) Claim interpretation

The reception mentioned in feature e2) refers to the reception defined in feature e1) (liquid color information and command). The wording "in response to" defines a direct reaction and does not encompass the case where the controller takes action on its own. Feature e2), therefore, does not go beyond the disclosed embodiments. The command under consideration cannot be a READ command.

(b) Clarity

There is no such thing as a 100% clear claim. The skilled person willing to understand would reach the understanding outlined above.

(c) Sufficiency of disclosure

The claimed subject-matter is sufficiently disclosed.

(d) Amendments

There is no reason why it should not be possible to claim only the liquid containers even though their advantages can only be obtained when they are used in a printer.

(e) Admissibility of HL12, HL13 and HL13a

The opposition division has not admitted these documents. The division applied the correct criteria in its discretionary decision. There is no good reason to set aside this decision.

(f) Novelty

Claim 1 is novel over both HL4 and HL8.

(g) Inventive step

(i) Starting from document HL4

Providing the light emitting portion (LEP) on the cartridge is not an obvious option.

Document HL13 does not disclose that providing the LEP on the cartridge is advantageous with respect to the LEP being provided on the carriage. Only the closeness of the LEP to the cartridge is being sought, in order to make the correspondence between the LEP and cartridge unambiguous. The document does not teach anything like "the closer, the better".

Document HL4 already proposes a solution in which the LEPs are provided on the carriage. There are numerous reasons (need for additional wires and connections, weight increase of movable parts, additional costs on replacement) why the skilled person would not envisage providing the LEP on the cartridge. In other words, the skilled person would not see any advantage but many drawbacks of the LEP being provided on the cartridge.

Paragraph [0125] of document HL4 only invites the skilled person to consider LEPs other than LEDs.

(ii) Starting from document HL8

Document HL8 is an unreasonable choice as closest prior art because it is too remote from the claimed subject-matter. This document discloses a monochromatic

printer. According to paragraphs [0023] and [0024], the LEP may be provided on the printer body; only the storage means has to be provided in the cartridge. It is not clear how this teaching can be combined with the teaching of document HL4.

The opposed patent mentions document HL8, but not as starting point. In order to reach the claimed subject-matter, the teaching of this document has to be amended in several ways. The skilled person would rather start from a document dealing with colour printing.

VI. Appellant II (opponent) argued as follows:

(a) Claim interpretation

"Command" designates any command, both in feature e1) and in feature e2). It is not clear that only an actuating command can be meant. Claim 1 is broader than the embodiments disclosed; it encompasses the case where the controller is involved in the detection of an insufficient ink content and actuates the LEP on its own. Claim 1 should not be interpreted as if it contained an additional, limiting feature although no such feature is present.

(b) Clarity

Claim 1 is unclear. The fact that it is necessary to study the description already shows that the claim wording as such is unclear. Moreover, the claim does not clearly teach when light is to be emitted: According to feature e1) this is to be done when liquid colour information and a command are received; and according to feature e2, when the ink level is insufficient. Several conflicting interpretations are

possible. Finally, it is not clear whether "in response to reception of liquid color information and a command" is to be understood as "in response to reception of liquid color information or in response to a command" or "in response to reception of [both] liquid color information and a command".

(c) Sufficiency of disclosure

In view of the lack of clarity in respect of the determination of the ink level, the skilled person does not know whether he works within feature e2) or not. Moreover, the subject-matter has to be sufficiently disclosed over the whole breadth of the claim. As there is no embodiment in which the controller of the liquid container determines the ink level, this aspect of claim 1 is insufficiently disclosed.

(d) Inadmissible extension

Feature e2) comprises the possibility of the controller itself determining an insufficient amount of ink and actuating the LEP, which is not disclosed in the original application. This amounts to an inadmissible intermediate generalisation. Moreover, the numerous features disclosed in paragraphs [0117] to [0119] of the published application - which are the only paragraphs of the application in which actuating the LEP in response to an insufficient amount of ink is discussed - have not been incorporated into claim 1.

Claim 1 is directed at a liquid container, whereas paragraphs [0117] and [0118] of the published application describe the combination of a printer and a liquid container. The functional feature e2) is only disclosed in the context of the combination. The

advantages described in paragraph [0118] clearly concern the system. Several functional features are missing from claim 1. An example is the comparison of the remaining amount of ink and the requirements for carrying out the print job.

Claim 7 also contains feature e2). In this context the missing functional features of paragraph [0118] cannot be ignored as not having a structural impact on the claimed subject-matter.

(e) Admissibility of HL12, HL13 and HL13a

It is not decisive whether the opposition division has applied its discretion correctly because the situation has changed. Before the opposition division, the patent proprietor did not contest that it was obvious to provide the LEP on the cartridge. As the patent proprietor has changed its stance, the documents under consideration are more relevant than they were before the opposition division.

(f) Novelty

Claim 1 lacks novelty over document HL4. A printer carriage containing cartridges qualifies as a liquid container. The interpretation the claim in respect of the actuation of the LEP by the board is inconsistent. The controller contributes to the actuation and, therefore, actuates the LEP.

Claim 1 also lacks novelty over HL8.

(g) Inventive step

(i) Starting from document HL4

Both the patent proprietor and the opposition division have conceded during the opposition proceedings that providing the LEP on the cartridge does not involve an inventive step (see also documents HL8, HL12, and HL13). The bus system used in document HL4 is perfectly suitable for transmitting the actuation signal to the cartridge. The existing ID comparator 203 can be used for ensuring that the correct LEP is actuated. Document HL12 explicitly discloses that the controller for the LEP can be provided on the cartridge. Document HL13 offers two alternatives and, therefore, directs the skilled person towards both of them. Providing the LEP on the cartridge itself is said to facilitate the identification of the cartridge that is to be exchanged. HL13 insists that the LEP should be provided as close to the cartridge as possible (paragraph [0004]: the fact that the display is not provided near the ink tank constitutes the problem to be solved by the invention). The embodiment in which the LEP is closest to the cartridge is the one in which the LEP is provided on the cartridge itself. Feature e1) is obvious because the skilled person would make use of the structure of document HL4. Moreover, paragraph [0125] document HL4 invites the skilled person to consider other embodiments.

(ii) Starting from document HL8

Document HL8 is a suitable starting point for the assessment of inventive step. This document is discussed in the opposed patent, paragraphs [0016] to [0020] as being the most relevant prior art. The patent presents the orientation towards colour printing as a "recent trend" (paragraph [0018]), and there is no reason to doubt this assertion.

Reasons for the Decision

1. Applicable law

The application on which the opposed patent is based was filed on 22 December 2004 According to Article 7 of the Act revising the EPC of 29 November 2000 (OJ EPO 2007, Special edition No. 4, 217) and the Decision of the Administrative Council of 28 June 2001 on the transitional provisions under Article 7 of the Act revising the EPC of 29 November 2000 (OJ EPO 2007, Special edition No. 4, 219), Articles 54, 56, 83, and 84 EPC 1973 and Article 123(2) EPC apply in the present case.

2. Terminology

For the sake of concision, the board will use the abbreviation "LEP" for "light-emitting portion".

3. Claim interpretation

3.1 "liquid container" vs. ink cartridge

Claim 1 is directed to a liquid container. The original application does not contain any particular definition for "liquid container". It is clear that "liquid" is to be taken as a noun rather than an adjective in the present context; the whole expression is understood to mean "a receptacle designed to contain liquids".

An ink cartridge is a component of an inkjet printer that contains the ink that is deposited onto paper

during printing. It comprises one or more ink reservoirs and may even consist of such a reservoir; its main purpose is to contain ink. As a consequence, an ink cartridge qualifies as a liquid container in the above sense.

An ink cartridge does not confer the quality of a liquid container to the parts of the printer on which it is mounted (such as a carriage) or even the printer itself, because the main purpose of those printer parts and of the printer itself is not to contain ink.

3.2 "detachably mountable"

In the context of liquid containers for inkjet printers, the skilled person would understand the requirement for the container to be "detachably mountable" to mean that the structure of the liquid container allows it to be mounted in the printer in such a way that it can be disconnected from the printer without there being any need to disassemble the printer itself.

3.3 "actuating portion"

According to claim 1, the actuating portion is a part of the liquid container that is suitable for actuating (i.e. causing to operate) the LEP. This language requires the actuating portion to be causative in the actuation; an element that only supplies information to another element causing the activation of the LEP does not actuate the LEP, nor does it qualify as actuating portion.

3.4 "control"

The original application does not contain any particular definition of the verb "control". The word is, therefore, understood in accordance with its general meaning, which is, according to the Oxford English Dictionary, "to check or verify ... and hence to regulate ..." and "to exercise power or authority over; to determine the behaviour or action of, to direct or command; to regulate or govern", respectively. The board understands the control to encompass both open-loop control and closed-loop control.

3.5 "for controlling/causing"

Claim 1 is directed at a liquid container that *inter alia* comprises a controller for controlling certain functions (feature e1) and for causing the actuation portion to act in a certain way (feature e2).

According to the established practice of the EPO, the expression "apparatus for carrying out a process" in a claim is construed to mean that the claimed apparatus is suitable for carrying out the process (see e.g. Guidelines for Examination in the EPO, November 2015, F.IV.4.13). Accordingly, claim 1 requires the controller to be suitable for controlling the functions mentioned in feature e1 and for causing the actuation portion to act as defined in feature e2.

3.6 "controller" vs. "control circuit"

The wording of claim 1 makes clear that the controller is part of the liquid container. Although claim 1 designates the controller by reference 103A, the controller is referred to in the description by reference 103 (see page 47, lines 6 and 9 as well as

page 52, line 1). Other occurrences of reference 103 show that "control unit" is used as a synonym for "controller" (see page 26, line 27; page 27, lines 1 and 6; page 29, line 17; page 46, line 25 etc.). In the original application the reference 103A invariably designates the "I/O control circuit". Figure 13 shows that the controller 103 comprises the I/O control circuit 103A but also other items such as the memory array 103B and the LED driver 103C.

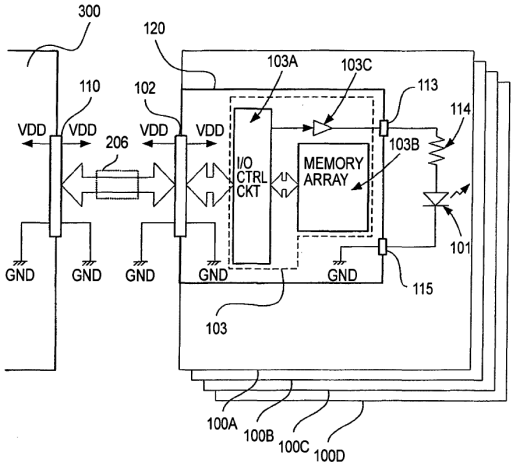


FIG.13

These elements have to be distinguished from the "control circuit" 300, which is part of the recording apparatus (see also Figure 13). "Electric circuit" is used as a synonym of "control circuit" in claim 1.

3.7 "in response to the reception"

According to feature e1) of claim 1, the controller of the claimed liquid container is a controller "for controlling access to said information storing portion and actuation of said LEP by said actuating portion in response to reception of liquid color information and a command (CTLR) supplied from the electric circuit (300)

through said container electrical contact". Feature e2) requires the controller to be a controller "for causing, in response to the reception, said actuating portion to actuate said LEP of such a liquid container, of which said ink amount is insufficient" (underlining added by the board).

The parties disagreed on how the "reception" in feature e2) was to be understood. There is no doubt that "the reception" refers to a reception mentioned before; the use of the definite article certainly suggests this. The only reception mentioned before is the "reception of liquid color information and a command (CTRL) supplied from the electric circuit ... through said container electrical contact". The parties agreed that this reception was meant but disagreed on what exactly was encompassed by the term "command".

In view of the fact that feature e2) deals with actuation of the LEP in response to the receipt of the command code, the most natural interpretation of the command in this particular context would be that an actuation command is meant.

This understanding is corroborated by an examination of the description of the patent:

The operation of the controller is disclosed in Figures 15 and 16 as well as the corresponding parts of the description (paragraphs [0085] to [0093] of the description of the patent). Paragraph [0088] discloses that "the control modes of this embodiment include OFF and ON codes for actuation and deactuation of the LED ..., and READ and WRITE codes ... for reading out of the memory array and writing therein".

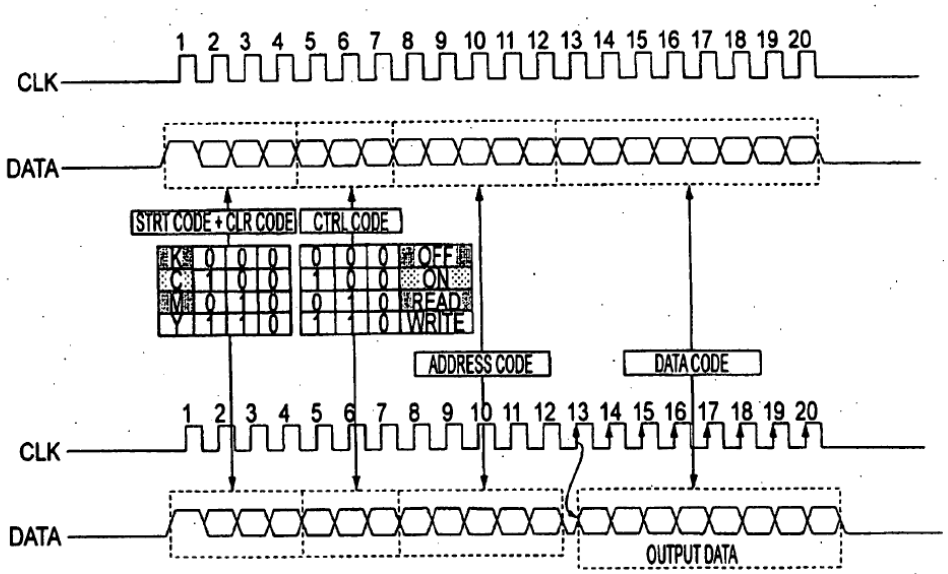


FIG.15

In the context of feature e2), where actuation is to be achieved, the ON command appears to be the only reasonable choice. The only alternative that comes to mind is a WRITE command by which the amount of ink in the ink container is set to values for which it is clear that the ink amount is insufficient for any future job (e.g. zero ink). It is possible to imagine a controller that would interpret such a command as a trigger to actuate the LEP. However, the patent does not suggest anything of that kind. Quite to the contrary, it explicitly provides an ON command by which the same goal is reached. Therefore, the disclosure of the description of the patent does not warrant a different interpretation than the one the skilled person would adopt on the basis of the wording of the claim itself.

Consequently, the board reaches the conclusion that the skilled person would interpret the feature "in response to the reception" to mean "in response to the reception

of an actuation command supplied from the electric circuit". The subsequent examination of the claimed subject-matter is based on this understanding.

4. Clarity

The wording of feature e2) is very concise. The clarity of the claim could have been improved by feature e2) being more explicit. However, the feature is sufficiently clear for it to be understood by the skilled person. The disclosure of the description corroborates what is the most natural understanding of the feature in its context (see point 3. above).

The alleged lack of clarity in feature e1) and in the precise interaction between features e1) and e2) was already present in claim 1 as granted and cannot, therefore, be objected as such in opposition and opposition appeal proceedings (see decision G 3/14, OJ EPO 2015, A102).

The objections under Article 84 EPC 1973 against claim 1, therefore, have to fail.

The same holds true for the objections under Article 84 EPC 1973 against claim 7, for analogous reasons.

5. Sufficiency of disclosure

Apart from general references to first instance submissions - which are not part of the appeal proceedings within the meaning of Article 12 of the Rules of Procedure of the Boards of Appeal (RPBA) of the EPO (see OJ EPO 1/2016, Supplementary publication, page 41 et seq.)) - appellant II has raised two objections under Article 83 EPC 1973.

5.1 The first objection (paragraph bridging pages 7 and 8 of the statement of grounds of appeal of appellant II) is based on the lack of clarity of a feature; appellant II argued that the impossibility for the skilled person to know whether he was working within the forbidden area entailed the impossibility of carrying out the invention.

This approach has its origin in decision T 256/87 of 26 July 1988. In this case, the board, having found the claim under consideration to be clear, declared:

"The further question then arises, however, of whether this information, although clear in itself, is sufficient to enable the skilled person to carry out the invention in the sense of his (a) being able to establish whether a composition containing an amount of EAC falling within the range claimed, and (b) being able reliably to prepare such a composition." (reasons, point 10)

This decision appears to have gone unnoticed until 2003. From that time on it has been cited in two ways.

First, there have been four decisions of board 3.2.06, issued between 2004 and 2007 (T 387/01, T 252/02, T 611/02, and T 464/05) in which the board found that the skilled person was not in a position to know whether he was working within the area covered by the claim, and, as a consequence, that the claimed invention was not disclosed in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art. These decisions appear not to have been followed since then; to the best knowledge of the

present board, the only decision following the same logic (without referring to previous decisions) is decision T 18/08 (see reasons 4.2.4). Decision T 909/12 cited by appellant II does not make an explicit statement in this respect but can be read accordingly, in particular when the last paragraph of point 4.7.3 and point 4.8 of the reasons are combined.

Secondly, there are many decisions of various other boards, in particular chemical boards, that have qualified the approach of decision T 256/87 and have pointed out that the definition of the scope of a claim was related to Article 84 EPC rather than Article 83 EPC. Since 2003, more than twenty decisions reaching this conclusion have been issued, the most recent so far (of which the board is aware) being T 1948/10, T 608/12, T 2331/11 and T 1507/10.

It may, therefore, be said that today there is agreement or at least a clearly predominant opinion among the boards that the definition of the "forbidden area" of a claim should not be considered as a matter related to Article 83 EPC. The present board shares this opinion.

It should be noted in this context that, as stated in decision T 608/07, reasons 2.5.2, "... care has to be taken that an insufficiency objection arising out of an ambiguity is not merely a hidden objection under Article 84 EPC ...").

This is not to say that a lack of clarity cannot result in an insufficient disclosure of the invention. However, in such a case it is not sufficient to establish that a claim lacks clarity, but it is necessary to establish that the application or patent,

as the case may be, does not disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art. In other words, it is not sufficient to establish a lack of clarity of the claims for establishing lack of compliance with Article 83 EPC 1973; it is necessary to show that the lack of clarity affects the patent as a whole (i.e. not only the claims) and that it is such that the skilled person - who can avail himself of the description and his common general knowledge - is hindered from carrying out the invention (*cf.* T 1886/06, reasons 1.4.2; T 593/09, reasons 4.1.4). Appellant II has not shown that this is the case here.

5.2 The second objection (statement of grounds of appeal, page 8, second paragraph) is based on a particular interpretation of feature e2). The board has not adopted this interpretation (see point 3.) and cannot, therefore, endorse this objection.

5.3 As a consequence, the board has reached the conclusion that the request complies with the requirements of Article 83 EPC 1973.

6. Amendments - Added Matter

6.1 Claim 1

As far as claim 1 is concerned, one has to bear in mind what exactly is claimed, namely a liquid container - and not a liquid container mounted on a recording apparatus. Features that do not directly or indirectly (e.g. via a suitability for some purpose) structurally define the liquid container cannot limit the subject-

matter of the claim. Their deletion is without consequence for claim 1.

The objections of appellant II were centred on feature e2), which requires the controller to be suitable for causing, in response to the reception, the actuating portion to actuate the LEP of the liquid container, of which the ink amount is insufficient.

The core objection was based on appellant II's interpretation of this feature, according to which the reception can be the reception of any command. The board having adopted a different interpretation (see point 3. above), this objection has to fail.

The board has not been able to identify an inadmissible intermediate generalisation either:

Feature e2) is based on the passage extending from page 65, line 26 to page 66, line 25 of the original application (corresponding to paragraphs [0116] to [0117] of the patent). It describes the flow chart of Figure 23, which illustrates a recording process according to the invention.

The feature extracted from this passage (actuation in case of insufficient amount of ink) does not appear to be inextricably linked with the particular method steps and has been incorporated into claim 1 in a way that respects its method step nature (i.e. via the suitability of the controller to cause the actuation accordingly).

Moreover, steps S401 (determining the ink amount) and S402 (examining whether the amount is sufficient) appear to be already implicit in claim 1: the

controller of claim 1 has to be suitable for causing the actuation of the LEP if the ink amount is insufficient, which presupposes that the amount of ink has been determined and examined as to its sufficiency.

The board is unable to see features of the process described that would actually structurally define the liquid container beyond feature e2). The comparison of the remaining amount of ink and the requirements for carrying out the print job have no such limiting effect on the liquid container. Also, a reference to the control circuit 300 would not further define the structure of the claimed liquid container.

The core idea of the application is to provide the liquid container with a controller that controls the access to container information and/or the actuation of the LEP in response to the receipt of the information and a command from the recording device. Page 66, lines 12-25 (paragraph [0118] of the patent specification) unambiguously discloses that the LEP can be actuated when the amount of ink in the container is insufficient. The combination of this feature with the core teaching of the application does not violate the requirements of Article 123(2) EPC.

6.2 Claim 7

Claim 7 is a product claim directed at a recording apparatus (i.e. a printer) comprising a liquid container. The claim also comprises a feature that is identical to feature e2) of claim 1.

Claim 7 requires the recording apparatus to have a liquid container with a controller as well as an electric circuit that is suitable for supplying the

controller with liquid color information and a command such as an actuation command.

The board is not aware of any structural feature missing in the definition of the recording apparatus according to claim 7 which is needed in order to carry out the process disclosed in paragraph [0118] of the patent. There is no need to incorporate functional features corresponding to the process of Figure 23 that do not actually structurally define the recording apparatus. Therefore, the board is unable to see how the amendment leading to claim 7 results in an inadmissible intermediate generalisation.

6.2.1 Further comments

When arguing that claim 1 of the main or auxiliary requests does not comply with the requirements of Article 123(2) EPC, appellant II has repeatedly construed possible embodiments and argued that they were encompassed by claim 1 of the request under consideration but not by original claim 1. Appellant II understood this to demonstrate that Article 123(2) EPC had been violated. The board notes that arguments invoking hypothetical, undisclosed embodiments may be useful in the context of Article 123(3) EPC but are not appropriate when compliance with Article 123(2) EPC is to be examined. What matters in the context of Article 123(2) EPC is whether the claimed subject-matter is directly and unambiguously disclosed in the original application. Arguments based on hypothetical embodiments are of no avail in this context.

Appellant II has objected that the situation is different when the allowability of a deletion of

features is to be examined. The board disagrees. Even when examining whether the deletion of features is allowable, the board has to check whether the newly claimed subject-matter is directly and unambiguously disclosed in the original application and cannot rely on arguments based on hypothetical embodiments.

6.3 Conclusion

The main request is found to comply with the requirements of Article 123(2) EPC.

7. Admissibility of documents HL13 and its translations

The fact that the opposition division has not admitted documents HL13 and its translations does not preclude the board from admitting them if it considers them to be relevant (*cf.* decision T 971/11, point 1.3 of the reasons). This is not to be understood to mean that the opposition division necessarily exercised its discretion incorrectly; the procedural situation simply is not the same any more. In the present case, the board finds document HL13 to be relevant, because it discloses a feature (LEP provided on the ink container) that is critical for the assessment of inventive step (see point 9. below). Therefore, the board has admitted document HL13 and its translations into the proceedings.

8. Novelty

8.1 Over document HL4

In the embodiment of Figure 21 of document HL4, LEDs 18 are provided on carriage 101. Their purpose is to indicate to the user the cartridge to be exchanged

(col. 31, lines 43-48). These LEDs qualify as LEPs within the meaning of claim 1. However, these **LEDs are not part of the liquid container** as such. The skilled person would not understand the combination formed by the cartridges and their carriage to constitute a liquid container any more than it would understand the printer to be a liquid container; moreover, this combination is not disclosed to be detachably mountable within the meaning of claim 1 (see point 3.2)

The **controller** disclosed in document HL4 (Fig. 7, paragraphs [0064]-[0072]) is suitable for controlling access to the information storing portion ("memory array") 201. However, it is **not suitable for actuating the LEDs in response to the reception of an actuation command**. In the embodiment of document HL4, the LEDs are actuated by the control circuit 30 (paragraph [0059]) - based on information obtained via the controller - and not by the controller itself. The fact that the controller contributes to the actuation by providing the information does not make it suitable for actuating.

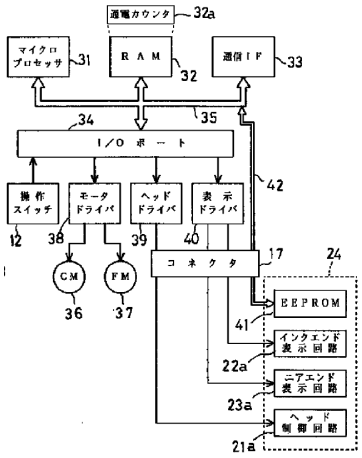
Therefore, the board reaches the conclusion that the subject-matter of claim 1 is new over the disclosure of document HL4.

8.2 Over document HL8

The PC board 24 attached to the side surface of ink tank 20 (paragraph [0015] of document HL8) does not constitute a **controller** within the meaning of claim 1. The PC board comprises an EEPROM 41, display circuits 22a and 23a for the LEDs, and a control circuit for the print head. None of these elements

constitutes a controller related to the liquid container.

【図2】



Moreover the access to the EEPROM appears to be controlled by the microprocessor 31 via bus line 42, and the actuation of the LEDs is done by the same microprocessor via the I/O port 34. None of these elements is part of the liquid container itself. Also, document HL8 only deals with information related to the amount of ink and not with **colour information**, because the printer of document HL8 is a monochromatic printer.

Therefore, the board reaches the conclusion that the subject-matter of claim 1 is new over the disclosure of document HL8.

8.2.1 Conclusion

The subject-matter of claim 1 is novel over the cited state of the art.

The same applies to claim 7, for analogous reasons.

9. Inventive step

When examining whether the subject-matter of claim 1 involves an inventive step, the board uses the problem-solution approach.

9.1 Closest prior art

Appellant II has substantiated inventive step attacks based on documents HL8 (which the opposition division had found to be the closest prior art) and HL4.

9.1.1 Document HL8

Having considered document HL8, the board has reached the conclusion that this document is not a suitable starting point for the assessment of inventive step.

The reason is that this document discloses a monochromatic printer in which the communication between the between the printer and the EEPROM and the LED, respectively, is established by means of distinct lines rather than by a single bus. At least two steps are required for the skilled person to reach an embodiment encompassed by the subject-matter of claim 1: (i) the distinct lines have to be replaced by a single bus (including controllers) and (ii) a plurality of liquid containers has to be provided, which requires the introduction of liquid colour information control codes. Thus the liquid container of document HL8 requires several significant amendments before the subject-matter of claim 1 can be reached. Indeed, the difficulty of establishing the corresponding objective technical problem(s) to be solved further indicates that the disclosure of document HL8 is not a suitable starting point.

Incidentally, the fact that document HL8 is cited in the patent as relevant prior art does not mean that it actually is a reasonable starting point. The drafter of a patent application may ignore or have good reasons not to mention a document that is much closer to the claimed subject-matter than the documents cited.

9.1.2 Other documents

Appellant II has also mentioned objections based on document HL12 that were raised before the opposition division, but has not substantiated these objections. The board cannot accept objections consisting in mere references to first instance submissions. If a party wishes the board to consider an objection, it has to substantiate the objection in its statement of grounds of appeal or its response to the other party's statement of grounds of appeal, as the case may be.

9.1.3 Conclusion

As a consequence, the board has retained document HL4 as the closest prior art.

9.2 Differences

As explained above (see point 8.1), the board is of the opinion that claim 1 differs from the disclosure of document HL4 in that the liquid container comprises:

- a LEP;
- an actuating portion;
- a controller for controlling/causing actuation of the LEP by the actuating portion in response to liquid colour information supplied through the

container electrical contact and reception of a command through that contact.

In document HL4, LEDs are provided on the carriage or, alternatively, on the printer, near the ink exchange location 19 (see Fig. 21 and paragraph [0125]); the LEDs are activated by the control circuits 30 of the printer.

9.2.1 Objective technical problem

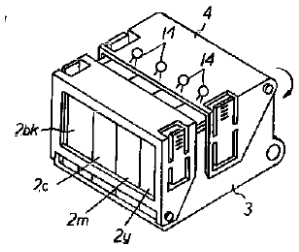
In their discussion of inventive step, both parties based their arguments on the technical effect of more reliable identification of the cartridge. Accordingly, the objective technical problem consists in a more reliable identification of the liquid container the ink content of which is insufficient.

9.2.2 Obviousness of the claimed solution

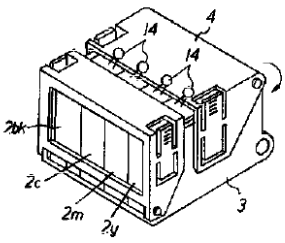
The skilled person starting from the teaching of document HL4 and faced with the objective technical problem would not seek a solution to this problem in document HL8. This document discloses a black & white printer with a single cartridge, in which case a more reliable identification of the only cartridge is pointless.

Document HL13 discloses a way to easily and correctly identify a cartridge that is empty (paragraph [0005]), which fits the objective technical problem. The solution proposed in paragraphs [0025] to [0028] of document HL13, however, is to provide a warning lamp 14 on the carriage (Figure 6) or on each cartridge (Figures 7 and 8).

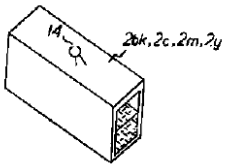
【図6】



【図7】



【図8】



In other words, document HL13 suggests a solution that is already implemented in document HL4. Document HL13 presents the two embodiments as mere alternatives. The description is silent on any advantage of providing the lamp on the cartridge itself. The fact that claim 2 is directed at this variant does not in itself suggest an advantage of this variant. Thus the skilled person starting from document HL4 and being faced with the objective technical problem would consider the teaching of document HL13 but would note that the location of the LEP in the closest prior art already corresponds to one of the two embodiments of HL13. As document HL13 does not ascribe any advantage to the other embodiment, there is no incentive for the skilled person to adopt this embodiment. This is all the more true as the skilled person would realise that providing the LEP on the liquid container would entail a series of drawbacks (the weight of the movable parts increases, printer elements that potentially have a long lifetime, such as LEDs, are exchanged every time the liquid container is replaced, ...).

Therefore, the skilled person starting from document HL4 and contemplating the teaching of document HL13 would not be led to a solution encompassed by the subject-matter of claim 1.

9.2.3 Conclusion

It has not been shown that the object of claim 1 is obvious to a person skilled in the art. Therefore, the invention is considered to involve an inventive step within the meaning of Article 56 EPC 1973.

The same holds true for claim 7, for analogous reasons.

Order

For these reasons it is decided that:

1. The appeal of appellant II is dismissed.

2. The decision of the opposition division is upheld.

The Registrar: The Chairman:

D. Meyfarth S. Bridge

Decision electronically authenticated