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Case Number: T 1881/12 - 3.3.07

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Title of invention:
AQUEOUS CARRIER SYSTEMS FOR WATER-INSOLUBLE MATERIALS

Patent Proprietor:
L'Oréal

Opponents:
Kao Germany GmbH
Henkel AG & Co. KGaA

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - (no)

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Case Number: T 1881/12 - 3.3.07

D E C I S I O N
of Technical Board of Appeal 3.3.07
of 27 October 2015

Appellant: (Opponent 1)	Kao Germany GmbH Pfungstädter Strasse 92-100 64297 Darmstadt (DE)
Representative:	Grit, Mustafa Kao Germany GmbH Pfungstädterstrasse 92-100 64297 Darmstadt (DE)
Respondent: (Patent Proprietor)	L'Oréal 14, rue Royale 75008 Paris (FR)
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Party as of right: (Opponent 2)	Henkel AG & Co. KGaA Henkelstrasse 67 40589 Düsseldorf (DE)
Representative:	Ludwig, Brigitte Henkel AG & Co. KGaA Henkelstraße 67 40191 Düsseldorf (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 25 June 2012 concerning maintenance of the European Patent No. 0983041 in amended form.**

Composition of the Board:

Chairman	J. Riolo
Members:	R. Hauss
	D. T. Keeling

Summary of Facts and Submissions

I. European patent No. 983041 was granted on the basis of forty-five claims.

II. Two notices of opposition were filed in which the patent was opposed under Article 100(a) and (c) EPC on the grounds that the claimed subject-matter lacked novelty and inventive step and extended beyond the content of the application as filed.

III. The documents cited during the opposition and appeal proceedings included the following:

D1: Hunting: Encyclopedia of Shampoo Ingredients, Micelle Press, London 1985, pages 48-49

D2: US 4 832 872

D3: WO 95/31962 A1

D5: EP 0 374 471 A1

D6: US 4 174 296

D13: Produktinformation Dow Corning 531 und 536 Fluids für Auto- und Haushaltspflegemittel (1988, 1982)

D14: Fey/Otte: Wörterbuch der Kosmetik, 4th ed. Stuttgart 1997, pages 74, 75, 206, 207

D16: First test report filed by the patent proprietor with letter of 20 July 2011

D17: Second test report filed by the respondent (patent proprietor) with the reply to the statement setting out the grounds of appeal

IV. The appeal by opponent 1 (appellant) lies from the interlocutory decision of the opposition division, posted on 25 June 2012, finding that the patent as amended in the form of the main request met the requirements of the EPC.

Claim 1 of that request reads as follows:

"1. A delivery system for water-insoluble ingredients comprising:

at least one organic phospholipid capable of forming bilayers in aqueous solution;
at least one amphoteric surfactant;
at least one nonionic surfactant;
at least one water-insoluble ingredient; and
an aqueous phase,

wherein said at least one organic phospholipid, said at least one amphoteric surfactant, and said at least one nonionic surfactant are present in a combined amount sufficient to allow said at least one water-insoluble ingredient to be incorporated into said system,

wherein said at least one water-insoluble ingredient is selected from unneutralized and partially neutralized water-insoluble polymers, resins, and latexes, preferably said water-insoluble polymers, resins, and latexes containing at least one carboxyl moiety, and

a lipophilic ingredient selected from an oil-soluble vitamin, ceramide, natural oil, a sunscreen or a mixture thereof and

wherein said at least one nonionic surfactant is present in an amount by weight equal to or greater than the amount of said at least one organic phospholipid, and

said at least one amphoteric surfactant is present in an amount by weight equal to or greater than the amount of said at least one organic phospholipid."

V. In the decision under appeal the opposition division held that the claims met the requirements of the EPC.

In particular, novelty was acknowledged vis-à-vis the disclosure of i.a. documents D1, D2, D3 and D5, because

the compositions described in those documents did not contain a water-insoluble ingredient as defined in claim 1 of the main request, and D1 did not disclose the concentrations of the components.

Document D6, which addressed the technical problem of improving the solubility of a water-insoluble ingredient (lecithin), was considered to represent the closest state of the art. The technical problem to be solved was to provide an aqueous delivery system capable of incorporating the water-insoluble materials recited in the claims, where those insoluble materials would not precipitate out of solution and where the deposition of water-insoluble material could be improved. The solution proposed in the opposed patent was a formulation based on a surfactant system comprising phospholipid, amphoteric and nonionic surfactant. Test report D16 including a comparison with example 16 of D6 rendered it credible that the surfactant system according to the patent, containing both an amphoteric and a nonionic surfactant, was capable of providing beneficial deposition effects by the incorporation of sufficient quantities of an additional water-insoluble ingredient into aqueous systems, e.g. to achieve improved hair conditioning properties. Since the solution to the technical problem could not be derived from the available prior art, the claimed subject-matter was deemed to be inventive.

VI. The appellant's arguments with regard to novelty and inventive step as presented in the statement setting out the grounds of appeal may be summarised as follows:

The subject-matter of claim 1 lacked novelty over certain compositions disclosed in documents D1, D2 and D3 (Article 54 EPC), viz. the shampoo compositions S 086, S 087 and S 090 disclosed in document D1,

example composition 1 in column 5 of document D2 and the compositions of table VIII of document D3. All of those prior-art compositions contained water and the three required surfactant types (phospholipid, amphoteric and nonionic surfactant) as well as a "fragrance" or "perfume" component. The latter would without doubt be expected, in practice, to contain natural oil, which was a water-insoluble compound as listed in claim 1. With regard to D1, which did not mention ingredient concentrations, the appellant submitted that the amphoteric and nonionic surfactants would certainly be contained in shampoo compositions at higher concentrations than lecithin, as was also implied by the sequence in which the ingredients were listed (the ingredients of a cosmetic formula conventionally being listed from higher to lower concentrations).

Furthermore, any of documents D1, D2, D3 and D5 (with regard to D5, in particular the example composition on page 6) was a suitable starting point for the assessment of inventive step, due to the similarity in technical features with the composition of claim 1. The only possible difference between the composition according to claim 1 and the relevant compositions disclosed in documents D1, D2, D3 or D5 was in the water-insoluble compound. Since no evidence of an unexpected technical effect had been provided, the objective technical problem in each case was to provide an alternative composition. The solution to that problem consisted in the use of a natural oil as the perfume/fragrance component or, in the case of D5, as an alternative to silicone oil. Starting from the teaching of documents D1, D2, D3 or D5, the claimed subject-matter did not involve an inventive step, because it was well known that perfume or fragrance

compositions contained natural oils (as corroborated by document D14), and that natural oil was interchangeable as a lipophilic ingredient with silicone oil.

VII. With its letter of reply the respondent (patent proprietor) requested that the appeal be dismissed and that the patent be maintained in the form of the existing amended main request. The respondent also filed two auxiliary requests and further experimental data in the form of a test report (document D17).

Claim 1 of auxiliary request 1 is identical to claim 1 of the main request.

Claim 1 of auxiliary request 2 is identical to claim 1 of the main request, except that the choice of water-insoluble ingredients has been restricted as follows:

"...wherein said at least one water-insoluble ingredient is selected from and a lipophilic ingredient selected from an oil-soluble vitamin, ceramide, natural oil, a sunscreen or a mixture thereof..." [sic].

VIII. The respondent's arguments with regard to novelty and inventive step of claim 1 of all requests can be summarised as follows:

The claimed subject-matter was novel, because it could not be derived unambiguously from prior-art documents D1, D2 and D3 that the example compositions described therein contained a water-insoluble ingredient as defined in claim 1. In that context the respondent pointed out, with reference to document D14, that fragrance or perfume (an ingredient of the prior-art compositions) did not necessarily contain natural oils.

Each of documents D1, D2 and D3 differed from the claimed subject-matter in at least one technical feature and in the technical problem to be solved. Document D5, which described cleaning compositions for

hard surfaces, concerned an even more distant technical field, the example composition of D5 moreover containing a silicone oil, i.e. a water-insoluble ingredient which was different from those defined in claim 1. Thus document D6, cited in the application as filed and attempting to solve the same technical problem as the patent in suit with regard to the solubilisation of water-insoluble ingredients, represented the closest prior art.

As stated in the patent in suit, the technical problem to be solved by the invention was the provision of an aqueous delivery or carrier system in lipid bilayer form incorporating water-insoluble compounds. The claimed delivery system differed from the example compositions disclosed in D6 in that it combined an amphoteric surfactant with a nonionic surfactant and required the presence of a further water-insoluble ingredient other than phospholipid. The technical effect obtained was the solubilisation of the water-insoluble ingredients specified in claim 1 and an improvement in the conditioning properties of the compositions, such as hair conditioning. On the basis of the test results reported in documents D16 and D17, the respondent argued that it was neither suggested in document D6 to combine an amphoteric and a nonionic surfactant, nor that the specific surfactant combination of claim 1 achieved improved deposition of the water-insoluble ingredients on hair and, thus, improved hair conditioning.

IX. The board issued a summons to oral proceedings.

X. Opponent 2 announced that it would not be attending the oral proceedings.

XI. In a communication dated 2 October 2015, issued in preparation for oral proceedings and advising the parties of the board's preliminary opinion, the board mentioned the following points:

- The appellant had not contested the inventiveness of the claimed subject-matter over document D6, but was of the opinion that documents D1, D2, D3 and D5 were other suitable starting points for the assessment of inventive step (see points 3.1 and 3.10 of the board's communication).

- If several possible starting points existed, the invention had to be assessed relative to all those possible approaches before any decision confirming inventive step was taken (see point 3.3 of the board's communication).

- The board was of the preliminary opinion that all requests lacked novelty and/or inventive step in view of the disclosure of document D5 (see points 2.3, 3.11 and 4.2 of the board's communication).

XII. With letter dated 9 October 2015, the respondent announced that it would not be taking part in the oral proceedings. The respondent neither amended its claim requests nor submitted further arguments.

XIII. Oral proceedings were held on 27 October 2015 in the absence of the respondent and of opponent 2.

The appellant submitted that also the subject-matter of claim 1 of auxiliary request 2 lacked novelty over documents D1, D2 or D3, and furthermore that it did not involve an inventive step starting from the disclosure of documents D1, D2, D3 or D5.

XIV. The appellant requested that the decision under appeal be set aside and that the patent be revoked in its entirety.

XV. The respondent had requested in writing that the appeal be dismissed (main request) or, in the alternative, that the patent be maintained according to one of the sets of claims filed, as auxiliary requests 1 and 2, with the reply to the statement setting out the grounds of appeal.

XVI. Opponent 2, which was a party to the proceedings as of right pursuant to Article 107 EPC, did not make any substantive submission during the appeal proceedings and did not file any requests.

Reasons for the Decision

1. Patent in suit and prior art

1.1 The patent in suit seeks to provide a surfactant-based carrier system which allows water-insoluble materials to be incorporated into aqueous compositions and to be deposited from those compositions onto a substrate (see paragraphs [0002], [0015] to [0019]).

1.2 The solution proposed in the patent and according to the present requests is an aqueous delivery system containing a combination of phospholipid (lecithin being preferred), amphoteric surfactant and nonionic surfactant, and an additional water-insoluble ingredient other than the phospholipid. Both the phospholipid and the further water-insoluble ingredient are meant to be deposited on surfaces treated with the delivery system, in particular keratinic materials (see paragraphs [0007], [0015], [0017], [0019] of the patent specification).

1.3 If the skilled person had a choice of several workable approaches that might suggest the invention (in terms

of several possible starting points), the rationale of the problem-and-solution approach requires that the invention be assessed relative to all these possible approaches before any decision confirming inventive step is taken (see Case Law of the Boards of Appeal of the European Patent Office, 7th edition 2013, I.D.2).

1.4 In the appeal proceedings, the appellant did not contest the inventiveness of the claimed subject-matter over document D6, but argued that each of documents D1, D2, D3 and D5 was a suitable starting point for the assessment of inventive step, and that the claimed subject-matter did not involve an inventive step over any one of those documents.

Hence it must be established whether starting from the teaching of at least one of documents D1, D2, D3 or D5 the claimed subject-matter lacks inventive step.

2. Main request - inventive step

Starting point in the prior art

2.1 Document D5 relates to liquid cleaning compositions for hard surfaces such as stove tops (D5: claim 1, test method 1 on page 6). The compositions are formulated to leave on the treated surface a barrier layer protecting the surface against further soil deposition. The compositions are aqueous and contain as further mandatory components one or more nonionic surfactants in combination with an amphoteric surfactant, lecithin, an aminofunctional polydimethylsiloxane copolymer and a glycol (D5: claim 1; page 2, lines 1 to 2). The lecithin and aminofunctional polydimethylsiloxane copolymer act as protective barrier components when deposited on the treated surface (D5: page 3, lines 1 to 4 and 10 to 13).

2.2 According to the respondent, document D5 would not have been chosen by the skilled person as the starting point for the development of an aqueous delivery system as defined in claim 1, because it related to a distant technical field and used a different water-insoluble ingredient.

2.3 This argument cannot succeed, since claim 1 of the main request encompasses any composition containing the required ingredients in the specified relative amounts; its wording does not exclude compositions of the type described in document D5 pertaining to the technical field of surface cleaners. The claim is not restricted to cosmetic applications or cosmetically acceptable ingredients. Furthermore, like the patent in suit, D5 seeks to provide an aqueous surfactant-based delivery system for a phospholipid and a further water-insoluble ingredient, namely an amodimethicone-type polymer. The delivery system of D5 contains an amphoteric and a nonionic surfactant. The board is therefore of the opinion that, due to the strong similarities in respect of both the technical problem and the technical features, document D5 is suitable as a starting point for the assessment of inventive step with regard to present claim 1.

Technical problem and solution

2.4 The example composition disclosed on page 6 of document D5 is aqueous (87% by weight water) and contains lecithin (0.17%), the amphoteric surfactant cocamidopropyl betaine (0.88%), octoxynol-9 (2.00%) and oleic acid diethanolamide (2.00%) (both nonionic surfactants; see D5: claim 1 and page 4, lines 47 ff), as well as Dow Corning 531 Fluid and an unspecified fragrance.

Thus each of the nonionic and amphoteric surfactants is present in the example composition of D5 in an amount equal to or greater than the amount of lecithin. According to the patent in suit (see paragraph [0022]), lecithins are the preferred organic phospholipids capable of forming bilayers in aqueous solutions.

The composition of D5 is an emulsion incorporating Dow Corning 531 Fluid. Dow Corning 531 Fluid contains amodimethicone, which is an aminofunctional dimethyl-siloxane copolymer according to formula (V) of D5, containing primary amino groups $-NH_2$ (see D5: page 5, lines 24 to 31). According to document D13, the polymer is water-insoluble; that has not been contested by the respondent. It is not however mentioned in document D5 whether the amodimethicone is unneutralised or partially neutralised. Nor is it mentioned whether the fragrance component contains a natural oil.

2.5 Assuming that the amodimethicone in Dow Corning 531 Fluid were completely neutralised, the nature of the water-insoluble ingredients would be the only difference between the example composition of D5 and the composition according to claim 1 of the main request.

2.6 No technical effect can be linked to that difference, since there is no reason to assume that a corresponding composition containing the same amodimethicone in partially neutralised form as defined in claim 1, e.g. with a high degree of neutralisation close to 100%, would have properties or effects different from those of the example composition of D5. As far as the "fragrance" component is concerned, there is no reason to assume that the inclusion of natural fragrance oil would produce a technical effect different from that of

other common fragrance components, such as synthetic oils.

The tests reported in documents D16 and D17 are not pertinent in this context, since they concern a comparison with specific compositions disclosed in document D6, which differ from the claimed composition in that they do not contain an amphoteric and a nonionic surfactant in association.

2.7 Thus the technical problem starting from the teaching of document D5 is the provision of an alternative surfactant-based aqueous delivery system for water-insoluble ingredients.

2.8 The solution according to claim 1 of the main request involves the mandatory presence of a water-insoluble ingredient as defined in the claim, e.g. a partially neutralised water-insoluble polymer or a natural oil.

Obviousness of the solution

2.9 According to document D13 (column 2 of the first page of each product information datasheet), Dow Corning Fluid 531 can be combined with acetic acid or other organic acids, which may improve its compatibility with water. Thus it was known to use the amodimethicone in a not completely neutralised form in which amino groups can be protonated.

2.10 It is furthermore common knowledge that natural oils are typical components of "fragrance" ingredients. Document D14 (pages 74, 75, 206) has been mentioned as evidence of that common knowledge, listing for example essential oils such as lavender oil.

2.11 In order to solve the technical problem of providing an alternative composition, the skilled person would try such known variations according to points 2.9 and 2.10.

2.12 As a consequence, the subject-matter of claim 1 of the main request does not involve an inventive step within the meaning of Article 56 EPC.

3. Auxiliary request 1 - inventive step

3.1 Since claim 1 of auxiliary request 1 is identical to claim 1 of the main request, its subject-matter does not involve an inventive step either, for the same reasons as explained above under point 2.

4. Auxiliary request 2 - inventive step

4.1 Claim 1 of the second auxiliary request differs from claim 1 of the main request in that the selection of the mandatory water-insoluble compound has been restricted to lipophilic ingredients selected from oil-soluble vitamins, ceramides, natural oils, sunscreens or mixtures thereof, no longer including unneutralised and partially neutralised water-insoluble polymers.

4.2 Thus the composition defined in claim 1 of auxiliary request 2 differs from the example composition of D5 in the mandatory presence of at least one of the specified lipophilic ingredients.

4.3 As explained above in the context of the main request, the skilled person would arrive at the claimed subject-matter by routinely selecting a fragrance component containing a natural fragrance oil, without any need for inventive skill.

4.4 As a consequence, the subject-matter of claim 1 of auxiliary request 2 does not involve an inventive step within the meaning of Article 56 EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar: The Chairman:

S. Fabiani J. Riolo

Decision electronically authenticated