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D E C I S I O N
of 16 January 1997

Case Number: T 0561/96 - 3.4.2

Application Number: 93117732.3

Publication Number: 0590691

IPC: G03G 15/00

Language of the proceedings: EN

Title of invention:

Diagnosis system for an electrostatic recording apparatus

Applicant:

HITACHI, LTD., et al

Opponent:

-

Headword:

-

Relevant legal provisions:

EPC Art. 123(2), 84, 83, 111

EPC R. 27(1)(e)

Keyword:

"Additional subject-matter (no)"

"Disclosure sufficiently detailed (yes)"

Decisions cited:

-

Catchword:

The fact that an Examining Division, after having raised an objection under Article 83 EPC, nevertheless acknowledged novelty and inventive step of an invention indicates that the invention could be unambiguously understandable for a person skilled in the art. In that case missing details crucial for carrying out the invention can be picked up, if necessary, from factual references to the prior art contained in the description.



Case Number: T 0561/96 - 3.4.2

DECISION
of the Technical Board of Appeal 3.4.2
of 16 January 1997

Appellant: HITACHI, LTD.
6 Kanda Surugadai 4-chome
Chiyoda-ku
Tokyo 101 (JP)

Representative: Beetz & Partner
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 17 January 1996
refusing European patent application
No. 93 117 732.3 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: E. Turrini
Members: M. Chomentowski
B. J. Schachenmann

Summary of Facts and Submissions

- I. European patent application No. 93 117 732.3 (publication No. 0 590 691) was refused on the grounds that the description on file did not disclose in detail at least one way of carrying out the invention.

The Examining division took the following view:

The information relevant for the invention as claimed was confined to Figure 8 and page 32, line 24 to page 33, line 19 of the original description, which had not been amended, as well as the original claims. This information comprised vague statements which were as broad as the wording of the claims. No description in detail was given of at least one way of carrying out the claimed invention, i.e. a diagnosis system for an electrostatic image recording apparatus. In particular, the description did not comprise any indication whatsoever of how the "image quality" might be evaluated by the "means for producing image evaluation data"; more particularly, the description did not describe at all how "image quality control data" might be deduced from said "image evaluation data". Hence, the application did not comply with the requirement of Rule 27(1)(e) EPC, according to which the description shall describe in detail at least one way of carrying out the invention claimed, so that the application was refused.

The decision contained further objections, according to which the expression "in detail" of Rule 27(1)(e) EPC had to be interpreted in the context of Article 83 EPC, according to which the application must disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art; in the application, however, there was no detail

and the terms used were vague; hence, technical information crucial for carrying out the invention was missing in the application as a whole; consequently, the application did not satisfy the requirement of Article 83 EPC, either.

Nevertheless, according to the decision, the available prior art did not show a diagnosis system comprising image reading means according to the submitted main claim and it would appear that no objection as to lack of inventive step would have been raised because the available prior art did not hint towards any specific way of carrying out the unspecified concept of interactive processing of the diagnosis system disclosed on page 4, second paragraph, in combination with the vague features of the submitted claim 1. It was stated that, in summary, no objection with respect to patentability of the invention was raised.

- II. The appellant (applicant) lodged an appeal against this decision. Annexed to the statement of grounds of appeal were two new documents, A1 = IBM J. Res. Develop., vol. 28, No. 3, May 1984, J. L. Crawford et al., "Print Quality Measurements for High-Speed Electrophotographic Printers", pages 276 to 284, and A2 = Journal of Imaging Science, vol. 31, No. 4, July/August 1987, J. Raymond Edinger, Jr., "The Image Analyzer - A Tool for the Evaluation of Electrophotographic Text Quality", pages 177 to 183, cited by the appellant for stressing that the terms used in the application were generally known to people skilled in the art.
- III. In the communication accompanying the summons to oral proceedings which had been requested auxiliarily by the appellant, the Board of appeal expressed the opinion that the claims submitted with the statement of grounds of appeal appeared to contain additional subject-matter and to lack clarity, so that it was not apparent how,

taking into account these ambiguities, the skilled reader would be able to pick up those details of A1 or A2 which were necessary to construe an unambiguous detailed way of carrying out the claimed invention.

IV. During the oral proceedings of 16 January 1997, the appellant filed a new set of 4 claims with the only independent claim reading as follows:

"1. A diagnosis system for an electrostatic image recording apparatus, comprising:

sensor means for sensing various operating parameters and an information processing apparatus deducing feedback control signals for correction, characterized in that

- said sensor means have means for reading an image printed by the electrostatic image recording apparatus and for producing image quality evaluation data, related to the charged amount, the exposure amount and the development condition in said recording apparatus, and

- said information processing apparatus deduces from said image quality evaluation data image quality control data, indicating the charged amount, the exposure amount and the development condition, which are transmitted as feedback control signals to the image recording apparatus."

The application on file comprises, in addition to the claims, the Description consisting of pages 5 to 35 as originally filed and pages 1, 2, 2a, 2b, 3, 4 and 36 filed with appellant's letter dated 16 December 1996, and the Drawings: Sheets 1/11 to 11/11 as originally filed.

V. The appellant requested that the decision under appeal be set aside and the case be remitted to the Examining Division for further prosecution of the application, on

the basis of claims 1 to 4 filed during the oral proceedings of 16 January 1997, and submitted the following arguments in support of its request:

The Examining Division has acknowledged novelty and inventive step of the claimed invention; the wording of claim 1 allowed the Examining Division to distinguish the invention from the prior art revealed and documented in the search report; this can only be understood such that the Search Examiner as well as the Examining Division were in the situation to judge on the relevance of the revealed prior art and its pertinence and the inventiveness distinguishing the claimed invention from the prior art; however, this is only possible if the claimed invention is understandable, i.e., is disclosed in a manner sufficiently clear and complete to be carried out by a person of ordinary skill in the art.

According to the present application, the sensor means have means for reading an image printed by the electrostatic image recording apparatus and for producing image quality evaluation data, related to the charged amount, the exposure amount and the development condition in said recording apparatus, and the information processing apparatus deduces from said image quality evaluation data image quality control data, indicating the charged amount, the exposure amount and the development condition, which are transmitted as feedback control signals to the image recording apparatus. The person skilled in the art, having as background knowledge the teaching of A1 and A2 now cited and commented in the present description, will be in a situation to derive a relation between the image quality evaluation data related to the charged amount, the exposure amount and the development condition in said recording apparatus, on the one hand, and basic parameters of print quality cited in A1, i.e.

stroke width, character reflectance, process uniformity, print registration, modulation, tangential edge roughness or image gray-scale fidelity or similar parameters more specifically suited for text printing in A2, on the other hand. Thus, the person skilled in the art will be in a situation to easily determine the picture quality control signals which indicate the charged amount, the exposure amount and the development condition to the electrostatic recording apparatus, thereby achieving the picture quality control suited for carrying out the invention.

Reasons for the Decision

1. The appeal is admissible.
2. *Allowability of the amendments*

Present claim 1 is based on the application as originally filed (see page 4, lines 7 to 19; page 8, lines 16 to 19; page 31, lines 21 to 26; page 32, line 24 to page 33, line 5; page 35, line 22 to page 36, line 1; claim 1 and dependent claims 8 and 9; Figure 8) and uses in substance the same terms for specifying the quality parameters of the image produced by the recorder, which are related to the charged amount, the exposure amount and the development condition in said recorder. In agreement with said original text locations, in the presently claimed diagnosis system for an electrostatic image recording apparatus, the means for generating data indicative of a state of the electrostatic image recording apparatus

reads the recorded image so as to form image quality evaluation data, whereby the means for performing diagnosis performs the diagnosis of the electrostatic recording apparatus based on the image quality evaluation data.

Indeed, as convincingly argued by the appellant and as already derivable from their respective title, the newly filed documents A1 ("Print Quality Measurements for High-Speed Electrophotographic Printers") and A2 ("The Image Analyzer - A Tool for the Evaluation of Electrophotographic Text Quality") belong to the same technical field of quality assessment of records made by electrostatic image recording apparatuses as the present application. Thus, these documents are prior art documents and a factual reference thereto can be introduced into the description after the original filing. In any case, present claim 1 satisfies the requirement of Article 123(2) EPC that the European patent application may not be amended in such a way that it contains subject-matter which extends beyond the content of the application as filed.

3. *Clarity*

Present claim 1 concerns a diagnosis system for an electrostatic image recording apparatus. The image quality evaluation data are mentioned as being related to the charged amount, the exposure amount and the development condition in the recording apparatus submitted to said diagnosis. It is to be noted that, as convincingly argued by the appellant, the meaning of the terms related to "quality" is not ambiguous because these terms are contained and explained in A1 and A2, which as mentioned here above belong to the relevant prior art and can be considered as being known to the person skilled in the art. In any case, the skilled reader can take into account the present description,

which contains a factual reference to A1 and A2. The system comprises sensor means having means for reading an image printed by the electrostatic image recording apparatus and for producing these data. The system further comprises an information processing apparatus deducing from said image quality evaluation data image quality control data, indicating the charged amount, the exposure amount and the development condition, which are transmitted as feedback control signals to the image recording apparatus. It is directly and unambiguously derivable from the text of the claim that the parts of the recording apparatus which are controlled by said control signals are those for which, as generally known to people skilled in the art of recording apparatuses, the charged amount, the exposure amount and the development condition are the relevant parameters. A description of such apparatuses and of their main parts is comprised in the application, for instance in Figure 1A and 1B and in the corresponding text, so that the corresponding terms used in the claim are determined.

Therefore, since in particular it is not apparent that any crucial information is missing for the skilled person in the definition of the invention according to present claim 1 and since moreover there is no discrepancy having regard to the description and drawings, the claim is clear in the sense of Article 84 EPC.

4. *Disclosure of the invention*

4.1 The present appeal is directed against a decision to refuse the application on the grounds that the description did not describe in detail at least one way of carrying out the invention claimed using examples where appropriate and referring to the drawings, if any (Rule 27(1)(e) EPC). Moreover, according to the

decision under appeal, this ground of refusing the application was to be considered in the light of the requirement of Article 83 EPC that the application must disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art.

Indeed, as correctly stated by the Examining Division, an application cannot be considered as disclosing an invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art, i.e. cannot be considered as satisfying the requirement of Article 83 EPC, if technical information crucial for carrying out the invention is missing in the application as a whole.

4.2 However, it is first to be noted in this respect that, as set forth here above, present claim 1 defines the diagnosis system unambiguously, and that the description and the drawings are in agreement with present claim 1.

4.2.1 Thus, as defined in the present application (see in particular page 32, line 24 to page 33, line 5 and claim 1), the sensor means have means for reading an image printed by the electrostatic image recording apparatus and for producing image quality evaluation data, related to the charged amount, the exposure amount and the development condition in said recording apparatus; the information processing apparatus deduces from said image quality evaluation data image quality control data, indicating the charged amount, the exposure amount and the development condition, which are transmitted as feedback control signals to the image recording apparatus.

Moreover, the description (see pages 2a and 2b) now comprises a factual reference to the prior art documents A1 and A2. As convincingly argued by the appellant, in case information crucial for carrying out the invention is not explicitly contained in the present application, the skilled reader will be in a situation to pick up any details needed to construe a detailed way of carrying out the claimed invention from A1 or A2; with the indicated teaching of A1 and A2, factually referred to in the present description, a relation can be derived between the image quality evaluation data related to the charged amount, the exposure amount and the development condition in said recording apparatus, on the one hand, and basic parameters of print quality cited in A1 (see in particular page 278, left-hand column, second paragraph; page 283, right-hand column, third paragraph), i.e. stroke width, character reflectance, process uniformity, print registration, modulation, tangential edge roughness or image gray-scale fidelity or similar parameters more specifically suited for text printing in A2 (see in particular page 177, left-hand column, the abstract, to page 178, right-hand column, fourth paragraph; page 183, right-hand column, second and third paragraph; Figure 1), on the other hand. Thus, the person skilled in the art will be in a situation to determine the picture quality control signals indicating the charged amount, the exposure amount and the development condition to the electrostatic recording apparatus for achieving the picture quality control.

- 4.3 It is also to be noted that the Examining Division had acknowledged novelty and inventive step of the claimed invention. The appellant has argued as follows in this respect: the wording of the claim allowed the Examining Division to distinguish the invention from the prior art revealed and documented in the search report; this

can only be understood such that the Search Examiner as well as the Examining Division were in the situation to judge on the relevance of the revealed prior art and its pertinence and the inventiveness distinguishing the claimed invention from the prior art; however, this is only possible if the claimed invention was understandable, i.e. is disclosed in a manner sufficiently clear and complete to be carried out by a person of ordinary skill in the art.

Indeed, this argument is not without justification. The fact that the Examining Division, after having raised an objection under Article 83 EPC, nevertheless was in the position to assess novelty and inventive step of the invention, indicates that the invention could be unambiguously understandable for a person skilled in the art. In that case, details crucial for carrying out the invention can be picked up, if necessary, from the factual reference to prior art.

- 4.4 For these reasons the Board comes to the conclusion that the present invention is disclosed in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art (Article 83 EPC).
- 4.5 As required by Rule 27(1)(e) EPC, reference is made in the present description (see for instance page 31, line 21 to page 33, line 5) to the drawings. Moreover, since the present application discloses the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art, there is at least one way of carrying out the invention claimed, with the necessary details which is derivable from the description including the prior art referred to therein. Incidentally, it is also credible, for the same reason, that examples, which according to Rule 27(1)(e) EPC are to be used only where appropriate, are not indispensable in the present case.

Therefore, the present application satisfies the requirement of Rule 27(1)(e) EPC that the description shall disclose in detail at least one way of carrying out the invention.

- 4.4 Since the objections in the decision under appeal have been met and since the appellant has requested further prosecution of the case having regard to the new situation where in particular new prior art documents A1 and A2 have been filed, the case is remitted to the Examining Division accordingly (Article 111 EPC).

Order

For these reasons it is decided that:

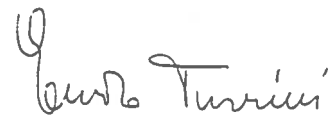
1. The decision under appeal is set aside.
2. The case is remitted to the Examining Division for further prosecution on the basis of claims 1 to 4 filed during the oral proceedings of 16 January 1997.

The Registrar:



P. Martorana

The Chairman:



E. Turrini

McA

B. Sch.

