BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS | BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE | CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

Publication in the Official Journal ~~Yes~~ / No

File Number: T 217/90 - 3.3.1

Application No.: 82 303 842.7

Publication No.: 0 071 402

Title of invention: A method of stabilizing a light-sensitive silver halide color photographic material

Classification: G03C 7/40

D E C I S I O N
of 21 November 1991

Proprietor of the patent: KONICA CORPORATION

Opponent: (01) Agfa-Gevaert AG, Leverkusen
(02) Fuji Photo Film Co., Ltd.

Headword: Stabilisation/KONICA

EPC Articles 54(1), 56

Keyword: "Novelty of a method of treatment (yes); application of G 2/88" - "Inventive step (yes) assessment of the technical problem" - "reinstatement of the patent as granted during appeal stage, T 231/85 followed" - "Absence of a party, principle of good faith"

Headnote

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number : T 217/90 - 3.3.1

D E C I S I O N
of the Technical Board of Appeal 3.3.1
of 21 November 1991

Appellant : (Opponent 01)
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Decision under appeal :
Interlocutory decision of the Opposition Division of the European Patent Office announced on 23 January 1990, with written reasons posted on 22 February 1990, concerning maintenance of European patent No. 0 071 402 in amended form.

Composition of the Board :

Chairman : K.J.A. Jahn
Members : R.K. Spangenberg
G. Davies

Summary of Facts and Submissions

I. This appeal lies from the decision of the Opposition Division delivered orally on 23 January 1990, with written reasons posted on 22 February 1990, by which European patent No. 0 071 402, after consideration of two oppositions, was maintained in amended form. The patent was granted in response to European patent application No. 82 303 842.7, which was filed on 21 July 1982, claiming priority of 21 July 1981 of an earlier application in Japan, and contained 13 claims. The decision under appeal was based on an amended Claim 1 and Claims 2 to 13 as granted. Claim 1 read as follows:

"A method of stabilising light-sensitive silver halide colour photographic material characterised in that the developed silver halide color photographic material is brought into contact with a dye stabilising solution comprising an iron complex salt dissolved therein at a concentration of 1×10^{-4} to 1×10^{-1} mols per liter, said solution having a pH from 3.0 to 9.0 and also contains at least one bactericide which is 5-chloro-2-methyl-4-isothiazolin-3-one, 1,2-benzisothiazolin-3-one, and thiabenzazole, either directly after bleach-fixing or fixing, or directly after, first, bleach-fixing or fixing and second, subsequent washing, in the colour processing of said photographic material, any washing subsequent to said contacting being insufficient to remove all the iron complex salt from said photographic material."

In the decision reference was made to a great number of documents, of which the following remained relevant:

(5) US-A-4 265 431
(6) US-A-4 083 721.

It was stated that the subject-matter of the patent as amended was novel. None of the cited documents, however, gave the person skilled in the art an incentive to improve the stability of dye images formed by processing colour photographic materials by means of iron complex salts.

II. The appeal was filed on 9 March 1990 and the prescribed fee was paid at the same date. A Statement of Grounds of Appeal was received on 3 April 1990. On 30 October 1991 the Respondent referred to two further documents:

(13) Photographic Science and Engineering 11(1967), 301-304 (correctly "295-303", according to the submitted copy of the article), and

(14) J. Appl. Photogr. Engineering 5(1979), No. 4, 200-207.

Oral proceedings took place on 21 November 1991, during which the Respondent referred to the decision G 2/88 of the Enlarged Board of Appeal (OJ EPO 1990, 93) and filed two sets of amended claims, both accompanied by a correspondingly amended description, as his main and auxiliary request. Claim 1 according to the main request differed from that before the Opposition Division in that any reference to bactericides was deleted and the method was specified as "a method of stabilising light-sensitive silver halide colour photographic material against discoloration in the dark or in the light of the developed colour image".

In these oral proceedings Opponent II, being a party to the proceedings, was not represented, in conformity with his reply to the summons.

III. The Appellant (Opponent I) submitted that the main request, amounting to the reinstatement of Claim 1

substantially in the text as granted, was inadmissible since the limitation to the mandatory presence of certain bactericides had been introduced during the opposition proceedings in order to overcome a novelty objection. Thus the subject-matter no longer comprised by Claim 1 upon which the decision under appeal was based had to be regarded as being surrendered. Moreover, allowing this reinstatement would be contrary to the principle of good faith with respect to Opponent II, who had raised the said novelty objection and, being satisfied that his opposition was successful, did not take part in the appeal proceedings.

Regarding patentability, the Appellant argued that the subject-matter of the main request lacked novelty with respect to document (6), since a person skilled in the art performing the method disclosed in Example 3 of that document had inevitably performed the method according to the disputed patent. The present case differed greatly from that underlying the decision G 2/88 since the prior art did not only disclose the physical steps of the claimed method, but also their intended purpose, i.e. the stabilisation of the developed dye image against discoloration in the dark or in the light. In addition, the claimed process did not involve an inventive step either. The alleged technical problem did not exist, because the conventional washing of photographic materials with sufficient water conferred satisfactory stability to these materials as already acknowledged in the patent in suit. Furthermore the test results contained in the patent specification were unreliable since they were performed under unrealistic (too drastic) test conditions as could be seen from documents (13) and (14) submitted by the Respondent.

With respect to the auxiliary request the Appellant argued that the amendment introduced into Claim 1 during the opposition proceedings contravened Articles 123(3) and 83, or 100(b) EPC, respectively, since the patent as granted did not even suggest that the bactericides now specified as essential features of the claimed method would make a contribution to the solution of the technical problem underlying the patent in suit, i.e. the stabilisation of the formed dye images. Moreover, the addition of bactericides to photographic processing solutions was acknowledged in the patent in suit as being well known in the art, hence their use in the method of Claim 1 was obvious.

IV. The Respondent (patent proprietor) contested that submitting the main request not earlier than during the oral proceedings contravened the principle of good faith. The amendment of Claim 1 during the opposition proceedings was only submitted as an attempt to exclude any possible "accidental anticipation" by methods implied by the state of the art. However, the decision G 2/88, which was taken afterwards, showed that this amendment was unnecessary because Claim 1 already contained a novel functional technical feature, namely to maintain in the final washing solution a concentration of iron complex salts within a specified range in order to improve image stability. This feature was novel and unobvious. The mentioning of good stability against discoloration in document (6) clearly related to the presence of a particular cyan dye and not to the use of an iron complex salt. It was not correct to take this disclosure out of its context. Moreover, the alleged lack of novelty was based on an assumption concerning the amount of iron complex salt carried over from the bleach fixing bath into the final washing solution which might or might not be correct. The technical problem underlying the patent in suit was not to

improve the stability of the developed dye image in all circumstances, but only in combination with reduced water consumption in the final washing step. This technical problem did exist and it was solved by the method of Claim 1 of the disputed patent in an unobvious manner. The test conditions indicated in the patent specification were severe but in no way unrealistic. The tests performed by the Appellant were made under the same conditions and the test only failed for one out of four samples. Thus the test results in the patent specification were not unreliable.

Also the method according to Claim 1 of the auxiliary request involved an inventive step, even if the additional presence of the bactericides was not in itself inventive. This feature was clearly disclosed in the patent as granted as an optional feature of the invention. Article 83 EPC does not require the disclosure of its advantages. Thus the auxiliary request was not open to formal objections either.

V. The Appellant requested that the decision under appeal be set aside and the patent revoked.

The Respondent requested that the appeal be dismissed and the patent be maintained on the basis of the amendments to the claims and the description of the main request submitted during oral proceedings or, alternatively, on the basis of the amendments to the claims and the description of the auxiliary request likewise submitted during oral proceedings.

At the end of the oral proceedings the decision of the Board to allow the main request was announced.

Reasons for the Decision

1. The appeal is admissible.

2. Main request

2.1 Amissibility of the amendment

2.1.1 The further characterisation of the expression "stabilising" by the introduction of the words "against discoloration in the dark or in the light of the developed colour image" is based upon the disclosure on page 3, lines 5 to 7 of the application as filed (see also the patent specification, page 2, lines 39 to 40). The phrase "any washing ... said photographic material" added at the end of Claim 1 as granted during opposition proceedings corresponds to the disclosure on page 19, lines 10 to 14 of the application as filed (see page 9, line 12 of the patent specification). Since both amendments do not extend the scope of protection beyond that of Claim 1 as granted, no objections against these amendments arise under Article 123 EPC.

2.1.2 In the Board's judgment, by the mere fact that the patent proprietor has made an attempt to overcome any possible novelty objection raised on the basis of e.g. document (6) by a limitation he has not surrendered any subject-matter comprised by the patent as granted. Thus the patent proprietor is not, as a matter of principle, prevented from submitting further amendments which substantially reinstate the text of the patent as granted, provided that such amendment does not constitute an abuse of procedural law (see also T 123/85, OJ 1989, 336, in particular points 3.1.1 and 3.1.2 of the reasons). In the present case, the partial reinstatement was inter alia prompted by the Appellant's objections to the then standing amended

Claim 1 (see item III above, last paragraph). Therefore, this reinstatement does not constitute an abuse of procedure.

Furthermore, the partial reinstatement of Claim 1 as granted did not contravene the principle of good faith vis-à-vis the former Opponent II, being a party to the appeal proceedings, who was duly summoned to the oral proceedings and therefore had the opportunity to be heard. Thus the Board is not prevented by the provision of Article 113(1) EPC from considering and deciding upon this request (see e.g. T 574/89 of 11 July 1991, not intended for publication in the OJ EPO, point 5.3 of the reasons, and the earlier decisions cited there).

2.2 Novelty

2.2.1 The novelty of the method according to the amended Claim 1 was disputed with reference to the disclosure in document (6), in particular to its Example 3. This document relates to a specific class of cyan couplers which are said to have good stability to heat and humidity for a long period of time (column 2, lines 47 to 51). Example 3 (column 22) describes the manufacture of a film containing one particular cyan coupler of the said class. This film sample is then exposed to light and processed by the following sequence of steps: colour development, water wash, bleach-fixing, stabilising, and drying. The composition of the various processing solutions is given as well as the processing time for each step. The bleach-fixing solution contained 40 g/liter of iron(III)-ethylenediamine-tetraacetate while the stabilising solution of the last step did not contain any iron salts. Referring to a calculation submitted by Opponent II in his notice of opposition and being based on the assumption that 50 ml of the bleach-fixing solution per m^2 of the

processed film were carried over to the final stabilising bath and the further assumption that the processing steps were carried out in a countercurrent flow apparatus under the operating conditions set out in document (5), column 3, lines 35 to 50, the Appellant stated that this carry-over would inevitably result in a concentration of iron complex salt in the final stabilisation bath which falls within the limits indicated in Claim 1 of the patent in suit. However, the Board is not satisfied that, even if one would accept the amount of carry-over of 50 ml/m^2, which is mentioned in document (5) and in the disputed patent, page 14, lines 1 and 2 for specific circumstances, as being applicable to the processing conditions of Example 3 of document (6), any reasonable calculation of the concentration of iron complex salt in the stabilising bath being obtained by this carry-over would be possible, since this example does not indicate the size, and thereby the surface, of the treated film sample. Since this example relates to a test material containing only one light sensitive layer, in contrast to commercial materials containing at least three such layers, there is no reason whatsoever to assume that this test has been performed in the apparatus and under the countercurrent flow conditions disclosed in document (5) for commercial (continuous) film processing. Therefore, the objection raised by the Appellant is not well-founded and must be disregarded already for this reason.

2.2.2 Moreover, even if the above example would disclose all the physical steps necessary for performing the method of the disputed patent, it would still not destroy the novelty of that method, because this example does not disclose in the form of a technical teaching the application of iron complex salts for the purpose of stabilising the developed colour image against discoloration in the dark or in the light, which in the Board's judgment is a functional

technical feature contained in Claim 1 of the patent in suit in the sense of the decision G 2/88 of the Enlarged Board of Appeal. It is true that in the final step of Example 3 of document (6) a stabilising solution containing sodium benzoate, glacial acetic acid, citric acid and sodium citrate is used and that it is said that the colour image so processed has excellent fastness to light and moisture, as a result of the processing and due to the coupler used therein (column 22, lines 43 to 50). Nevertheless, this statement clearly relates to the coupler employed in the material of this example, which results in a colour image after processing, including a treatment with the said stabilising solution, and not to the processing steps taken in isolation. This construction of the information content of this example is further confirmed by Example 2 wherein the processing steps are not specified and it is stated that the fastness of dyes to heat and moisture is remarkably improved by the use of "the couplers of the present invention" in contrast to the use of couplers with an unsubstituted coupling position (column 22, lines 1 to 5). Therefore, the stabilising function of the iron complex salts, conventionally used in bleach-fixing compositions, which is an essential functional technical feature of the claimed method, remained hidden and was not disclosed in document (6).

In the Board's judgment, and contrary to the Appellant's submission, it does not matter that the overall result of the method described in Example 3 of document (6) is described in terms similar to those used in the disputed patent. The relevant functional technical feature of Claim 1 of the patent in suit is the use of distinct physical entities, namely iron complex salts, for the purpose of stabilising the developed colour image against discoloration in the dark or in the light, and it is not possible, in the Board's judgment, to separate the cause,

i.e. the physical entity, from the result to be achieved, i.e. the stabilisation. Therefore, the use of a certain cyan coupler according to document (6) for obtaining, after processing, a developed colour image which is stabilised against discoloration is a functional technical feature different from that disclosed in the patent in suit, irrespective of the fact that the purpose per se is the same. In other words, the technical result taught by both processes, hence their technical teaching, is different. According to points 2.2 and 2.3 of the reasons for the decision G 2/88 of the Enlarged Board of Appeal it is possible to claim a new use of a known physical entity either in terms of a method or in terms of a use of said entity. The considerations for assessing the novelty of the subject-matter of both types of claims are identical, i.e. in both cases the claim has to be construed as meaning that the indicated purpose is in fact achieved by the related physical entity, and that it constitutes a functional technical feature of that claim (see point 9 of the reasons for the decision). The reasons for this decision therefore do not support the Appellant's submission that the considerations underlying the decision of the Enlarged Board of Appeal were not applicable in the present case.

2.2.3 The Appellant has not argued that the above functional technical feature had already become available to a person skilled in the art by performing the physical steps of Example 3 of document (6). The Board, however, has examined that question and, as already stated at the end of the first paragraph of point 2.2.2 above, arrived at the conclusion that this was not the case. It follows from the decision G 2/88, point 10 of the reasons, that what has been made available to the public by a written description, i.e. in the present case by document (6), is the information content of this document. In point 10.1

the Enlarged Board of Appeal rejected the "doctrine of inherency" and stated that a hidden or secret use which might have been "inherent" in what was made available was not a ground for objection to the validity of a European patent, since the question of "inherency" did not arise as such under Article 54 EPC. Thus it is of no relevance to the question of novelty in the present case whether or not the stabilising effect of the iron complex salts carried over from the bleach fixing bath in the process of Example 3 of document (6) was an "inherent" result of performing this process. What has to be decided is whether a person skilled in the art performing this example would have been informed about this effect. This cannot be the case here, since the summary of the result of performing this example (see column 22, lines 43 to 50) clearly indicates that the observed increase in stability has been exclusively attributed to the use of a particular coupler in the processed material and not to the particular physical steps of processing.

2.3 Inventive Step

2.3.1 As can be seen from the technical background described in the patent specification, page 2, lines 7 to 35, it was well known that the discoloration in the dark and in the light of azomethine and indoaniline dyes produced by colour development of photographic materials was a serious problem, in particular if the use of large amounts of washing water was to be avoided (see in particular lines lines 22 to 29). One attempt to achieve this goal, i.e. the use of thiocyanate salts as stabilising agents, was found unsatisfactory (lines 30 to 35).

With respect to this state of the art and in the absence of a proper comparison with any relevant prior art the technical problem underlying the patent can be seen in

proposing an alternative method for obtaining developed colour images having good stability against discoloration in the dark and in the light, which method requires reduced washing time and reduced amounts of washing water (see the patent specification, page 2, lines 36 to 40).

The Appellant's submission that no real problem existed, because after sufficient washing with water according to conventional practice the developed colour images were already sufficiently stable, as admitted by the Respondent, disregards the increasing need to reduce the amount of waste water, dictated by environmental reasons, and must therefore fail.

2.3.2 The patent in suit proposes to solve this problem essentially by maintaining in the last processing solution (which may be the washing solution conventionally applied after bleach-fixing) a specified concentration of an iron complex salt, maintaining the pH-value within the range of from 3,0 to 9,0, and ensuring that any additional washing or rinsing after the said final processing step does not remove all of the iron complex salt. In the Board's judgment, the last of these requirements must be seen in the light of the stated technical problem. Therefore, the Appellant's opinion that it implies that substantially all of the iron complex could be washed out is not based upon an appropriate construction of Claim 1. On the contrary, this expression rather tells the person skilled in the art to remove as little as possible of the iron complex during such subsequent washing.

2.3.3 Examples 1 and 2 of the patent in suit contain data (see Tables 2 and 4) concerning the stability of the maximum red density during storage for 60 days at 80°C and 80% relative humidity, which in the Board's judgment indicate

that the existing technical problem has been effectively solved.

2.3.4 The Appellant has contested the relevance of these data because in his opinion the test conditions were unrealistic and too severe. This submission was further confirmed in his opinion by the content of documents (13) and (14), submitted by the Respondent in an attempt to rebut this argument. It is true that in these documents less severe test conditions are recommended. Thus in document (13) it is said that for most products keeping at 140°F (corresponding to 60°C) at 70% relative humidity for at most 14 days are the best test conditions for simulating long-term storage, which have shown the best correllation with image stability problems resulting from process variations such as ineffective washing (see Table II on page 299 and the paragraph bridging pages 301 and 302). Higher temperatures such as 170°F (about 78°C) were only used in dry atmosphere. Document (14) is concerned with image stability evaluation and the quantitative relation between data obtained by accelerated keeping tests and discoloration in the dark at room temperature. The reported data (page 201, Figure 1) were obtained at 40% relative humidity. A 0,1% red density loss was found after storage at 85°C for two days, 77°C after 3 days etc. and a period of 6 years for the same density loss at 24°C was calculated and found in good correspondence with the value actually observed at that temperature. It is true, therefore, that the test conditions used by the Respondent were really severe. None of these documents, however, support the Appellant's submission that the test conditions were so severe that the results were obscured by effects not related to dye stability. The Appellant himself has performed tests reported in the statement of grounds of appeal in which only one of four samples was destroyed under the test

conditions, which corresponded to those used in the disputed patent. These test results did not exclude that the stability against fading in the dark was achieved by the method of the present Claim 1. This was admitted in the statement of grounds of appeal. In the Board's judgment, therefore, the Appellant's argument that the existing problem was not effectively solved was not supported by convincing evidence.

2.3.5 It remains to be investigated whether the cited documents contained any suggestion to solve the technical problem identified in item 2.3.1 above by the technical features contained in Claim 1 of the disputed patent, on its proper construction, as set out in item 2.2.2 and 2.3.2 above. As the result of this investigation the Board is satisfied, in accordance with the submissions of both parties that none of the documents cited against the disputed patent addresses the above-mentioned technical problem. Hence the cited prior art could not have suggested the solution to it proposed by the patent. Thus this solution was not obvious.

3. For these reasons the subject-matter of Claim 1 of the main request meets the requirements of the EPC. Since the dependent Claims 2 to 13 only concern specific embodiments of the method of Claim 1 and no formal objections arise against the consequential amendments to the description, the patent can be maintained as requested. There is no need, therefore, to consider the auxiliary request.

Order

1. The decision under appeal is set aside.

2. The case is remitted to the first instance with the order to maintain the patent on the basis of the documents submitted during the oral proceedings according to the main request.

The Registrar

E. Görgmaier

The Chairman

K.J.A. Jahn