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D E C I S I O N
of 11 February 2003

Case Number: T 0817/01 - 3.4.2

Application Number: 96201433.8

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Language of the proceedings: EN

Title of invention:
Image processing apparatus

Patentee:
CANON KABUSHIKI KAISHA

Opponent:
Océ-Technologies B.V.

Headword:
-

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step - yes"

Decisions cited:
-

Catchword:
-



Case Number: T 0817/01 - 3.4.2

D E C I S I O N
of the Technical Board of Appeal 3.4.2
of 11 February 2003

Appellant: Océ-Technologies B.V.
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Respondent: CANON KABUSHIKI KAISHA
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Representative: Beresford, Keith Denis Lewis
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Decision under appeal: Interlocutory decision of the Opposition Division
of the European Patent Office posted 15 May 2001
concerning maintenance of European patent
No. 0 733 958 in amended form.

Composition of the Board:

Chairman: E. Turrini
Members: A. G. M. Maaswinkel
V. Di Cerbo

Summary of Facts and Submissions

- I. The appellants (opponents) lodged an appeal, received on 11 July 2001, against the interlocutory decision of the opposition division, dispatched on 15 May 2001, by which European patent No. 0 733 958 (application No. 96 201 433.8) was maintained in amended form. The fee for the appeal was paid on 11 July 2000. The statement setting out the grounds of appeal was received on 8 September 2001.
- II. Opposition had been filed against the patent as a whole on the basis of Article 100(a) EPC, and in particular on the grounds that the subject-matter of the patent was not patentable within the terms of Articles 52 to 57 EPC because it did not involve an inventive step. To support their objections the opponents referred *inter alia* to the following documents:
- (D1) DE-C1-34 10 775
- (D2) EP-A-0 342 060
- (D3) Xerox Disclosure Journal, Vol. 5, No. 3, May/June 1980, page 247
- (D4) IBM Technical Disclosure Bulletin, Vol. 15, No. 7, December 1972, page 2328
- (D5) Xerox Disclosure Journal, Vol. 11, No. 2, March/April 1986, page 75.
- III. On 11 February 2003 oral proceedings were conducted at the auxiliary requests of both parties.

- IV. At the oral proceedings the appellants requested that the decision under appeal be set aside and that the patent be revoked.
- V. The respondents requested that the appeal be dismissed and that the patent be maintained in amended form on the basis of the main request including claims 1 to 10, description and drawings filed at the oral proceedings; or on the basis of the auxiliary request including claims 1 to 10 filed with the letter dated 8 January 2003.
- VI. The wording of independent claim 1 of the main request reads as follows:

"An image processing apparatus (211; 2904; 8002) comprising:

input means for inputting image data;

processing means (403, 406, 407, 408) for processing the image data input by said input means, and for outputting reproduction data for reproducing the image represented by the image data;

first means (409) for determining whether or not an image represented by the image data input by said input means is a predetermined copy-prohibited image;

memory means (903) storing data in electronically readable form identifying the apparatus; and

second means (410; 2411; 7410) for accessing data stored in the memory means and for adding information in the form of a code for identifying the apparatus with which the image data is processed so that the apparatus can be determined from the image reproduced from the reproduction data, wherein said second means is arranged to add the information so as to be difficult to discriminate with normal naked human eyes

in the image reproduced from the reproduction data."

The wording of independent claim 10 of the main request reads as follows:

"An image processing method comprising:
 an input step of inputting image data;
 a processing step of processing the image data input in said input step, and of outputting reproduction data for reproducing the image represented by the image data;
 a step of determining whether or not an image represented by the image data input in said input step is a predetermined copy-prohibited image; and
 a step of reading data stored in a memory identifying the apparatus and adding information in the form of a code for identifying the apparatus with which the image data is processed so that the apparatus can be determined from the image reproduced from the reproduction data, the information being added so as to be difficult to discriminate with normal naked human eyes in the image reproduced from the reproduction data."

Claims 2 to 9 of the main request are dependent claims. The claims of the auxiliary request are not relevant to the present decision.

VII. The arguments of the appellants may be summarised as follows.

The subject-matter of claim 1 of the main request can be subdivided in a first subset including input means, processing means and first means for determining whether an input image is copy-prohibited; and in a

second subset comprising second means for accessing data stored in memory means and for adding information to the image. The first subset is directed to the recognition of original images which should not be processed, and the second subset pursues a different aim of adding information to an image when it is processed in order to be able to retrace the image processing apparatus. These are different and unrelated measures, because whereas the first measure is directed to the prevention of processing of unauthorised images, the second measure allows the processing and retraces the apparatus on which the image was processed. Therefore for the question of inventive step these measures must be considered separately since they are completely unrelated. This had also been the view of the opposition division.

As to the features of the first subset, these are known from prior art digital image processing apparatuses such as, for instance, disclosed in document D2, which apparatuses equally comprise means making it possible to discriminate a specific original for the sake of prevention of forgery of a banknote or copying of other originals. Therefore the first subset is excluded from an assessment of an inventive step of claim 1.

The idea underlying the patent in suit is rather related to allowing the user to process any original image, for instance to make copies, and adding to the copy optically, but difficultly, recognisable information specific for the processing apparatus in order that this apparatus can be retraced. More specific, the identifying information is printed at several positions on the copy. This concept is known from document D3, which therefore should be considered

as the closest prior art. D3 discloses different ways to add identification information to the copy, for instance to use colour coded tag particles mixed with the toner; or to add particles to a fuser oil; or to add a special sprinkler to the copying apparatus. The particles are deposited in very small concentration over the copy sheet in order not to cause visible degradation of the copy quality, whence they are difficult to discriminate with naked human eyes. Document D3 dates back from 1980. It should be noted that copying apparatuses at that time were based on **analog** technology and that the method proposed in D3 was therefore implemented in hardware. In the apparatus of claim 1 the same idea is now implemented in **digital** technology. Since in the field of image processing and copying apparatuses the evolution of analog to digital technology after the publication date of D3 (1980) was a natural development it would have been an obvious step for the skilled person to modify the teaching of this document for a modern apparatus in a digital form. This is also illustrated by documents D1, D4 and D5, in which the adding of information to a copy is equally disclosed. For instance, in document D1 an analog copier is disclosed which additionally includes means (Figure 4, lamp 38 and light valve 41) to add information to a copy. In document D4 a machine-specific marking is disclosed which prevents unauthorized copying. The mark is printed on the copy in an appropriate free space. The mark may identify the particular copier and it is made digitally, because it may include a date and time, implying that it must have been stored somewhere in a memory. Although D4 does not disclose the feature that the added mark is difficult to discriminate, the mark is positioned so that it does not interfere with the copy. Finally document D5

discloses an annotation system for adding information on copies by blending the information into the electrical image on the photoreceptor before it is developed with toner powder. This comes quite close to the digital mixing of the added information into the digital image used for exposing the photoreceptor. Hence the implementation of the teaching of document D3 in a digital way as in D4 or in D5 in a digital information processing or copying apparatus would appear obvious to the skilled person. In this respect document D2 is only referred to, because it shows the general prior art of digital technology in copying machines.

Claim 10 defines the apparatus features of claim 1 in terms of process steps, therefore its subject-matter is equally not inventive.

VIII. The arguments of the respondents may be summarised as follows.

The combination of prior art documents suggested by the appellants involves an impermissible ex-post facto analysis, because separate prior art documents are combined which disclose individual features recited in the claims but without looking at the operational principle of each document. In fact, the cited documents are not combinable because their disclosures are incompatible, furthermore there would have been no reason for combining the teachings of the cited documents because each document teaches a secure copying system in its own right. For instance, document D2 discloses a system which detects when a user attempts to copy a copy-prohibited document and controls the output of the system in a manner that the

copy will be unusable by adding data in a highly visible way. D2 does not teach to add identification information of the apparatus and there would certainly not be a reason to add information difficult to discriminate, because this would be contrary to the teaching of this document, namely to spoil copies in a **highly visible** way. Document D3 teaches to add particles to the toner specific for a particular copying apparatus or to add to the copying machine a special dispenser of unique tag particles in order to be able to retrace the apparatus by examining the copy with an optical microscope. Therefore in D3 the physical appearance of the printing material is changed, which teaches away from adding information in form of a code. As discussed above, the skilled person would not combine this hidden particle method with the conspicuous copy spoiling method of D2, therefore a combination of the teachings of D2 and D3 would not be obvious and such a combination would in any case still not lead to the subject-matter of claims 1 and 10. The argument of the appellants that in the implementation of the teaching of D3 the skilled person would follow the logical evolution of analog to digital technology and would apply the teaching of D3 in a digital way cannot be agreed. In fact, even a modernization of that method as a routine measure does not lead to a digital solution, rather the skilled person would only consider improving the type of toner particles and applying them in a better way to the copy. As to the further documents, neither D1 nor D4 or D5 teach to add information for identifying the copying apparatus to the copy in form of a code so as to be difficult to discriminate. Therefore even a combination of documents D2, D3 with any one further document would not lead to the claimed subject-matter of the independent claims of

the main request.

Reasons for the Decision

Main request

1. *Amendments*

The compliance of the amendments in the independent claims 1 and 10 with respect to Articles 123(2) and (3) EPC was not disputed between the parties. In point 2 of the reasons for the decision the opposition division held that these amendments were supported by claim 6 and passages of the granted patent and referred also to the corresponding originally filed documents. The board has no reason to come to a different conclusion.

Inventive step

- 1.1 The patent in suit relates to an image processing apparatus and method in which data are input and processed and which involves a memory for accessing data. Therefore the generic type of apparatuses addressed in the patent are digital image processing apparatuses of the type disclosed in document D2. Furthermore, since this document addresses the problem of forgery of confidential documents (page 2, lines 17 to 25), document D2 is considered to form the closest prior art because it discloses subject-matter for the same purpose as the claimed invention and having the most relevant technical features in common, i.e. requiring the minimum of structural modifications (see "Case Law of the Boards of Appeal of the European Patent Office", 4th edition 2001, Chapter I.D.3.1).

- 1.2 Document D2, see Figure 1, discloses an image processing apparatus comprising input means for inputting image data (image reading means); processing means for processing the image data input by the input means (CPU, image memory, ROM, RAM) and for outputting reproduction data for reproducing the image (image output means); and means for determining whether or not an image represented by the image data is a predetermined copy-prohibited image (money detecting means). It is noted that the apparatus shown in Figure 1 of D2 also comprises memory means (RAM).
- 1.3 The subject-matter of claim 1 differs from the known image processing apparatus from D2 in that data identifying the image processing apparatus are stored in the memory means; and in the second means for accessing the data in the memory and for adding information in the form of a code for identifying the apparatus, wherein this information is added to the reproduced image in a form so as to be difficult to discriminate with normal human eyes.
- 1.4 The objective problem solved in claim 1 of the patent in suit can therefore be seen as providing means for enabling identification of an image processing or copying machine after the machine has been used to copy.
- 1.5 Document D3 discloses an identification technique enabling to retrace copies to a particular copying machine. In D3 it is proposed to add to standard xerographic toners a small proportion of colour coded tag particles, where the colour code is specific for every machine. Alternatively it is suggested to modify a copying machine by including a separate dispenser

with tag particles which could be sprinkled directly on the copy sheet in very small concentration. In both cases the tag particles could be detected with a standard optical microscope, thereby enabling to retrace the apparatus on which the copy was produced. Therefore in document D3 a solution for the above defined problem is offered.

- 1.6 In the opinion of the respondents the teaching of document D3 is incompatible with the disclosure of D2 because whereas D2 teaches to **visibly** alter the copy with respect to an original image which should not be copied, D3 proposes to mark copies in a **hidden** way for retraceability purposes.
- 1.7 In view of the board a combination of the teachings of documents D2 and D3 cannot *a priori* be excluded. Although the argument of the respondents is correct that the displaying of the results of the respective processes according to these documents is different and might even appear irreconcilable, it is observed that the display modes are a direct consequence of the underlying teachings of these documents which teachings, however, are not incompatible. More in particular, document D2 addresses the problem of preventing unauthorised copying of specific originals by visibly altering the resulting copy in a digital copying apparatus, and at the same time enabling to make fair copies of **any other** original. Therefore the measures in D2 are only activated in **specific** cases. Document D3, on the other hand, intends to mark **all** copies of a copying machine with tag particles which are colour coded in very small concentration in order to enable the retracing of this machine irrespective of any confidential nature of the original image.

1.8 Therefore in an environment with a plurality of digital copying machines of the type disclosed in document D2 the skilled person might have the wish to be able to retrace the machine on which the copies had been produced, irrespective of any confidential nature of a copied original. Since the idea of D3 is to simply add colour coded particles in a toner which would not require any modification of the copying apparatus as such and since the copying machine disclosed in document D2 equally uses a toner (**see page 4, line 7 and line 38**) he would consider to implement the idea of document D3 by including colour coded particles in the toner of the apparatus disclosed in D2.

1.9 The apparatus defined in claim 1 and the method according to claim 10 differ from the copying apparatus and the image processing method resulting from a combination of documents D2 and D3 in the **digital** storage, the accessing and the adding of the information identifying the apparatus. The appellants have argued that the implementation of the teaching of D3 in a digital way would be natural in view of the technological development, which is illustrated by the analog copying machines evolving to digital apparatuses. Furthermore the skilled person would also be motivated by a combination of document D3 with D4 or D5.

1.10 The board does not share this view. As set out in point 1.8 *supra*, the skilled person **would** consider a straightforward implementation of the principle disclosed in D3 of colour coded tag particles in the apparatus of D2, because there is no mutual interference of these solutions, therefore they can be simply applied together without having to modify or

redesign the original apparatus. However, document D3 offers a complete solution which by its nature, adding tag particles to the toner or sprinkling such particles onto the copy sheet after transfer but before fusing, is independent of the type of copying apparatus. Therefore the skilled person would not, as a routine step, consider to almost completely discard the teaching of D3, only preserving its general idea that a copy may be marked in an almost invisible way to enable retracing the copying machine. Rather, a typical routine step would reside, as submitted by the respondents, in a further improvement of the type of tag particles; or, for instance, in optimising these particles to the particular type of toner of the apparatus according to D2.

1.11 In this respect, the reference of the appellants to documents D1, D4 or D5 cannot lead to a different conclusion because these documents do not contain any teaching as to how a process of marking a copy in an almost invisible way as disclosed in D3 could be implemented in a digital way. In fact, although document D1 discloses to add information onto a copy, this process is an analog process carried out in hardware and furthermore the added information is displayed in a highly visible way. Also in documents D4 and D5 the additional information is displayed in a highly visible way, and it is therefore not plausible that a combination of the teachings of D2 and D3, by a further inclusion of any of documents D1, D4 or D5 **would** result in the subject-matter of claims 1 or 10 of the main request.

2.1 In the opinion of the appellants document D3 should also be considered as closest prior art. As discussed

in point 1.5, this document discloses an identification technique enabling to retrace copies to the particular machine where the copies were produced. The explicit disclosure of this document includes proposals to add colour coded tag particles in small concentrations to a non-specified toner, which added particles are not plainly visible on the copy; or to add such particles to a fuser oil; or to include to a copy apparatus a separate coded tag particle dispenser. Therefore the technical field of interest for this document is the field of toner technology or surface treatment of copy sheets in xerographic copying machines. In the opinion of the board, document D3 does therefore not meet the criteria as "closest prior art document" for the question of inventive step according to the case law of the Boards of Appeal. In any case it cannot be seen how, when starting from the explicit disclosure of document D3, the skilled person **would** arrive at the subject-matter of independent claims 1 or 10.

3.1 Hence, in the opinion of the board, the subject-matter of claims 1 and 10 of the main request is not obtainable by a combination of prior art documents in an obvious way.

3.2 Claims 2 to 9 are appended to claim 1 and equally involve an inventive step.

4. *Auxiliary request*

Since the main request of the respondents is allowable there is no need to address the auxiliary request.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the first instance with the order to maintain the patent in amended form corresponding to the main request filed at the oral proceedings, including claims 1 to 10, amended description and drawings.

The Registrar:

The Chairman:

P. Martorana

E. Turrini