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Datasheet for the decision of 12 April 2011

Case Number: T 0164/10 - 3.3.07

Application Number: 01910406.6

Publication Number: 1355623

IPC: A61K 8/23

Language of the proceedings: EN

Title of invention:
Anhydrous cosmetic compositions

Patent proprietors:
THE PROCTER & GAMBLE COMPANY

Opponents:
Henkel AG & Co. KGaA

Headword:
-

Relevant legal provisions:
EPC Art. 54, 56

Relevant legal provisions (EPC 1973):
-

Keyword:
"Novelty (yes)"
"Inventive step - alternative solution (yes)"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0164/10 - 3.3.07

D E C I S I O N
of the Technical Board of Appeal 3.3.07
of 12 April 2011

Appellants: (Opponents)
Henkel AG & Co. KGaA
Patente (VTP)
D-40191 Düsseldorf (DE)

Representative:
-

Respondents: (Patent proprietors)
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Decision under appeal:
Interlocutory decision of the Opposition Division of the European Patent Office posted 19 October 2009 concerning maintenance of European patent No. 1355623 in amended form.

Composition of the Board:

Chairman: J. Riolo
Members: D. Semino
M.-B. Tardo-Dino

Summary of Facts and Submissions

I. The appeal of the opponents lies against the decision of the opposition division announced at the oral proceedings on 8 September 2009 to maintain European patent No. 1 355 623 in amended form. The granted patent comprised 18 claims, independent claims 1 and 18 reading as follows:

"1. An anhydrous cosmetic composition comprising:
(a) a heat generating agent which generates a heat by mixing with water;
(b) a phase changing agent; and
(c) an inert carrier;
wherein the phase changing agent has a melting point of from 30°C to 70°C and is dispersed in the inert carrier and wherein the heat generating agent is an anhydrous inorganic salt selected from the group consisting of sodium sulfate, calcium sulfate, magnesium sulfate, aluminum sulfate, calcium chloride, magnesium chloride, calcium oxide, and mixtures thereof."

"18. A method of using the hair conditioning composition according to Claim 13, wherein the composition is applied to wet hair to mix with water remaining on the hair."

Claim 13 mentioned in claim 18 was a composition claim dependent on composition claim 1 through further dependent claims.

II. A notice of opposition had been filed in which revocation of the patent in its entirety was requested on the grounds of lack of novelty and lack of an

inventive step (Article 100(a) EPC). The opposition was *inter alia* supported by the following documents:

D1: DE-A-196 24 870
D1c: Datasheet of Lipoxol 1550
D2: JP-A-57 99514
D2a: English abstract of D2
D3: WO-A-00/09082
D4: WO-A-00/38621

III. The decision under appeal was based on a main request, according to which claim 1 had been amended in that the composition had been defined as an "anhydrous **hair care and/or skin care** composition" (emphasis by the Board).

IV. The decision can be summarised as follows:

(a) the amendment of claim 1 according to the main request was allowable with respect to Article 123(2) EPC;

(b) the subject-matter claimed in the main request was novel with respect to the disclosure of document D1 since the dental care compositions disclosed therein could not be considered as suitable for hair care and/or skin care and the compounds which could fall under the definition of phase changing agent according to the patent were not dispersed in the inert carrier;

(c) the subject-matter claimed in the main request was inventive with respect to document D2, taken as the closest state of the art as it concerned the same self-warming systems as the patent in suit

and related to the same objective (temperature control) which it solved in an alternative way, since none of the other prior art documents discussed controlling the temperature of hair care or skin care self-warming compositions and suggested the claimed solution.

V. The opponents (appellants) filed a notice of appeal against the above decision and contested in their statement setting out the grounds of appeal novelty of the subject-matter of claim 1 (and of a number of dependent claims) with respect to the disclosure of document D1 and the presence of an inventive step in the claimed subject-matter taking any of documents D1, D2, D3 or D4 as closest state of the art.

VI. During the oral proceedings which were held on 12 April 2011 the appellants maintained their novelty objection and disputed lack of inventive step exclusively on the basis of document D2 as the closest state of the art.

VII. The arguments of the appellants can be summarised as follows:

Main request - Novelty

(a) Document D1, which addressed the same problem as the patent in suit and concerned self-warming compositions using the same salts, disclosed in example 6 a toothpaste comprising magnesium sulfate particles coated with Lipoxol 1550 in propylene glycol as carrier. Lipoxol 1550 being a polyethylene glycol with a melting point between 45 and 48°C fell under the definition of phase

changing agent according to the patent in suit. The exclusion of coated materials in the description of the patent could not limit the scope of protection of the claims which did not contain such a limitation. Moreover, since the magnesium sulfate particles were dispersed in propylene glycol, their coating material was necessarily also dispersed in the same, a complete contact between the dispersed material and the continuous carrier phase not being required by the definition of a dispersion. Since gum and mucosal tissues fell under the broad term "skin" and no more restrictive definition was available in the patent, the toothpaste of D1, which was suitable for the treatment of gum and internal mouth tissues, was to be considered as a skin care product. Moreover, the toothpaste of example 6 of D1 could be used as a skin peeling composition, since the abrasive particles present therein (calcium carbonate and aluminium hydroxide) could exercise the skin cleaning function and no other component was present which was undesired in a skin care product. For these reasons, document D1 anticipated the composition of claim 1 of the main request.

Main request - Inventive step

(b) Document D2, which belonged to the field of hair care and skin care products and addressed the same problem as the patent in suit, namely to control the temperature increase of self-warming compositions while prolonging the heat release, was to be considered as the closest state of the

art. The use of a phase changing agent with a melting point between 30 and 70°C dispersed in the inert carrier according to the patent in suit could be considered as an alternative solution to such a problem, which was already solved in D2 by means of a polymer that thickens by temperature increase, so as to constitute a barrier between the heat-generating salt and water. Document D1 suggested the claimed alternative by disclosing coated salt particles, whose coating made of paraffins, fatty acids or waxes retarded the contact between the salt and water. Such hydrophobic coating materials had a melting point in the range according to the patent in suit and it was immediate to the skilled person that they melted as temperature increased due to the dissolution of some uncoated salt which according to D1 could be used in combination with the coated one. The composition of claim 1 and the use of claim 18 of the main request would therefore result in an obvious way from the combination of the disclosure in D2 and D1.

(c) Taking alternatively D1 as the closest state of the art and combining it with the teaching of D1 itself or D2 while attempting to solve the problem of finding further uses of the known composition would also lead to the subject-matter claimed in the main request without the required inventive activity. Also starting from D3 or D4 as closest state of the art and replacing the heat generating agents by the ones disclosed in D1 or D2 in order to solve the problem of providing self-warming hair conditioning composition which are mild, easy

to handle and cost effective would result in an obvious way in the subject-matter claimed in the main request.

VIII. The arguments of the patent proprietors (respondents) can be summarised as follows:

Main request - Novelty

(a) Example 6 of document D1 disclosed a toothpaste composition which did not anticipate the composition of claim 1 of the main request due to the two differences acknowledged by the opposition division. Firstly, a toothpaste could not be considered as suitable for skin care, since it contained compounds (e.g. tooth polishing agents) which were not meant to be applied to the skin and, if applied, could not provide any beneficial care property or cosmetic benefit. D1 itself drew a clear line between hair/skin care products and toothpastes and the patent in suit specified in several instances what was meant by hair care and skin care products. Moreover, the lining of internal body cavities, such as the mouth, could not be regarded as skin, which instead is the outer covering of the body. Secondly, the material of the coating of the magnesium sulfate particles of example 6 of D1 could not be considered as dispersed in the continuous propylene glycol phase due to its bond to the magnesium sulfate by means of which one side of the coating could not be in contact with the propylene glycol. A different interpretation would be contrary to the ordinary meaning of dispersion and against the teaching in

the patent, which specified that coated heat generating agents were excluded.

Main request - Inventive step

(b) Document D2, which had to be considered as the closest state of the art, concerned the field of self-warming hair care and skin care products and solved the problem of temperature control and prolongation of heat release by means of a gelatinizable polymer which formed a barrier between the heat generating salt and water. The patent in suit addressed the same problem in a completely different way, namely through a phase changing agent which acted as a heat sink. The skilled person looking for an alternative way to solve the problem addressed in D2 would not find in D1 a hint towards the claimed solution, since D1 disclosed either the use of partially hydrated salts to reduce the heat generation or the employment of a coating on the salt particles in order to create a physically barrier which retarded the heat generation. The fact that some of the material used for the coating might belong to the class of phase changing agents as defined in the patent in suit was not relevant, since D1 taught that the coating was destroyed by mechanical action (brushing the teeth) and did not make any mention of a possible melting of the coating. Also for the Lipoxol 1550 coating there was no indication in D1 that it could melt in certain conditions. A combination of D2 and D1 would therefore not result in the composition according to claim 1 of the main request.

(c) Neither document D1, which concerned toothpastes, nor documents D3 or D4, which did not address the problem of the patent in suit and disclosed as essential heat generating agent compounds which were different from the salts listed in claim 1, could be considered as a logical starting point for the analysis of inventive step. On the basis of all these reasons, it had to be acknowledged that the requirements of Article 56 EPC were met.

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

X. The respondents (patent proprietors) requested that the appeal be dismissed or, alternatively, that the patent be maintained on the basis of the claims of one of the first and second auxiliary requests as submitted with letter of 7 August 2009 before the opposition division.

Reasons for the Decision

1. The appeal is admissible.

Novelty

2. Document D1 concerns oral and dental care compositions, which are applied by means of a toothbrush and develop heat by mixing with water (page 2, lines 3-5) due to the presence of a salt with negative dissolution enthalpy (page 2, lines 19-21). Since by use of salts such as magnesium sulfate an excessive increase in

temperature may take place, appropriate measures are used to slow down the heat generation (page 2, lines 40-43), such as the use of a partially hydrated salt or of a coated or partially coated salt (page 2, lines 43-52).

2.1 The use of mixtures of coated and uncoated dehydrated salts is contemplated to cause some heat generation at the beginning of the tooth brushing and also a prolonged warming action (page 2, lines 54-57). One can also use dehydrated salts completely coated with hydrophobic substances, such as paraffins, fatty acids, waxes, silicons and hydrophobic polymers (page 2, lines 67-68). In such a case, the carrier can contain water, without heat generation by preparation and storage of the composition; heat generation takes place only when the coating is destroyed by tooth brushing (page 2, line 68 - page 3, line 3).

2.2 Polishing agents are typically use in the dental care composition such as calcium carbonate and aluminium hydroxide (page 3, lines 8-12).

2.3 The examples of D1 disclose toothpaste compositions (page 3, line 63). The composition of example 6 in particular contains 10 % calcium carbonate, 25.8 % aluminium hydroxide, 3.6 % Aerosil 200 (silicic acid, page 3, lines 15-16), 4.2 % of dehydrated magnesium sulfate coated with Lipoxol 1550 (page 5, line 52 and page 4, line 16), minor ingredients at a quantity of 1 % or below and the balance of 1,2-propylene glycol (page 5, table II).

2.4 It has not been contested that the composition of example 6 is anhydrous and comprises a heat generating agent which generates heat by mixing with water and is an anhydrous inorganic salt selected from the group consisting of sodium sulfate, calcium sulfate, magnesium sulfate, aluminum sulfate, calcium chloride, magnesium chloride, calcium oxide, and mixtures thereof (specifically magnesium sulfate), a phase changing agent with a melting point of from 30°C to 70°C (Lipoxol 1550, which is polyethylene glycol according to D1, page 5, line 52 and has a melting point in the range 45 to 48°C according to D1c) and an inert carrier (1,2-propylene glycol, which is an inert carrier according to the patent in suit, paragraph [0030]).

2.5 However, it remained disputed whether the toothpaste of example 6 of D1 is suitable for use as a skin care composition and whether the phase changing agent used therein (Lipoxol 1550) can be considered as dispersed in the inert carrier (1,2-propylene glycol).

2.6 According to the jurisprudence (see Case Law of the Boards of Appeal of the EPO, 6th edition 2010, II.B.5.3.3) terms used in patents should be given their normal meaning in the relevant art, unless the description gives them a special meaning. A "skin care composition" is to be understood from its own wording as a composition suitable to be applied to the skin which by application provides some kind of benefit to the skin itself ("care"). This is in agreement with the interpretation of the expression in the patent, where anhydrous skin care compositions according to the invention are exemplified by mentioning "anhydrous body shampoo compositions, anhydrous face cleansing

compositions, anhydrous skin conditioning compositions, anhydrous shaving compositions, and mixtures thereof" (paragraph [0016]) and their benefits for the skin are discussed (paragraph [0017]). There can be no doubt that under this interpretation a toothpaste cannot be considered as a skin care composition.

2.7 As to the suitability of the compositions of D1 for the care of gum and mucosal tissue (see D1, page 3, lines 5-6), which according to the opponents should be considered as skin, the Board is of the opinion that this interpretation is not according to the ordinary meaning of the term "skin" in the relevant art. Skin in normally understood as the outer covering of the body, so that the extension of this term to include the covering of inner cavities such as the mouth remains a simple allegation of the opponents in the absence of any evidence that this is the common interpretation given in the field. Moreover, such an extended interpretation would not be in agreement with all the exemplifications of skin care compositions which are given in the patent (see point 2.6 above).

2.8 With regard to the possibility of using the toothpaste of example 6 of D1 as a peeling composition with beneficial cleaning effects on the skin, no evidence has been provided by the opponents, who have alleged that this is the case. Since each party bears the burden of proof for the facts it alleges and there are serious doubts that the allegation is correct in view of the totally different use disclosed in D1 (toothpaste) and of the presence of abrasive materials (calcium carbonate and aluminium hydroxide) in high quantities in the composition, the Board can only come

to the conclusion that the composition of example 6 of D1 cannot be considered as a skin care composition.

2.9 Since all the compositions in the examples and in the general disclosure of D1 are oral and dental care composition, they differ in view of the arguments above from the composition of claim 1 of the main request at least in that they are not suitable for hair care and/or skin care, so that novelty has to be acknowledged on this basis alone. It is not necessary therefore for the Board to decide whether the phase changing agent of example 6 of D1 (Lipoxol 1550) coated on the magnesium sulfate particles is to be considered as dispersed in the inert carrier.

Inventive step

3. *Closest state of the art*

3.1 The patent in suit concerns anhydrous hair care and skin care compositions which warm by mixing with water and provide cosmetic efficacy, while controlling the temperature to which the compositions warm up and prolonging warming (paragraphs [0001] and [0006] of the patent in suit, claim 1).

3.2 Document D2 (see paragraph under the heading "Constitution" in the English abstract D2a) discloses cosmetics, such as hair shampoos and hand cleaners, which are used in combination with an inorganic material, such as calcium chloride and magnesium chloride, which generates heat when contacted with water to raise the temperature of the cosmetics. By the combined use of the heat-generating inorganic material,

the foaming and penetrating properties of the cosmetics can be improved and excellent washing effect can be achieved even by the use of cold water. The temperature control can be performed smoothly by adding a polymer gelatinizable by temperature increase, e.g. hydroxypropyl cellulose, to the cosmetics.

3.3 Document D3 relates to anhydrous cosmetic compositions for topical applications to the human skin, with the capacity for self warming on application (page 1, lines 4-6) and discloses an anhydrous foaming cleansing composition for topical application to the human skin, comprising an anionic surfactant, glycerine, polyethylene glycol, and a water insoluble benefit agent (page 2, lines 11-14 and claim 1) which "is self heating, has good mildness and foaming properties, and which has further benefits not appreciated in the prior art" (page 2, lines 6-9).

3.4 Document D4 discloses in the context of hair conditioning compositions that provide a noticeable increase in temperature during use (page 1, lines 6-11) a hair conditioner composition which is essentially anhydrous and comprises one or more microporous materials each of which has an average pore size larger than the critical diameter of a water molecule, carrier molecules or molecular aggregates that have critical diameters larger than the largest average pore size of the microporous materials and conditioner molecules or molecular aggregates that have critical diameters larger than the largest average pore size of the microporous materials (claim 1). It is the object of D4 "to provide an improved hair conditioner which provides increased self-warming hair conditioner composition

during use (i.e., when applied to hair with water) while not decreasing the conditioning provided, and in some cases increasing the conditioning that is provided" (page 2, lines 14-19).

3.5 Documents D2, D3 and D4 concern self-warming hair care and/or skin care compositions. On the other hand, only D1 and D2 disclose compositions including the heat generating agents listed in claim 1 of the patent in suit and address the problem of providing compositions with favourable cosmetic properties while controlling the temperature increase and assuring prolonged warming. Since D2 is the only document which concerns the same kind of compositions and addresses the same problem as the patent in suit, there is no doubt that it is to be considered as the closest state of the art.

4. *Problem solved*

4.1 It is the aim of the patent in suit to provide hair care and skin care products with enhanced cosmetic efficacy, while controlling the temperature to which the composition warms up and prolonging warming (paragraphs [0001] and [0006] of the patent in suit).

4.2 D2 addresses the problem posed in the patent in suit by providing compositions with improved cosmetic properties due to the presence of a heat-generating inorganic material and controlling the increase in temperature by means of a polymer which gelatinize by temperature increase so as to create a physical barrier between the heat-generating agent and water and stop the heat-production. It is clear that by means of this measure warming is prolonged, since, after the polymer

gelatinizes, heat generation can take place again only when by temperature decrease the gelatinized phase disappears.

4.3 Claim 1 of the patent in suit still concerns compositions containing a heat-generating inorganic material, but solves the temperature control problem by means of a different measure, namely the presence of a substance dispersed in an inert carrier which melts by temperature increase, so as to act as a heat sink and limit the increase in temperature. When the temperature decreases, the melted substance gives back the heat previously absorbed by means of the opposite phase change and prolongs therefore the warming effect.

4.4 Since both for D2 and for the patent in suit there is a clear physical explanation for the temperature control and the heating effects, there is no need of experimental tests to show that the problem posed in the patent in suit is solved respectively by the use of a gelatinizable polymer and by the addition of a phase changing agent dispersed in the inert carrier.

4.5 Under such circumstances it is clear that the problem solved by the claimed composition with respect to the compositions in D2 is that of providing an alternative self-warming hair or skin care composition with controlled temperature increase and prolonged warming.

5. *Obviousness*

5.1 While documents D3 and D4 do not mention at all the problem of temperature control, which does not appear to be relevant for the compositions disclosed therein,

document D1 in the context of dental and oral care compositions addresses the issue of how to avoid an excessive heat development, which can cause burns in the internal mouth tissues (page 2, lines 40-43). In order to avoid this problem two options are presented (page 2, lines 43-52), namely the use of a partially hydrated salt, which can therefore release only a part of its heat of dissolution, and the use of a coated or partially coated salt, so that dissolution of the salt and heat development are delayed and take place only when the coating is destroyed as a result of brushing the teeth (page 3, lines 2-3).

5.2 While the first option teaches completely away from the claimed compositions, which are defined as anhydrous, also the second option points to a different direction compared to the patent in suit, as it is based on putting a physical barrier (the coating) between the salt and the water, which is destroyed by mechanical action (tooth brushing). In this respect the idea is still similar to the one in D2, which by means of the gelatinazable polymer also provides a physical barrier which prevents the dissolution of the salt in water. While it can be accepted that some of the materials falling under some of the classes mentioned for the coating of D1 may melt at a temperature in the range 30°C to 70°C, the relevance of melting for temperature control is neither explicitly mentioned, nor contemplated in D1.

5.3 Since there is no hint in the available prior art to add to the known compositions a phase changing agent with a melting point in the range 30°C to 70°C dispersed in the inert carrier in order to solve the

posed problem, the composition of claim 1 is to be considered as inventive.

6. No different conclusion on inventive step could be reached starting from a more remote state of the art. Both the idea of starting from D1 and modifying the purpose of the composition disclosed therein (from a toothpaste to a hair or skin care composition) or of considering the compositions of D3 or D4 and replacing their essential components (the heat generating agents disclosed therein) would result in an ex post facto analysis of the prior art, which is inadmissible in a proper application of the problem-solution approach.

7. No separate attack has been provided by the opponents for the second independent claim of the patent in suit (method claim 18). The Board sees no reason to come to a different conclusion on inventive step for claim 18, as it involves the use of the claimed composition, which, as it appears under points 3. to 6. above, is *per se* inventive. Therefore there is no need of a separate analysis of this claim.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar | The Chairman

G. Magouliotis | J. Riolo