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**Datasheet for the decision
of 17 June 2022**

Case Number: T 0843/18 - 3.2.05

Application Number: 07075503.8

Publication Number: 1837187

IPC: B41J2/175

Language of the proceedings: EN

Title of invention:

Cartridge, printing apparatus, and method of transmitting information to and from cartridge

Patent Proprietor:

Seiko Epson Corporation

Opponents:

3T Supplies AG
Pelikan Hardcopy Production AG

Relevant legal provisions:

EPC Art. 54
RPBA Art. 12(2), 12(4)
RPBA 2020 Art. 12(8)

Keyword:

Novelty - main request (no)

Auxiliary requests not properly substantiated - not taken into account

First auxiliary request - inadmissible due to principle of prohibition of reformatio in peius

Decisions cited:

T 0217/10, T 0420/14



Beschwerdekammern

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Case Number: T 0843/18 - 3.2.05

D E C I S I O N
of Technical Board of Appeal 3.2.05
of 17 June 2022

Appellant:
(Opponent 1)

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8834 Schindellegi (CH)

Representative:

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Respondent:
(Patent Proprietor)

Seiko Epson Corporation
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Tokyo 163-0811 (JP)

Representative:

Miller Sturt Kenyon
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London WC1N 2ES (GB)

Party as of right:
(Opponent 2)

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Decision under appeal:

**Interlocutory decision of the Opposition
Division of the European Patent Office posted on
16 January 2018 concerning maintenance of the
European Patent No. 1837187 in amended form.**

Composition of the Board:

Chairman T. Vermeulen
Members: M. Holz
 T. Karamanli

Summary of Facts and Submissions

- I. Opponent 1 appealed against the opposition division's interlocutory decision finding that, account being taken of the amendments made during the opposition proceedings by the patent proprietor according to auxiliary request 1, European patent No. 1 837 187 (the "patent") and the invention to which it related met the requirements of the EPC.
- II. In a communication pursuant to Rule 84(1) EPC of 28 October 2021, the parties were informed that the patent had been surrendered or had lapsed with effect for all the designated contracting states.
- III. On 16 December 2021, the appellant requested that the appeal proceedings be continued.
- IV. In a communication dated 24 January 2022, the board informed the parties that the appeal proceedings were to be continued.
- V. On 13 April 2022, the board issued a summons for oral proceedings and a communication under Article 15(1) of the Rules of Procedure of the Boards of Appeal of the European Patent Office which entered into force on 1 January 2020 (RPBA 2020; see OJ EPO 2021, A35). In this communication, the board set out its preliminary opinion that, *inter alia*, the subject-matter of claim 1 of the main request was not new in view of document E8 and indicated that the board was not inclined to take into account the respondent's first and second auxiliary requests filed with the reply to the statement of grounds of appeal.

VI. On 10 May 2022, the respondent (patent proprietor) withdrew its request for oral proceedings and informed the board that it would not be attending oral proceedings.

VII. The oral proceedings appointed for 13 September 2022 were cancelled.

VIII. None of the parties responded in substance to the board's communication under Article 15(1) RPBA 2020.

IX. The following documents cited in the first-instance proceedings are relevant for this decision:

E8: EP 1 219 437 A2

E9: US 4,551,734

X. Final requests

Opponent 1 (appellant) requested that the decision under appeal be set aside and that the patent be revoked. On an auxiliary basis, the appellant requested oral proceedings.

The patent proprietor (respondent) requested that the appeal be dismissed (main request) or, as an auxiliary measure, that the decision under appeal be set aside and that the patent be maintained as amended based on the claims according to the first auxiliary request or the second auxiliary request, both filed with the reply to the appellant's statement of grounds of appeal.

Opponent 2 was party to the appeal proceedings as of right pursuant to Article 107, second sentence, EPC and

did not file any requests or substantive submissions in the appeal proceedings.

XI. Claim 1 according to auxiliary request 1 underlying the decision under appeal (corresponding to the main request in the appeal proceedings) reads (the feature references employed by the board is included in square brackets):

"1. [1.1] A cartridge (10) [1.2] that has a chamber (16) [1.2.1] that holds a recording material used for printing therein and [1.3] that is attachable to a printing apparatus (20) for use, [1.4] the printing apparatus being designed for operation with an intended cartridge [1.4.1] that has a sensor for detecting a presence of recording material in the intended cartridge, comprising:

[1.5] a sensor-substitute module (19, 170)

[1.5.1] adapted, in response to a sensor activation instruction signal output from the printing apparatus, to substitute for a said sensor, [1.5.2] which is not actually mounted on the cartridge, [1.5.3] and to output to the printing apparatus (20) a signal that substitutes for a result of detection by the said sensor that the recording material is present in the cartridge (10)."

Claim 1 according to the first auxiliary request in the appeal proceedings differs from claim 1 according to the main request in that feature 1.5.2 is deleted and the following feature is included at the end of the claim:

"[1.6] wherein the cartridge has no sensor that outputs a signal detecting a presence of recording material in

response to a signal output from the printing apparatus."

Claim 1 according to the second auxiliary request differs from claim 1 according to the main request in that the following additional features are included at the end of the claim:

"[1.7] wherein the recording material is an ink of a predetermined colour; and [1.8] said sensor-substitute module (19, 170) substitutes for a sensor arranged to detect the presence or absence of the recording material in said intended cartridge according to a variation in resonance frequency of a piezoelectric element, which is attached to said intended cartridge."

XII. The parties' arguments relevant to this decision may be summarised as follows.

(a) *Claim interpretation*

(i) *Features 1.1 to 1.3*

The appellant takes the view that feature 1.3 ("*that is attachable to a printing apparatus (20) for use*") referred to the chamber defined in feature 1.2. The respondent, in contrast, is of the opinion that the skilled person would have interpreted feature 1.3 to mean that the cartridge (see feature 1.1) and not the chamber was attachable to the printing apparatus.

(ii) *Definition with reference to a printing apparatus*

It is common ground between the parties that claim 1 is directed to a cartridge suitable for being attached to

a printing apparatus and not to the combination of the cartridge and the printing apparatus.

(iii) *Definition with reference to a sensor*

According to the appellant, claim 1 did not require the substitution of a certain type of sensor. The sensor-substitute module of feature 1.5 could be implemented, for example, by a short circuit connection between two terminals of the cartridge since this connection could substitute a conductivity sensor that detected the absence or presence of ink in the cartridge.

According to the respondent, claim 1 required that the sensor-substitute module acted in response to a sensor activation instruction signal and output a signal that substituted for a result of detection by the sensor that the recording material was present in the cartridge. The sensor-substitute module had to act on an instruction and, based on the instruction, send a signal that substituted for a result of detection that recording material was present. It was not clear how a short circuit connection could be activated by a sensor activation instruction signal.

(b) *Main request*

(i) *Appellant*

On page 2 of the statement of grounds of appeal, the appellant referred to the ground for opposition under Article 100(a) EPC and submitted that the subject-matter of claim 1 was not new in view of document E8. As set out in the communication under Article 15(1) RPBA 2020, the board understands this submission as an objection under Article 54 EPC.

According to the appellant, the electrical short circuit connection between ground terminals 24 and 27 in Figure 4 of document E8 represented a sensor-substitute module as meant in claim 1. This connection could be replaced by an ink sensor of the type described in paragraph [0003] of the patent or by the sensor described in document E9 which alternated between an infinite resistance when there was no ink and a very small resistance when there was ink in the cartridge. The functionality of terminals 24 and 27 regarding the detection of the installation of the ink cartridge in document E8 was the same as that of the sensor in document E9. The short circuit connection between terminals 24 and 27 thus substituted for a typical conductivity sensor used for detecting the presence of ink.

(ii) *Respondent*

Document E8 should not have been "entered" into the proceedings before the opposition division as this document was not relevant (see page 3, fourth paragraph of the respondent's reply). Document E8 was entirely silent about the detection of ink in the cartridge and did not consider the use of sensors on the cartridge in any form. It did not include any disclosure of the features that the cartridge could be attached to a printing apparatus designed for operation with an intended cartridge that had an ink sensor. The skilled person would not have interpreted the short circuit between the ground terminals 24 and 27 in document E8 as a sensor-substitute module within the meaning of the claim since it did not act in response to a sensor activation instruction signal and did not output a

signal that substituted for a result of detection that ink was present in the cartridge.

(c) First and second auxiliary requests

On page 2 of its reply, the respondent indicated the amendments carried out in the claims according to the first and second auxiliary requests as well as their basis in the application as filed and in the patent as granted, respectively.

Reasons for the Decision

1. Decision in written proceedings

In reply to the summons to oral proceedings and the board's communication under Article 15(1) RPBA 2020, the respondent withdrew its request for oral proceedings and informed the board that it would not be attending any oral proceedings held. Since the appellant requested oral proceedings on an auxiliary basis and the board did not consider oral proceedings to be expedient or necessary under Article 116(1) EPC, the oral proceedings were cancelled. As the case at hand is ready for decision and the requirements of Articles 113(1) and 116(1) EPC are complied with, the board issues the decision in written proceedings pursuant to Article 12(8) RPBA 2020.

2. Claim interpretation

The parties disagree about how the skilled person would have understood some of the claim features. In the following, the board sets out its understanding of how the skilled person would have construed claim 1.

2.1 *Features 1.1 to 1.3*

The appellant takes the view that feature 1.3 ("*that is attachable to a printing apparatus (20) for use*") referred to the chamber defined in feature 1.2. The respondent, in contrast, is of the opinion that the skilled person would have interpreted feature 1.3 to mean that the cartridge (see feature 1.1) rather than the chamber was attachable to the printing apparatus.

Feature 1.3 is preceded by the coordinating conjunction "and". However, it is not evident with what other entity the word "that" in feature 1.3 is connected. From a purely linguistic point of view, there are two ways of reading the beginning of claim 1: "*A cartridge (10) that has a chamber (16) ... and that is attachable to a printing apparatus (20) for use*" and "*... a chamber (16) that holds a recording material ... and that is attachable to a printing apparatus (20) for use*", these corresponding to the interpretations set out by the respondent and the appellant, respectively. There is no reason to assume that the skilled person would exclude one of these two ways of reading claim 1. From a linguistic point of view, feature 1.3 could refer to the cartridge or the chamber.

However, the above linguistic ambiguity of the wording of claim 1 does not give rise to ambiguity in terms of the technical features of the claim. Whenever a cartridge is attachable to a printing apparatus, the ink chamber of that cartridge is also attachable to the printing apparatus and *vice versa*. For example, in a hypothetical arrangement, a chamber of an ink cartridge can be attachable to a printing apparatus via attachment means provided on parts of the cartridge other than the chamber.

Features 1.1 to 1.3 thus require that the cartridge be suitable for attachment to a printing apparatus without, however, defining any concrete attachment means or positioning this attachment means on the cartridge.

2.2 *Definition with reference to a printing apparatus*

It is common ground between the parties that claim 1 is directed to a cartridge suitable for being attached to a printing apparatus and not to the combination of the cartridge and the printing apparatus. The board shares this view.

Feature 1.3 defines that the claimed cartridge is suitable for being attached to a printing apparatus. Features 1.4, 1.4.1, 1.5.1 and 1.5.3 refer to features of that printing apparatus. Therefore, the question to be answered is what mandatory technical features of the claimed cartridge would the skilled person infer from these references to a printing apparatus having the features defined in the claim. For a prior-art document to take away the novelty of the subject-matter of claim 1, it is not necessary that the document disclose a printing apparatus or, for that matter, a printing apparatus having the features defined in claim 1. The prior-art document just needs to disclose a cartridge that has the functional and structural features defined in claim 1, including the suitability for cooperating with a printing apparatus as defined in the claim.

2.3 *Definition with reference to a sensor*

Claim 1 is further defined with reference to a sensor to be substituted by a sensor-substitute module of the

cartridge. Again, the claim is defined with reference to an entity (in this case, the sensor) that is not part of the claimed subject-matter (see feature 1.5.2). Feature 1.5.3 implies that the absent sensor substituted for by the sensor-substitute module is adapted to output a detection result that recording material is present in the cartridge. However, the claim remains silent as to how the detection result is output by the (absent) sensor, for example, in terms of an electrical or optical signal, a binary or analogue signal, a static or dynamic signal, etc.

Neither is it apparent from claim 1 how the sensor is to be substituted. Feature 1.5.1 generally refers to substituting for the sensor, leaving open whether this refers to a structural substitution, for example in a space provided on the cartridge that would otherwise be occupied by a sensor, or to a functional substitution in the form of a communication interface that would otherwise be connected to a sensor and that is connected to the sensor-substitute module instead.

Feature 1.5.3 is more specific in that it defines that the sensor-substitute module is adapted to output to the printing apparatus a signal that substitutes for a result of detection by the sensor that recording material is present in the cartridge. However, it is not apparent from claim 1 how the signal substitutes for the detection output. It is, for example, left open whether this refers to electrical or optical signals from the sensor-substitute module transmitted across optical or electrical interfaces of the cartridge instead of sensor signals, or to emulating characteristics of a sensor detection signal. Moreover, in the latter case, no characteristics of the signal are derivable from the requirement that the signal

"substitutes" for a sensor detection result. There is also no uniquely established standard for such sensor output signals.

Similarly, the use of the term "sensor activation instruction signal" in feature 1.5.1 only implies that a signal is output from the printing apparatus. In contrast, no technical features of the claimed cartridge are derivable from the characterisation of this signal being a "sensor activation instruction signal".

Claim 1 consequently encompasses a broad variety of forms that the sensor activation instruction signal output from the printing apparatus and the detection result output that is intended to be substituted may have. The wording of feature 1.5.3, according to which the signal output by the sensor-substitute module "substitutes" for such a detection result without defining how it is to be substituted, further adds to the variety of possible embodiments.

3. Main request: novelty in view of document E8
(Article 54 EPC)

Opponent 1 filed document E8 during the first-instance proceedings, submitting that the subject-matter of claim 1 of the main request and auxiliary requests 1 and 2 filed during the first-instance proceedings was not new in view of document E8. In the decision under appeal, the opposition division considered document E8 to be *prima facie* relevant and admitted document E8 into the opposition proceedings (see point 2.4.2.3 of the Reasons, where document E8 was cited as document D1.8, see point 1.2.6 of the Reasons).

In accordance with the case law, a board should only overrule the way in which a department of first instance exercised its discretion when deciding on a case if it concludes that the department of first instance did so according to the wrong principles, or without taking into account the right principles, or in an unreasonable way, and thus exceeded the proper limits of its discretion (see "Case Law of the Boards of Appeal of the European Patent Office", Ninth Edition, July 2019, ("Case Law"), IV.C.4.5.2).

This, however, is not the case with the opposition division's discretionary decision to admit document E8 into the opposition proceedings. The opposition division applied the criterion of *prima facie* relevance, which, in accordance with the established case law, is an important criterion for admitting late-filed documents (see Case Law, IV.C.4.5.3). The fact that the respondent attributes a lower (or no) relevance to document E8 does not *per se* indicate that the opposition division exercised its discretion based on its own assessment of the document's relevance in an unreasonable way.

The board thus sees no reason to reverse the opposition division's decision to admit document E8 into the proceedings, such that document E8 forms part of the appeal proceedings.

As to the merits of the novelty objection, claim 1 does not require that a sensor be provided on the cartridge. To the contrary, according to feature 1.5.2, the sensor is not mounted on the cartridge. Therefore, the respondent's observation that document E8 did not disclose a sensor for detecting the presence of ink in

the cartridge is not sufficient for establishing novelty of the claimed subject-matter over document E8.

It is undisputed between the parties that the cartridge of document E8 is attachable to a printing apparatus for use. Features 1.4 and 1.4.1, which require that the printing apparatus (which is not part of the claimed subject-matter) is designed for operation with an intended cartridge that has a sensor for detecting the presence of recording material in the intended cartridge (which is also not part of the claimed subject-matter), do not imply any technical features of the claimed cartridge not present in the cartridge of document E8.

For document E8 to take away the novelty of claim 1, it does not have to disclose such a printing apparatus or, for that matter, an "intended" cartridge that has a sensor for detecting the presence of recording material in the "intended" cartridge. The question is instead whether this claim wording implies any technical features of the claimed cartridge (which is different from the "intended" cartridge) not explicitly or implicitly disclosed for the cartridge of document E8 (see point 2.2 above). No such technical features have been indicated by the respondent or can be discerned by the board.

Terminals 24 and 27 in Figure 4 of document E8 are suitable for connection with a printing apparatus (in fact, terminals 24 and 27 are connected to pins P4 and P7 of the printer, see paragraph [0032]). Terminals 24 and 27 are electrically connected to each other (see, for example, Figure 4) such that a current signal applied by a printing apparatus via terminals 24 and 27 (corresponding to a sensor activation instruction

signal as in feature 1.5.1) would result in a (very low) voltage drop signal between these terminals. This corresponds to the "signal that substitutes for a result of detection by the said sensor that the recording material is present in the cartridge" in feature 1.5.3.

Paragraphs [0032] and [0033] of document E8 describe this signal transmission from the printing apparatus to the cartridge via terminals 24 and 27. However, this explicit disclosure of the operation and construction of the printing apparatus is not even necessary to establish the relevant technical features of the cartridge. Whether the printing apparatus of document E8 applies or senses any signals to or from the cartridge and if or how a sensed signal is further processed by the printing apparatus is irrelevant for the assessment of novelty. Rather, the issue at hand hinges on whether the cartridge disclosed in document E8 is suitable for interacting with a printing apparatus as set out in claim 1.

The wording of feature 1.5.3 does not imply any technical features of the signal that the voltage signal between terminals 24 and 27 would not have when a current is applied to these terminals (see the remarks on claim interpretation in point 2.3 above). For example, the voltage signal between terminals 24 and 27 "substitutes" for the result of detection by an (absent) sensor in so far as terminals 24 and 27 could otherwise have been used for outputting the detection result of such a sensor.

Along an alternative line of argument, the (low) voltage between terminals 24 and 27 would also be indistinguishable from a detection result output by a

(non-disclosed, but technically feasible) sensor that provides an electric short circuit (i.e. a low resistance between its pins) if recording material is present in the cartridge. The appellant's observation that such a sensor is disclosed, for example, in document E9, further supports the view that the signal between terminals 24 and 27 in document E8 substitutes for a result of detection by a sensor as defined in feature 1.5.3.

There are thus no technical features of claim 1 that are not at least implicitly disclosed in document E8. The subject-matter of claim 1 according to the main request is hence not new over document E8 (Article 54 EPC).

4. First and second auxiliary requests - admittance

With its reply, the respondent filed claims according to a first and second auxiliary request and indicated on page 2 of the reply the amendments carried out in these claims as well as their basis in the application as filed and in the patent as granted, respectively. However, the respondent has not explained how these amendments overcome the objections raised by the appellant in its statement of grounds of appeal, notably the objection of lack of novelty in view of document E8 (see point 3. above).

In the case at hand, the statement of grounds of appeal and the reply to it were filed before the date on which the revised version of the Rules of Procedure of the Boards of Appeal (RPBA 2020) entered into force. Thus, in accordance with Article 25(2) RPBA 2020, Article 12(4) to (6) RPBA 2020 does not apply. Instead, Article 12(4) of the Rules of Procedure of the Boards

of Appeal in the version of 2007 (RPBA 2007 (OJ EPO 2007, 536)) applies.

Article 12(4) RPBA 2007 requires the board to take into account everything presented by the parties under Article 12(1) RPBA 2007 if and to the extent it relates to the case under appeal and meets the requirements in Article 12(2) RPBA 2007.

In accordance with Article 12(2) RPBA 2007, the reply to the appellant's statement of grounds of appeal must contain a party's complete case. It must set out clearly and concisely the reasons why it is requested that the decision under appeal should be reversed, amended or upheld, and should specify expressly all the facts, arguments and evidence relied on.

In accordance with the established case law, it is not only for the appellant to substantiate its appeal but equally for the respondent to show at an early stage why it considers that the objections raised in the grounds of appeal do not withstand scrutiny (see, for example, T 217/10, point 5.2 of the Reasons). If auxiliary requests are submitted, reasons usually have to be given to explain how they overcome the objections, at least if this is not obvious from the amendments made (see T 217/10, point 5.2 of the Reasons and T 420/14, point 9.2 of the Reasons).

The respondent's reply does not meet these requirements for the first and second auxiliary requests. It has not been set out why the decision under appeal should be set aside and the patent maintained as amended based on the amended claims according to the first or second auxiliary request. Nor has it been explained how the objections raised by the appellant in the statement of

grounds of appeal, including, *inter alia*, the objection of lack of novelty in view of document E8, are supposed to be overcome by the amendments. Accordingly, the part of the respondent's reply referring to the first and second auxiliary requests does not constitute a proper substantiation as required by Article 12(2) RPBA 2007.

Since the requirements of Article 12(2) RPBA 2007 are not met for the first and second auxiliary requests, the board has decided not to take these auxiliary requests into account under Article 12(4) RPBA 2007.

Moreover, in claim 1 of the first auxiliary request, feature 1.5.2 has been deleted (as compared to claim 1 of auxiliary request 1 underlying the decision under appeal, corresponding to the main request in the appeal proceedings). Since opponent 1 is the sole appellant, this amendment contravenes the principle of prohibition of *reformatio in peius* (see "Case Law", V.A.3.1 and V.A.3.1.6). The first auxiliary request is thus inadmissible also for this reason.

5. Summary

The subject-matter of claim 1 of the respondent's main request is not new in view of document E8. The board also decided not to take into account the respondent's first and second auxiliary requests. Consequently, none of the respondent's requests is allowable so that the decision under appeal has to be set aside and the patent revoked in accordance with Article 101(3) (b) EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:



N. Schneider

T. Vermeulen

Decision electronically authenticated