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D E C I S I O N
of 28 April 2004

Case Number: T 0672/99 - 3.3.7

Application Number: 92113813.7

Publication Number: 0531738

IPC: A61K 7/06

Language of the proceedings: EN

Title of invention:
Two-pack type keratinous fiber treating composition

Patentee:
KAO CORPORATION

Opponent:
Henkel Kommanditgesellschaft auf Aktien

Headword:
-

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step (yes)"

Decisions cited:
-

Catchword:
-

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Case Number: T 0672/99 **-** 3.3.7

D E C I S I O N
of the Technical Board of Appeal 3.3.7
of 28 April 2004

Appellant: (Opponent)
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Representative:
-

Respondent: (Proprietor of the patent)
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Representative:
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Decision under appeal:
Interlocutory decision of the Opposition Division of the European Patent Office posted 20 October 1999 concerning maintenance of European patent No. 0531738 in amended form.

Composition of the Board:

Chairman: R. E. Teschemacher
Members: P. A. Gryczka
B. L. Ter Laan

Summary of Facts and Submissions

I. The mention of the grant of European patent No. 0 531 738 in respect of European patent application No. 92 113 813.7, filed on 13 August 1992, was published on 13 November 1996.

II. A notice of opposition was filed on 1 August 1997 in which revocation of the patent in its entirety was requested on the grounds of lack of novelty and inventive step (Article 100(a) EPC).

The following documents were cited *inter alia* during the opposition proceedings:

D2: EP-A-0 435 012

D3: Kosmetik, Wilfried Umbach, Georg Thieme Verlag Stuttgart - New York, 1998, pages 258 to 263

III. In its interlocutory decision posted on 20 October 1999, the Opposition Division found that the European patent could be maintained in amended form, on the basis of claims 1 to 3 of the second auxiliary request as filed on 24 March 1998. Claim 1 of said request read as follows:

"A two pack keratinous fiber treating composition consisting of

a) a first pack containing an organic solvent and an acid, selected from citric acid, glycolic acid, succinic acid, tartaric acid, lactic acid, acetic acid, fumaric acid, malic acid, levulinic acid, butyric acid,

valeric acid, oxalic acid, maleic acid, phthalic acid, mandelic acid and phosphoric acid, and

b) a second pack containing a cationic polymer and/or an amphoteric polymer."

In its decision the Opposition Division held that:

(a) The main request was not in conformity with the requirements of Article 123(2) EPC.

(b) The subject-matter of claim 1 of the first auxiliary request did not involve an inventive step (Article 56 EPC).

(c) No objections under Articles 123(2) and (3) and 52(1) and (4) were raised in relation to the subject-matter of the second auxiliary request.

(d) The problem solved by the opposed patent was to provide a hair treatment composition capable of exerting long-lasting conditioning effects to the hair. Neither D2 nor D3 dealt with hair conditioning. Therefore, the skilled person would not start from any of these documents so as to arrive at compositions with long-lasting conditioning effects.

(e) D2 did not disclose a composition with, in a first pack, the specific acids mentioned in claim 1 of the second auxiliary request, nor the use of a cationic polymer in a second pack. There was no incentive for the skilled person to substitute the oleic acid in the first pack of composition H of D2

for an acid as defined in claim 1 of the second auxiliary request, nor to select specifically the cationic polymers among the conditioning agents mentioned in the list given in D2.

(f) D3 did not disclose the specific acids of the first pack of the composition mentioned in claim 1 of the second auxiliary request. There was, consequently, no incentive to substitute the sulfurous acid disclosed in D3 for an acid as defined in claim 1 of the second auxiliary request in order to achieve long-lasting conditioning effects.

(g) Therefore, even when starting from any one of D2 or D3, the subject-matter of the second auxiliary request involved an inventive step.

IV. On 20 December 1999, the Opponent (Appellant) filed a notice of appeal against the above decision paying the respective fee on the same day. With the statement setting out the grounds of appeal dated 28 February 2000, the Appellant referred to a further document:

D2a: Karlheinz Schrader, Grundlagen und Rezepturen der Kosmetika, 2.Auflage, 1989, Hüthig Buch Verlag Heidelberg, pages 680 and 700 to 702.

V. Oral proceedings took place on 28 April 2004.

VI. The Appellant's arguments can be summarised as follows:

(a) The skilled person was aware of the fact that dying and permanent waving involved strain for the hair. This was confirmed in the opposed patent

itself, where, as sole state of the art, two documents relating to permanent waving were cited and where dying was mentioned as a specific application of the claimed compositions. For these reasons D2 and D3 were relevant documents.

(b) D2 which described compositions causing only little damage to the hair was the closest prior art. The objective of the opposed patent was to provide an alternative to the two-pack compositions of D2. The first pack of composition H according to D2 comprised oleic acid and a solvent which induced swelling of the hair. A conditioning agent could be added to the second pack of the composition; cationic polymers were disclosed as possible conditioning agents. This teaching was confirmed by document D2a which mentioned cationic polymers as conditioning agents for hair cosmetics. It was, consequently, obvious to the skilled person to add cationic polymers to composition H of D2 for imparting conditioning effects to the dyed hair.

The Respondent had not shown that the use of the weak acids specified in claim 1 of the patent-in-suit resulted in an unexpected effect when compared to the oleic acid present in composition H of D2. Furthermore, D3 disclosed citric acid, which was an acid explicitly envisaged by the opposed patent, as a constituent of compositions used in the permanent waving of hair. Therefore, the replacement of the oleic acid of D2 by the present weak acids did not imply an inventive step.

Since the wording of the claim did not specify how to apply the two packs, it was of no relevance whether they were mixed prior to application (D2), or whether the first pack was applied to the hair before the second pack (patent-in-suit).

(c) The Respondent had not shown any unexpected effect linked to the use of the acids specified in claim 1 of the opposed patent in comparison to the sulfurous acid disclosed in D3, so that the reasoning set out for D2 could also be applied starting from D3.

(d) Consequently, the claimed subject-matter did not involve an inventive step.

VII. The Respondent's arguments can be summarised as follows:

(a) Composition H of D2, which disclosed the combined use of oleic acid and an organic solvent in the first pack, could be considered as the closest prior art.

(b) The problem underlying the patent in suit was to improve the conditioning effect, resulting in moistness, softness and smoothness of the hair, which effect should be long-lasting as well. Conditioning effects, which could also be achieved in the presence of a dye, were not mentioned in D2. In contrast to the acids according to the opposed patent, oleic acid, which had a long alkyl chain of 18 carbon atoms, was not dissolved in water and could therefore not cause swelling of the hair.

According to the opposed patent, the organic solvent which was contained in the first pack dissolved the acid to promote its penetration into the hair. Furthermore, whereas according to D2 the two packs were mixed prior to the application onto the hair, in the present invention the packs were applied individually and subsequently.

In order to arrive at the composition as claimed in the opposed patent when starting from composition H of D2, the skilled person would have had to make several modifications: replace the oleic acid by a weak acid as defined in claim 1, add a cationic and/or an amphoteric polymer to the second pack and, finally, apply each of the packs in a specific order. This could not be considered obvious.

(c) D2a should not be admitted into the proceedings as it was late filed and *prima facie* not relevant. Although it disclosed cationic polymers as conditioning agents, it was completely silent as to the essential features of the present invention.

(d) The thioglycolic and the sulfurous acid disclosed in D3 were reducing agents which did not penetrate into the hair, but merely served to reduce the sulfur-sulfur bonds of the hair. The comparative tests filed with the letter dated 24 March 1998 showed that these acids did not provide the effects achieved with the acids according to the opposed patent. Furthermore, according to D3, a cationic polymer was added to the first pack and not to the second. It was not obvious to introduce

the polymer in the second pack and to replace the reducing acid by one of the weak acids mentioned in claim 1.

(e) Consequently, the claimed subject-matter involved an inventive step.

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

IX. The Respondent requested that the appeal be dismissed and the patent be maintained in the version underlying the decision under appeal.

Reasons for the Decision

1. The appeal is admissible.

2. The findings in the decision under appeal that the claims were in accordance with the requirements of Article 123(2) and (3) EPC and that the claimed subject-matter was novel have not been challenged by the Appellant. The Board sees no reason to take a different view.

Inventive step

Closest prior art

3. The patent-in-suit concerns a two-pack type keratinous fiber treating composition. Such compositions are disclosed in D2, which the Opposition Division as well

as the parties considered to be the closest prior art document.

D2 relates to a two-part hair dyeing agent composed of a first agent comprising as essential components at least one compound that forms HCO_3^- by dissociation in water, an alkali generating substantially no irritating odour and a dye for hair and having a pH of 8.2 to 9.0, and a second agent comprising as essential components hydrogen peroxide and a buffer solution and having a pH of 2.0 to 4.0, the weight ratio of the first agent and the second agent to be mixed being such that the pH of the mixture of the two is within a range of from 6.5 to 7.9 (claim 1).

The two constituent components of the dyeing compositions may be mixed and immediately thereafter the mixture is uniformly applied to the hair (page 4, lines 32 and 33).

D2 mentions that at least one of the first agent and the second agent can incorporate a conditioning agent to improve the combability of the dyed hair after shampooing (claim 4; page 4, lines 17 to 19). Among the several conditioning agents envisaged, cationic polymers, in particular SM-702C -an amino-modified silicone- and CATIOL HC-100 -a cationized cellulose- are mentioned (page 4, lines 20 to 21). However, none of the compositions exemplified in D2 in fact comprises a hair conditioning agent.

In two-pack composition H, the first agent contains, among other ingredients, 4.0 weight% ammonium hydrogencarbonate, 10.0 weight% oleic acid, 12.0

weight% of 50% ethyl alcohol, 8 weight% of propylene glycol and 2.0 weight% of sodium hydroxyde (table 2, page 6).

In composition I, which is intended to illustrate a conventional dyeing composition, the first agent contains no ammonium hydrogencarbonate, and the sodium hydroxide of composition H is replaced by aqueous ammonia in order to obtain a pH of 9 (table 2, page 6).

The hair dyeing agents were prepared by mixing the first and second agent. The hair dyed with composition H showed less damage than the hair dyed with composition I (figure 2, page 9; page 6, lines 6 to 15).

Technical problem and solution

4. The patent-in-suit aims at providing a keratinous fiber treating composition that exerts long-lasting conditioning effects, imparting good texture including softness, moistness and smoothness to keratinous fibers, such as hair (page 2, lines 5 to 8, 38 to 41).

4.1 The general teaching of D2 is that the use, instead of ammonia, of a compound that generates HCO_3^- by dissociation in water, leads to less irritation and damage to the hair. The experiments disclosed in D2 are designed to compare the effects of the agents used only in this respect. In particular, no reference at all is made in D2 of long-lasting conditioning effects. As, furthermore, none of the compositions exemplified in D2 contains a conditioning agent, these compositions *per se* cannot provide the effects aimed at in the opposed patent. For these reasons, the Appellant's argument

that the sole problem which could be formulated with regard to document D2, was to provide an alternative to the compositions disclosed therein, cannot be followed.

Therefore, also when taking into account D2, the technical problem remains as formulated in the opposed patent (point 4 above).

4.2 In view of the examples in the patent-in-suit, the Board is satisfied that the technical problem as defined herein above, has effectively been solved by the two-pack type compositions according to claim 1.

Obviousness

5. It remains to be decided whether the claimed subject-matter is obvious with regard to the documents on file.

5.1 Although D2 mentions the possibility of adding to the essential components of the dying compositions other usable ingredients, e.g. a hair conditioning agent, to the first or the second agent in order to improve the combability of the dyed hair after shampooing (claim 4; page 4, lines 17 to 19), it does not address the problem of imparting long-lasting conditioning effects to the dyed hair and is silent about the necessity, for that purpose, of a pre-treatment of the hair with a weak acid. For that reason already, the skilled person could not deduce from D2 the solution provided by the patent-in-suit to solve the problem of imparting long-lasting conditioning effects.

5.2 Even if it could be assumed that long-lasting conditioning effects can be achieved when adding a

cationic polymer to composition H of D2, as the Appellant argued, it would still be necessary to replace the oleic acid by a weak acid as mentioned in claim 1 in order to arrive at the compositions of the opposed patent. However, D2 does not give any information regarding the function of oleic acid in composition H. Even assuming that oleic acid has the same effect of swelling the hair as the weak acids according to the patent in suit, which was denied by the Respondent, such information could not be derived from D2. The acids used as buffering agents in the second agent of D2 serve to stabilize hydrogen peroxide (D2, page 3, lines 48 to 56) and have therefore a completely different function than the weak acids of the opposed patent, i.e. swelling of the hair (patent in suit, page 2, lines 43 to 47). Consequently, the skilled person does not have the necessary information to find alternatives to the oleic acid of D2.

Finally, according to D2, the two parts of the compositions are mixed before being applied to the hair; no suggestion is made to apply them consecutively as indicated in the opposed patent (D2, page 4, lines 31 to 33; page 5, lines 57 to 58). The Appellant argued in this respect that the chronological order in which the two parts of the claimed compositions should be applied to the hair had no significance for the assessment of inventive step, as this feature was not indicated in claim 1 and therefore did not restrict the claimed subject-matter. The Board cannot follow this argumentation. The claimed two-pack compositions have an inherent property, namely to impart long-lasting conditioning effects when used in the specific manner indicated in the opposed patent. It is a well

established practice for the assessment of the inventive activity of chemical compounds or compositions, to take into account effects that are achieved when using the compounds or compositions for a certain purpose, even if those effects are only achieved under specific conditions.

5.3 In view of the above, it can be concluded that D2 contains no incentive to replace the oleic acid by any of the acids specified in present claim 1, nor to add a conditioning agent to the second component of the two-pack compositions, in order to impart long-lasting conditioning effects.

5.4 For these reasons the subject-matter of claim 1 of the patent-in-suit was not obvious to the skilled person in the light of D2 by itself.

5.5 D3 reflects the general knowledge in the field of cosmetic compositions for the treatment of hair. In the compositions of table 5.15 (page 261), ammoniumthioglycolate or sulfurous acid are present as reducing agents (footnote (9)). In the composition of table 5.16 (page 262) citric acid is used as a pH regulator and as a buffer, to stabilize hydrogen peroxide (footnote (10) on page 261; footnote (16) on page 262; page 259, third full paragraph). The compositions for permanent waving of hair disclosed in tables 5.15 and 5.16 contain polydimethyldiallyl-ammonium chloride for improving the combability of the hair (footnote (5) on page 261).

However, D3 does not mention the possibility of achieving long-lasting conditioning effects, nor does

it disclose that, in order to achieve this effect, a pre-treatment with a first composition containing a weak acid is necessary. The results of the comparative tests filed by the Respondent in the first instance proceedings show that the use of sulfurous acid or thioglycolic acid and its ammonium salt, instead of the weak acids specified in the patent-in-suit, do not impart long-lasting conditioning effects (experiments reported under point 3 of the Respondent's letter dated 24 March 1998).

The argument of the Appellant that these experiments were not suitable to prove an unexpected effect linked to the use of the weak acids specified in the patent-in-suit, is unsubstantiated and the Board sees no reason to follow it.

The skilled person could therefore not gather any indication from D3 that would have brought him to the compositions now being claimed.

6. From the above it follows that the claimed subject-matter involves an inventive step.

7. There was no need to decide on the admission of D2a into the proceedings, since the document has not become relevant to this decision.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

C. Eickhoff R. E. Teschemacher