BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS

BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE

CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

Internal distribution code:
(A) [ ] Publication in OJ
(B) [ ] To Chairmen and Members
(C) [ ] To Chairmen
(D) [X] No distribution

Datasheet for the decision of 16 June 2009

Case Number: T 0605/04 - 3.3.07

Application Number: 97950056.8

Publication Number: 0957890

IPC: A61K 7/06

Language of the proceedings: EN

Title of invention:
Hair treatment composition containing metal-aminoacid complex

Patentee:
Unilever PLC, et al

Opponent:
HENKEL AG & CO. KGAA

Headword:
-

Relevant legal provisions:
-

Relevant legal provisions (EPC 1973):
EPC Art. 54, 56

Keyword:
"Novelty - yes (main request)"
"Inventive step - no (main request) - obvious combination of features"
"Remittal - yes (auxiliary request)"

Decisions cited:
-

Catchword:
-

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0605/04 - 3.3.07

D E C I S I O N
of the Technical Board of Appeal 3.3.07
of 16 June 2009

Appellants: (Opponents)
HENKEL AG & CO. KGAA
FJP
D-40191 Düsseldorf (DE)

Representative:
-

Respondents: (Patent Proprietors)
Unilever PLC
Unilever House
Blackfriars
London
Greater London EC4P 4BQ (GB)

UNILEVER N.V.
Weena 455
NL-3013 AL Rotterdam (NL)

Representative:
James, Helen Sarah
Unilever Patent Group
Colworth House
Sharnbrook
Bedford MK44 1LQ (GB)

Decision under appeal:
Interlocutory decision of the Opposition Division of the European Patent Office posted 12 March 2004 concerning maintenance of European patent No. 0957890 in amended form.

Composition of the Board:

Chairman: S. Perryman
Members: B. ter Laan
F. Rousseau

Summary of Facts and Submissions

I. The appeal by the opponents lies against the decision of the opposition division posted on 12 March 2004 to maintain European patent No. 0 957 890 in amended form.

II. The patent was based on European application No. 97 950 056.8, originating from international patent application PCT/EP97/06015 (filed on 24 October 1997 and published on 7 May 1998 under No. WO 98/18432). The patent was granted on the basis of eight claims, the independent claims 1, 7 and 8 and dependent claim 4 reading:

"1. A rinse-off hair treatment composition for improved delivery of amino-acid to the hair and/or scalp comprising:
(a) a metal-amino acid complex in which the amino acid is selected from the group consisting of cysteine, arginine, serine, glutamic acid, glutamine, isoleucine, lysine, methionine, valine and mixtures thereof.
(b) at least one surfactant; and
(c) a deposition aid."

"4. A composition according to any preceding claim, in which the average particle size of the metal amino-acid complex is from 3-10 microns."

"7. A method of enhancing the deposition of an amino acid from a rinse-off hair treatment composition, comprising incorporating the amino acid into the composition in the form of a metal-amino acid complex."

"8. Use of a metal-amino acid complex, for enhancing the deposition of amino acid from a rinse-off hair treatment composition."

III. A notice of opposition against the patent was filed on 13 November 2002, in which the revocation of the patent in its entirety was requested on the grounds of Article 100(a) EPC (lack of novelty as well as lack of an inventive step), and Article 100(b) EPC (insufficient disclosure).

The opposition was supported by:

D1 DE-A-4 428 823,
D2 EP-A-0 514 553,
D3 EP-A-0 093 601.

IV. The decision under appeal was based on claims 1 to 8 as granted, with amendments to the description. The opposition division decided that the invention had been sufficiently disclosed in view of the information contained in the description, in particular the details concerning a suitable deposition aid which was a well-recognized term in the technical field of cosmetics, and which moreover did not form the core of the invention. D1 disclosed the use, in a shampoo composition, of a compound that could not be considered to be a metal-amino acid complex but rather was a salt. Therefore it did not destroy the novelty of the claimed subject-matter. Regarding inventive step, D2 and D3 concerned the deposition of the complex but not that of the isolated amino acids in order to nourish the roots of the hair. It was noted that according to the examples in the patent in suit an improved deposit had

been achieved also in the absence of a polymer/deposition aid in the composition. It was concluded that therefore the claimed subject-matter involved an inventive step.

V. On 10 May 2004 the opponents (appellants) lodged an appeal against the above decision. The prescribed fee was paid on the same day. With the statement setting out the grounds of appeal filed on 12 July 2004, four further documents were cited:

D4 US-A-5 470 876,
D5 Karlheinz Schrader, Grundlagen und Rezepturen der Kosmetika, 2. Auflage, 1989, page 681,
D6 US-A-4 652 445 and
D7 WO-A-94/09750

VI. By letter dated 22 November 2004 the patent proprietors (respondents) filed comments on the grounds for the appeal.

VII. The Board issued a communication dated 3 April 2009 indicating its provisional view on various issues, in response to which the respondents filed by letter dated 28 April 2009 two auxiliary requests.

VIII. Oral proceedings before the Board were held on 16 June 2009. After some exchange of arguments, the Respondents filed a new main request consisting of claims 1 to 6 as granted and a new auxiliary request the only independent claim of which reads:

"1. A rinse-off hair treatment composition for improved delivery of amino-acid to the hair and/or scalp comprising:
(a) a metal-amino acid complex in which the amino acid is selected from the group consisting of cysteine, arginine, serine, glutamic acid, glutamine, isoleucine, lysine, methionine, valine and mixtures thereof, **and in which the average particle size of the metal amino-acid complex is from 3-10 microns;**
(b) at least one surfactant; and
(c) a deposition aid."

(emphasis added by the Board).

IX. The appellants' arguments can be summarised as follows:

(a) During the opposition proceedings the description had been amended, giving rise to a different interpretation of the claimed subject-matter. Therefore, a new search for more appropriate documents had become necessary, which resulted in the finding of D4 to D7. As those documents were highly relevant, they should be admitted into the proceedings.

(b) D4 described compositions for treatment against hair loss such as shampoos which could contain a complex of an amino acid and a transition metal. Since shampoos normally contained a deposition aid (which was common general knowledge, see D5), D4 therefore disclosed all the ingredients of the composition of claim 1 of the main request, so that it destroyed its novelty. D6, too, described rinse-off compositions containing a zinc amino

acid complex, a surfactant and a cationic polymer which, according to the patent in suit, was a deposition aid. The same applied to D7, which in particular in examples 15 and 26 disclosed the present combination of compounds.

(c) Regarding inventive step, D4 was the closest document since it concerned the deposition of nourishing compounds for the hair, as did the patent in suit. The problem to be solved was to improve the deposition of nourishing amino acids on the hair. To achieve an enhanced deposition it was obvious to use a deposition aid, such as known from D3. D3 disclosed that the deposition of a compound similar to an amino acid was improved by the use of cationic polymers. Furthermore, there was no effect shown vis-à-vis D4 as the closest document. Therefore, the combination of D4 with D3 rendered the claimed subject-matter obvious.

Alternatively, starting from D7 which described amino acids made available to the hair, the problem to be solved would also be to improve the deposition of amino acids. From D6 the use of a deposition aid in combination with a zinc amino acid complex and a surfactant was known.

It should be noted that the patent in suit only provided some experimental evidence for one particular complex, so that there was no indication that any result was achieved over the whole scope of the claim.

Therefore, the claimed subject-matter of the main request was not inventive.

(d) Regarding the auxiliary request, that should not be admitted into the proceedings in view of the advanced stage of the procedure at which it was filed. The new documents had been filed immediately with the appeal, so there had been ample time to respond to them, so that could be no reason for the late request. However, if it were admitted, then an immediate substantive decision by the Board was requested. D3 already indicated that the deposition aids suggested could be used for substances having an average particle diameter from about 0.2 to about 50 microns, and the respondents had not provided any evidence that the range of average particle size 3-10 microns introduced into the claim produced any advantageous effect. The burden of showing such an effect was on the proprietors who should have provided evidence for this if they intended to argue for inventive step on the basis of this choice of particle size.

X. The arguments of the respondents can be summarized as follows:

(a) The appeal was based on late filed documents that were not more relevant than those cited before the opposition division and which therefore should not be admitted into the proceedings.

(b) D4 did not disclose the metal-amino acid complexes according to claim 1 of the main request and also

not all shampoos always contained a deposition aid. Therefore, D4 did not disclose all the ingredients of the composition of present claim 1. D6 concerned a leave-on composition, implying a different application than for the rinse-off compositions now being claimed. Moreover, D6 disclosed zinc-protein complexes, which were different from amino acid complexes and it did not mention the present specific amino acids, nor did it describe deposition aids. Therefore, claim 1 of the main request was novel.

(c) Neither D4 nor D7 concerned the deposition of amino acids, so that neither of them could be a proper starting point for assessing inventive step. D4 dealt with treating hair loss, not with the problem of how to get active substances into the hair. Amino acid complexes were only mentioned amongst a number of other compounds; no complexes were used in the examples. D2 was closer; it taught the use of zinc-amino acid complexes as anti-pruritic agents. D3, too, was a proper starting point as, contrary to D4 and D7, it did concern deposition but it did not mention the deposition of amino acids in any form. D3 would not be combined with D4 as it concerned a completely different problem. In D3 the skilled person would find no reason to use particular amino acid complexes as the material to be deposited. D6 described leave-on compositions for the deposition of zinc, not the deposition of amino acids onto the hair itself, nor the skin or scalp. Therefore, there was in fact no proper

closest prior art document to start from and no other document to be combined with it.

The patent in suit aimed at improving the deposition of amino acids, or to achieve an effective deposition of amino acids with a resulting effect on hair growth. None of the cited documents dealt with that problem. Therefore, the claimed subject-matter was inventive.

(d) As to the auxiliary request, that was filed in reaction to the issues considered during the oral proceedings, many of which had not been raised before as they were based on new documents. The incorporation of a dependent claim into the independent claim it referred to could be no surprise. D4 gave no information on particle size and D3 did not mention the deposition of amino acids or metal-amino acid complexes. It was not obvious that a skilled person even when combining D4 and D3 would arrive at the subject matter of claim 1 of the auxiliary request. In any case in order for this issue to be properly considered and argued and to give the parties the opportunity to file additional experimental evidence if necessary, the case should be remitted to the first instance.

XI. The appellants (opponents) requested that the decision under appeal be set aside and the patent be revoked.

The respondents (patent proprietors) requested that the patent be maintained as main request on the basis of claims 1 to 6 as granted or as auxiliary request on the

basis of claims 1 to 5 of the auxiliary request submitted at the oral proceedings on 16 June 2009.

Reasons for the Decision

1. The appeal is admissible.

Novelty

2. Novelty was attacked on the basis of D4, D6 and D7.

2.1 D4 discloses a method for stimulating hair growth comprising the step of:
applying in a topical pharmaceutical carrier to skin a transition metal compound having SOD (superoxide dismutase) activity, said compound selected from copper salicylate, copper aspirinate, indomethacin-copper and a complex of an amino acid or peptide and a transition metal, wherein the peptide consists of amino acids selected from glycine, histidine, lysine, arginine, cysteine or methionine (claim 1).

The amino acid in the amino acid - transition metal complex is preferably glycine, histidine, lysine, arginine, cysteine or methionine and the metal copper, iron, zinc and magnesium (claim 8).

Shampoos are described in column 2, lines 22 to 24 and in example 1, in which however copper salicylate is used as the SOD active compound. Since shampoos normally contain surfactants, D4 therefore discloses a combination of surfactant and a compound having SOD activity that, as one of several possibilities

explicitly mentioned, can be a complex of an amino acid and a transition metal. D4, however, does not disclose shampoos containing the specific amino acids required by present claim 1.

Moreover, according to present claim 1, a further component should be present in the composition, i.e. a deposition aid which is broadly described in the patent specification (paragraph [0031]) as "an agent which enhances deposition of the particles of metal-amino acid complex on the intended site, i.e. the hair and/or the scalp".

There is no evidence that any of the other compounds that may be present according to D4 would function as a deposition aid within the meaning of the patent in suit.

Since the combination of the three compounds required by claim 1 is thus not clearly and unambiguously disclosed, D4 cannot be regarded as destroying the novelty of this claim.

2.2 D6 discloses a hair conditioner product containing a solution including conditioning ingredients for making the hair manageable, wherein the improvement comprises the addition of: a zinc releasing chemical to said solution for providing zinc molecules for binding to amino acids contained within each hair shaft for strengthening the hair and to provide a healthy molecular structure with full body and improved elasticity to the hair; said zinc releasing chemical selected from the group consisting of a zinc protein complex, a zinc keratin complex and a zinc amino acid

complex; and said zinc releasing chemical being in the range of 0.05-5.0% of said solution (claim 1).

According to column 1, lines 13 to 21, hair conditioners are in general applied as part of the shampoo or after shampooing and then rinsed out. In column 3, lines 62 to 64, it is stated that the product of D6 should not be rinsed out. However, a subsequent process step of rinsing-off by a user cannot form part of the composition to which present claim 1 is directed. Furthermore, there is nothing to prevent the user from rinsing off the product of D6 in spite of the instruction not do so. Therefore, the term "rinse-off" composition in present claim 1 can mean nothing more than that the composition is capable of being rinsed off, not that it is in fact rinsed off. Hence, the term "rinse-off" by itself does not serve to distinguish the composition of present claim 1 from the composition of D6.

A typical product described in D6, column 3, lines 35 to 50, contains stearalkonium chloride (a surfactant), quaternium-7 and a "zinc amino acid complex (zinc protein complex)". It is not stated that quaternium-7, or any of the other compounds that may be present in the product of D6, serve as a deposition aid but in view of its structure and in the light of the description of the patent in suit (paragraphs [0031] to [0044]) as to what is a deposition aid, this possibility cannot be ruled out.

However, the amino acid in the zinc amino acid complex is not further specified so that the requirement of present claim 1 that it should be selected from the

group consisting of cysteine, arginine, serine, glutamic acid, glutamine, isoleucine, lysine, methionine, valine and mixtures thereof is not disclosed in D6. Therefore, D6 does not destroy the novelty of claim 1.

2.3 D7 was cited against novelty during the written proceedings, but no longer during the oral proceedings. It describes the use for increasing, enhancing or maintaining mammalian hair growth, following topical application, of a composition which comprises
(i) an effective amount of a metabolic intermediate of the urea cycle selected from the group consisting of the amino acids arginine, ornithine, citrulline and arginosuccinate, ester, alkyl, acyl, phosphatyl and peptide derivatives of said amino acids and salts and hydrosalts of said amino acids and derivatives thereof, and
(ii) a cosmetically acceptable vehicle for said metabolic intermediate (claim 1).

In some examples amino acid derivatives are combined with metal salts as well as surfactants and cationic polymers described as deposition aids in the patent in suit. Example 15 describes a shampoo containing, amongst other things, sodium lauryl ether sulphate, polymer JR400 and an arginyl methionine containing intermediate as well as magnesium suphate. The shampoo according to example 26 contains sodium lauryl ether sulphate, polymer JR40, an ethyl citrulline containing intermediate and magnesium sulphate.

It is undisputed that sodium lauryl ether sulphate is a surfactant and that polymer JR 400 is a cationic

polymer indicated in the patent in suit as a deposition aid. However, the mere mixing of amino acids with metal salts does not automatically lead to the formation of complexes. As can be seen from the patent in suit (paragraph [0061]) as well as from D2 (examples 1 to 9 and page 12: "(3) Effects due to Formation of a Complex"), stirring over an extended period of time is necessary for the formation of a metal-amino acid complex. Therefore, D7 cannot be regarded as disclosing the presence of such complexes in its shampoos, let alone complexes of the specific amino acids required by claim 1. Hence, D7 does not take away the novelty of claim 1 of the main request.

2.4 None of the other documents on file disclose all the combined features of the present claim 1. If claim 1 is novel, then all the claims dependent thereon will be novel for the same reason as claim 1. Thus the main request as a whole can be regarded as satisfying the requirements of the EPC as regards novelty.

Closest prior art document

3. The patent in suit concerns a hair treatment composition containing a metal-amino acid complex to provide a rinse-off hair treatment providing enhanced delivery of amino acid (paragraph [0005]) which is important for the nourishment of the hair roots and the growth of hair as well as the prevention of baldness (paragraph [0002]). Documents in the proceedings aiming at improving hair growth and nourishment of the hair are D4 and D7.

3.1 D4, seen as the closest prior art by the appellants, aims at stimulating hair growth and describes that superoxide dismutase active compounds are useful in topical formulations (column 1, lines 32 to 35), such as shampoos (column 2, lines 22 to 24). The SOD active compounds may be a metal complex of an amino acid, such as zinc and iron complexes of glycine, histidine, lysine, arginine, cysteine and methionine (column 2, lines 25 to 34; claims 7 and 8). Therefore, D4 discloses the use of shampoos - which are rinse-off compositions containing surfactants - that may include metal-amino acid complexes in order to improve hair growth.

3.2 D7 was also considered by the appellants as a suitable starting point for inventive step. The object of D7 is to provide compositions for topical application to the skin in order to increase or maintain hair growth (page 1, lines 9 to 12). A number of examples (15, 26) describe the use of shampoos containing a surfactant, a deposition aid, a metal salt and an amino acid derivative. D7 does not disclose the use of metal-amino acid complexes (see point 2.3 above).

3.3 D2, mentioned by the respondents as the closest prior art document, discloses an anti-pruritic agent comprising a zinc-amino acid complex (claim 1). Shampoo and hair rinse are mentioned (page 4, lines 18 to 19) as possible vehicles for this. Amino acids used in the examples are glycine, aspartic acid, glutamic acid, valine, isoleucine, histidine, phenylalanine, methionine and leucine. In example 17 a skin wash is described containing a zinc-tryptophan complex. Whether any of the other constituents can serve as a deposition

aid is not clear. D2 aims at providing further anti-pruritic agents.

3.4 D3, also considered as a suitable starting point by the respondents, discloses an aqueous washing composition for washing a surface to deposit thereon substantially water-insoluble particles, comprising an anionic surfactant, the particulate substance and a water-soluble cationic non-cellulosic polymer for enhancing the deposition of the particulate substance onto the surface but which cationic polymer does not form in the composition a water-insoluble complex with the anionic surfactant, wherein the cationic charge density of the polymer is from 0.0001 to 0.0017; the concentration of the cationic polymer in the washing composition is from 0.0001% to 0.01% by weight; and the concentration of the surfactant in the washing composition is from 0.01% to 5% by weight (claim 1). The particles may be zinc pyridinethione or zirconium pyridinethione (claim 9). The washing compositions may be shampoos (page 1, line 22). Suitable deposition enhancing polymers are described on page 3, line 25 to page 6, line 18. Quaternary ammonium derivatives are mentioned (page 4, line 25 to page 5, line 31) and Jaguar C-13-S, also described in the patent in suit as a suitable deposition aid (paragraph [0044]), is specified (page 5, lines 33 to 34). D3 does not mention the deposition of metal-amino acid complexes, but the nature of the particles to be deposited is, according to D3, not critical and may comprise a wide variety of materials (page 8, lines 12 to 16). D3 aims at enhancing the deposition of water-insoluble particles from aqueous washing compositions (page 3, lines 5 to 9).

3.5 The closest prior art for the purpose of assessing inventive step is generally that which corresponds to a purpose or effect similar to that of the invention and requiring the minimum of structural and functional modifications (Case Law of the Boards of Appeal of the European Patent Office, 5th edition, 2006, I.D.3.1 and 2.). The patent seeks enhanced delivery of amino acids to the hair for the nourishment of its root and its growth. Neither D2 nor D3 concern the nourishment of hair or the stimulation of hair growth. On the other hand, both D4 and D7 are directed to improving hair growth and, to that end, delivering nourishing compounds to the hair and/or skin. Furthermore, contrary to D7, D4 discloses the use of metal-amino acid complexes. Therefore, D4 is a document that describes a purpose or effect similar to that of the patent in suit and requires less structural and functional modifications than the other documents proposed as the closest prior art. Hence, D4 is considered to be the correct starting point for assessing inventive step.

Problem solved

4. The definition of the problem to be solved should normally start from the problem or problems described in the patent in suit (Case Law, *supra*, I.D.4.3.2), which in the present case would be to provide a rinse-off hair treatment composition with an enhanced delivery of amino acid (see paragraphs [0005] and [0007] of the patent in suit).

4.1 However, the patent in suit identifies no specific prior art document concerned with delivery of amino

acid to hair or scalp, compared to which the delivery should be enhanced. Furthermore, there is no direct evidence available either in the patent or in any other document in the proceedings that an enhancement has been achieved. In the patent examples, the deposition of free amino acid from a free cysteine formulation is measured by means of a radiolabel (paragraphs [0066] and [0069]), whereas the deposition of the metal-amino acid complex is measured by flame atomic spectroscopy (paragraphs [0066] and [0078]). By the latter method however only metals can be detected, not amino acids, which is confirmed by paragraph [0080], where "zinc levels in the samples as measured by atomic absorption spectroscopy" and "zinc cysteinate deposition" are mentioned. However, even if it is accepted that the zinc-cysteine complex remains intact, as the respondents stated, and the calculation according to paragraph [0065] of the patent in suit is valid, what is actually measured is the amount of zinc from which the amount of complex is then calculated. It is not possible to establish any delivery of free amino acid in that manner, let alone that the delivery has been enhanced relative to anything else.

4.2 The problem described in the patent in suit has therefore not been shown to have been solved, so that a different problem derivable from the original application needs to be considered (Case Law *supra*, I.D.4.4).

From the examples it can be seen that the presence of a deposition aid ("JAGUAR") improves the deposition of a zinc-cysteine complex. If it is accepted that that result is also achieved for complexes of the other

metals and amino acids specified in claim 1 of the main request, the problem to be solved can be seen as being to provide a hair treatment composition with improved deposition of metal-amino acid complexes on the hair and/or scalp. That problem has been effectively solved by the composition according to claim 1 of the main request.

Obviousness

5. Therefore, the question remains to be answered whether or not the now claimed solution to the problem as above defined, i.e. the use of a deposition aid within the meaning attributed to this term in the patent in suit, can be derived in an obvious manner from the cited prior art.

5.1 Metal-amino acid complexes such as those suggested in D4 are insoluble and so are introduced in particulate form. The skilled person when looking for improving the deposition of metal-amino acid complexes of D4, would as a matter of course contemplate the teaching of D3, a document which is concerned with enhancing the deposition of water-insoluble particles of a wide variety of materials from aqueous washing compositions, amongst which shampoos (point 3.4 above). In fact, the same materials are mentioned in D3 and in the patent in suit as to enhance deposition (paragraphs [0019] to [0044]). Thus starting from D4 and the problem as stated in point 4.2 above, the skilled person would arrive in an obvious manner at the subject matter of claim 1.

5.2 In view of the above, claim 1 of the main request cannot be considered to be inventive (Article 56 EPC).

6. As can be seen from the above, D4 plays a decisive role in the argumentation why the main request lacks an inventive step. Its high relevance is therefore immediately clear so that the document had to be admitted into the proceedings.

Auxiliary request

7. The auxiliary request differs from the main request in that the particle size of the metal-amino acid should now be from 3-10 microns. That aspect of the complex, though mentioned in the patent specification (paragraph [0019]), and a feature of dependent claim 4 as granted, had not been focused on until the oral proceedings before the Board. This issue became relevant as a direct consequence of the Board deciding to admit D4 into the proceedings. In view of D4 only being filed on appeal, the Board considers it appropriate to admit this auxiliary request into the proceedings and remit the case for further prosecution to the first instance, as the Board regards neither the evidence nor the arguments of the parties on claim 1 of this request as adequately developed for the Board satisfactorily to decide on the subject matter of this claim as sole instance.

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 for further prosecution on the basis of claims 1 to 5 of the auxiliary request submitted at the oral proceedings on 16 June 2009.

Registrar | Chairman

S. Fabiani | S. Perryman