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D E C I S I O N
of 26 August 1999

Case Number: T 0515/95 - 3.3.6

Application Number: 91913804.0

Publication Number: 0540619

IPC: G03C 7/42

Language of the proceedings: EN

Title of invention:

Photographic Bleach Compositions

Applicant:

Kodak Limited, et al

Opponent:

-

Headword:

Redox amplification/KODAK

Relevant legal provisions:

EPC Art. 56, 84, 123(2)

Keyword:

"Clarity (yes - in view of common general knowledge)"

"Evidence for common general knowledge"

"Inventive step (yes) - warning in the state of the art"

Decisions cited:

G 0003/89

Catchword:

-



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Boards of Appeal

Chambres de recours

Case Number: T 0515/95 - 3.3.6

D E C I S I O N
of the Technical Board of Appeal 3.3.6
of 26 August 1999

Appellant: Kodak Limited
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Middlesex HA1 4TY (GB)

Representative: Nunney, Ronald Frederick Adolphe
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 19 April 1995
refusing European patent application
No. 91 913 804.0 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: P. Krasa
Members: G. N. C. Raths
M. Lewenton

Summary of Facts and Submissions

I. This appeal lies from the Examining Division's decision refusing the European patent application No. 91 913 804.0 (publication number WO 92/01972), which related to photographic bleach compositions, on the ground that the subject-matter of the then pending Claims 1 to 7 lacked an inventive step in view of documents

(1) DE-A-2 736 886, and

(2) US-A-4 113 490.

II. The Appellant (Applicant) submitted during oral proceedings, which took place on 26 August 1999, a new set of 10 claims, independent Claim 1 reading as follows:

"A method of processing an imagewise exposed photographic silver halide material having low silver levels which includes a redox amplification dye image-forming step, followed by a bleach step using an aqueous solution consisting essentially of hydrogen peroxide or a compound capable of releasing hydrogen peroxide."

Referring to document

(1') GB-A-1 560 046

which is substantially equivalent to document (1), he argued in essence that the bleach-fix of document (1') could not be used on a material that had been through a

redox amplification process and that, therefore, document (1') would have pointed strongly away from the present invention.

III. In response to a communication issued by the Board the Appellant filed a statement in support of his arguments including comparative data as well as the following document:

(3) Research disclosure 11660, December 1973
(pages 109 to 113)

IV. The Appellant requested that the decision under appeal be set aside and that a patent be granted according to the main request, i.e. Claims 1 to 10, description pages 1, 2, 2a, and 3 to 6, as submitted during the oral proceedings or, alternatively, according to the auxiliary requests A and B, both submitted with the letter of 19 August 1999.

V. In the course of the oral proceedings, the Board referred also to document

(4) GB-A-1 268 126,

cited in the application in suit.

VI. At the conclusion of the oral proceedings the Board's decision was pronounced.

Reasons for the Decision

1. *Main request*

1.1 Articles 123(2) and 84 EPC.

Claim 1 of the main request differs from Claim 1 as originally filed by ", followed by" replacing an original "and" and by the insertion of "having low silver levels" and of "consisting essentially".

The amendments "consisting essentially" and ", followed by" are supported by the original description (see page 3, second paragraph and solution C on page 5; and page 3, first paragraph, respectively). These amendments are also clear.

In respect to the amendment "having low silver levels" it has first to be investigated whether this language is clear to a person skilled in the art. The Appellant submitted that according to their common general knowledge those skilled in the art would understand that a redox amplification step will only be reasonably performed with photographic material having silver levels which are low as compared with material used in conventional image forming processes. Therefore, the expression "having low silver levels" was, according to the Appellant, clear for a person skilled in the particular technical field concerned.

In support, he relied on document (3) which, in the absence of text books, was said to be representative for the existing common general knowledge in this technical field. In the absence of evidence to the

contrary the Board accepts this submission, taking into account that evidence for common general knowledge can be furnished in any suitable form (see Opinion of the Enlarged Board of Appeal G 3/89, OJ EPO 1993, page 117, Reasons for the opinion No. 8)

According to document (3) an amplification process utilising hydrogen peroxide (or another peroxy compound) in the amplification step yields deeply coloured dye images with low metal contents, i.e. with traces of silver metal insufficient to initiate colour image dye formation under conventional processing (see page 110, left hand column, third paragraph, in combination with right hand column, first paragraph and line 13 of the second paragraph; the examples show gelatine layers containing silver halide in the range of about 60 to 160 mg/m²).

This conclusion is not impaired by the fact that the process features of a redox amplification step may intensify the image formation when applied with conventional, i.e. high level silver salt emulsion layers (document (4), page 2, lines 33 to 38). This fact does, in the Board's judgement, not invalidate the Appellant's statement - irrefutable for the Board on the basis of the available evidence - that a practitioner would understand that a redox amplification is always used with low silver levels only.

For these reasons the Board finds that Claim 1 complies with the requirements of Article 84 EPC as do Claims 2 to 10.

As the example in the application as originally filed discloses a multilayer coating containing a total silver content of about 1,18 mg/dm², i.e. about 118 mg/m², the Board is satisfied that the feature "having low silver levels" is duly supported by the application as originally filed.

Therefore Claim 1 complies with the requirements of Article 123(2) EPC.

The subject-matter of Claims 2,3 and 4 is based on page 4, line 19, page 3, lines 1 to 4, and 9 to 11, respectively.

Claims 5 to 10 correspond, apart from minor editorial amendments, to Claims 5 to 6, and 8 as originally filed.

Consequently the claims of the main request satisfy Article 123(2) EPC.

1.2 Novelty

The Board is satisfied that the subject-matter of Claim 1 is not disclosed in any of the citations and is, therefore, novel; as no objections had been raised in this respect by the examining division against claims which were broader than the present ones, a detailed reasoning for this finding is not necessary.

1.3 Inventive step

1.3.1 The application according to Claim 1 concerns a method of processing an imagewise exposed photographic silver

halide material which includes a redox amplification dye image-forming step, followed by a bleach step using an aqueous solution of hydrogen peroxide.

- 1.3.2 The problem of the application was to provide a bleach solution which is ecologically more acceptable than traditional bleach solutions based on ferricyanides or ferric EDTA (page 2, lines 30 to 32).
- 1.3.3 A process for treating light-sensitive silver halide colour photographic material is disclosed in document (1); said process involves the bleaching of image silver with hydrogen peroxide, however, under certain specific conditions.

Although the problem of document (1) had been defined as providing a quick bleaching- or bleaching/fixing-treatment producing high quality dye images, the document addresses also the prevention of environmental pollution (page 11, paragraph 3).

The British Document (1') was introduced in the proceedings by the Appellant for linguistic reasons. The Board is satisfied that on its merits document (1') is identical with document (1) i.e. its German equivalent. Therefore, the following arguments based on document (1) as used by the Examining Division apply in an analogous manner also to document (1').

- 1.3.4 Since the problem of document (1) aims at environmental protection when choosing the chemical components in the bleaching or bleaching/fixing bath in a photographic image developing process (page 11, paragraph 3), the Board concurs with the Examining Division that document

(1) can be taken as starting point for evaluating the inventive step of the subject-matter of Claim 1.

1.3.5 Now, the technical problem which the invention addresses is to be determined in the light of the state of the art disclosed in document (1).

According to document (1), referring to **high silver** level photographic material (a total silver content of 6000 mg/m² and 5700 mg/m² is given in examples 3 and 4, respectively), the bleaching of silver with hydrogen peroxide cannot take place in the region in which the image is amplified, due to the specific conditions which imply, inter alia, the application of an organic acid in amounts of 0.03 to 3 moles/litre. Bleaching with hydrogen peroxide in document (1) is only possible after **conventional** colour development, but not after a redox amplification step (page 12, line 30, to page 13, line 1, and Claims 13 and 16).

The technical problem underlying the application with respect to document (1) is, therefore, to overcome this drawback and how to modify the method of document (1) in order to make it suitable for an image forming process comprising a redox amplification step and **low** silver level photographic material.

According to the present application hydrogen peroxide can be used in a bleaching solution after the redox amplification step if appreciable amounts of organic acids are avoided and the process of Claim 1 is suggested as the solution to the above technical problem.

In view of example 1 of the application in suit and of the experimental data submitted by the Appellant with the letter dated August 1999 proving that a satisfactory image quality is achieved with the claimed process, the Board is satisfied that the problem underlying the present application has been solved.

- 1.3.6 Document (1) teaches that hydrogen peroxide bleach can be performed if image amplification is avoided what implies that the treatment with hydrogen peroxide after the colour development step is achieved under conditions which do not allow for the formation of a dye image (page 12, line 30 to page 14, line 5). Considering this explicit warning that bleaching of silver with hydrogen peroxide is impossible after a redox amplification step, the use of an aqueous hydrogen peroxide solution as an efficient bleach solution in the present application when following redox amplification dye image formation, i.e. the process of present Claim 1, can not be considered as obvious for a skilled person in view of document (1).
- 1.3.7 The process of document (2) which involves an image amplifying step utilizing hydrogen peroxide is of no assistance for the skilled person looking for a solution of the existing technical problem. As bleaching components ferric compounds are named without any indication of alternatives thereby, in fact, confirming the warning of document (1) (column 6, lines 16 to 21).
- 1.3.8 For these reasons, the Board concludes that the subject-matter of Claim 1 of the main request is not rendered obvious by documents (1) and (2), either

singly or in combination but involves an inventive step (Articles 52, 56 EPC). The dependent Claims 2 to 10 relate to particular embodiments of Claim 1 and derive their patentability from that of Claim 1.

2. *Auxiliary requests*

In view of the above mentioned conclusion the Appellant's auxiliary requests A and B do not need to be considered.

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 grant a patent in the following version:
 - Claims 1 to 10, filed at the oral proceedings.
 - Description, pages 1, 2, 2a, 3 to 6, filed at the oral proceedings (main request);

The Registrar:

The Chairman:

G. Rauh

P. Krasa