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D E C I S I O N
of 19 March 1997

Case Number: T 0343/93 - 3.3.2

Application Number: 85301672.3

Publication Number: 0155806

IPC: A61K 7/075

Language of the proceedings: EN

Title of invention:
Hair conditioning compositons

Patentee:
THE PROCTER & GAMBLE COMPANY

Opponent:
Henkel Kommanditgesellschaft auf Aktien

Headword:
Hair conditioning composition/PROCTER & GAMBLE

Relevant legal provisions:
EPC Art. 54, 56, 83

Keyword:
"Sufficiency of disclosure (yes)"
"Novelty: no individualisation in the state of the art (yes)"
"Inventive step: no motivation for the selection - unrecognised technical effect (yes)"

Decisions cited:
T 0666/89, T 0401/94, T 1028/93

Catchword:
-



Case Number: T 0343/93 - 3.3.2

D E C I S I O N
of the Technical Board of Appeal 3.3.2
of 19 March 1997

Appellant:
(Opponent)

Henkel
Kommanditgesellschaft auf Aktien
TFP / Patentabteilung
D-40191 Düsseldorf (DE)

Representative:

Respondent:
(Proprietor of the patent)

THE PROCTER & GAMBLE COMPANY
301 East Sixth Street
Cincinnati
Ohio 45201 (US)

Representative:

Brooks, Maxim Courtney
Procter & Gamble Limited
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Decision under appeal:

Decision of the Opposition Division of the
European Patent Office posted 11 March 1993
rejecting the opposition filed against European
patent No. 0 155 806 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: P. A. M. Lançon
Members: C. Germinario
R. E. Teschemacher

Summary of Facts and Submissions

- I. European patent No. 0 155 806 was granted in response to European patent application No. 85 301 672.3.
- II. Notice of opposition was filed by the opponents, requesting revocation of the patent in its entirety under Article 100(a) EPC on the grounds of lack of novelty and lack of inventive step and under Article 100(b) EPC on the ground of insufficiency of disclosure.

The following documents, cited during the proceedings, are relevant for the present decision:

- (1) DE-A-3 041 141 [& GB-A-2 066 659 (6)]
- (3) DE-A-1 617 388
- (4) EP-A-0 076 146

The document DE-A-3 206 448 (2) is, for the purpose of the present decision, equivalent to (1) and therefore will not be considered.

- III. In its decision the opposition division took the view that the invention was described in the patent in a manner sufficiently clear and complete for it to be carried out by a skilled person, aware of the general common knowledge.

The opposition division also held that the subject-matter of claim 1 was novel, since no cited prior documents disclosed compositions explicitly comprising all the five essential components of the invention, and only a purposive selection within the teaching in each document could have resulted in a composition falling within the scope of claim 1.

For the purpose of Article 56 EPC, documents (1) or (2) were indicated, separately and independently, as the possible closest prior art. The opposition division held that the underlying technical problem was that of preventing the deposition on the hair of some component of the composition vehicle, thereby reducing resoiling of hair, and that this problem was not addressed by any prior documents. Therefore, the closest prior art neither alone nor in combination with any other document could suggest a solution to, or even envisage the existence of, the said problem.

IV. An appeal against this decision was lodged by the appellants (opponents). Oral proceedings took place on 19 March 1997.

In their statement of grounds for appeal the appellants contended that, as long as the gel-type vehicle had to be considered as an essential feature of the invention, the latter was not disclosed in a manner sufficiently clear and complete for it to be carried out by the skilled person. In fact, the preparing method described in example I, page 7, lines 60 to 65, was no more than a general teaching which did not guarantee the achievement of formulations of the desired gel-type. This opinion was based on the consideration that document (1) discloses compositions, which though comprising all the five essential components of the present invention, were not in gel-type form.

In addition to the aforementioned arguments, the appellants contended that the subject matter of claim 1 lacked novelty over the compositions disclosed in (1) or (2).

Although, as admitted, these documents did not contain examples of a composition comprising all the five essential components of the invention, the appellants argued, relying on the decision T 666/89 (OJ EPO 1993, 495), that the total information contained in the prior document discloses all the essential components of the claimed compositions. Therefore no selection from the teaching in (1) had to be made by the skilled person in order to devise a composition as claimed.

Finally the appellants expressed the opinion that the subject matter of claim 1 did not involve an inventive step in the light of the teaching in (1), which was indicated as the closest prior art.

Having contended that compositions comprising the five essential components of the inventions were known from the said prior art, the appellants identified in the gel-type vehicle the only feature of the invention which was allegedly novel. This feature, however, could not endow the composition with an inventive step, since gel-type vehicles were normally employed in this specific technical field, as proved by (3).

The appellants stressed, moreover, that the technical effects obtained in (1) or in (3), namely the improved softness, smoothness, antistatic properties and non-stickiness of hair, were strictly connected to, or even equivalent to, the anti-resoiling and "cleanliness" effect attributed to the patented invention. Therefore the technical problem identified by the respondents (patentees) had to be considered on the one hand as artificially constructed and on the other as already solved by the prior documents.

V. Rebutting the appellants' arguments, the respondents emphasised that the purpose of the invention was that of achieving effective deposition on the hair of the silicon conditioner, while preventing or reducing the tendency of the components of the gel-type vehicle to deposit on hair. In their view, the quoted prior documents not only failed to suggest any solution to this problem comparable to that provided by the patent, but even more importantly, they failed to recognise the problem itself.

VI. During the proceedings, the board had identified a discrepancy between the text on which the decision to grant was based and the text of the patent as published, namely the word "being" after "dimethicone copolyol" versus "having". The text agreed upon by the examining division and the respondents and on which the examining division based its decision was indicated as the valid one. During the oral proceedings, the respondents accordingly amended their original request.

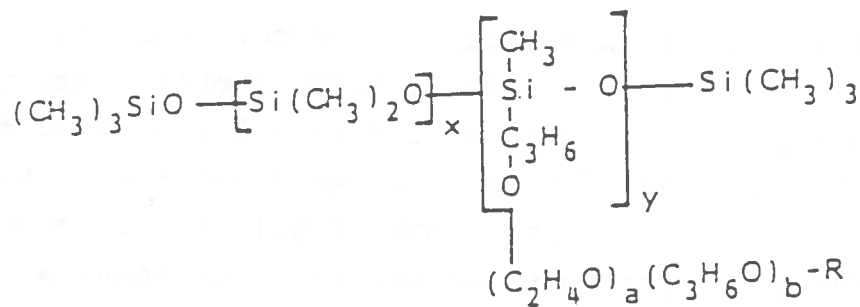
VII. The appellants request that the decision under appeal be set aside and the patent be revoked.

The respondents request that the appeal be dismissed and the patent be maintained as granted.

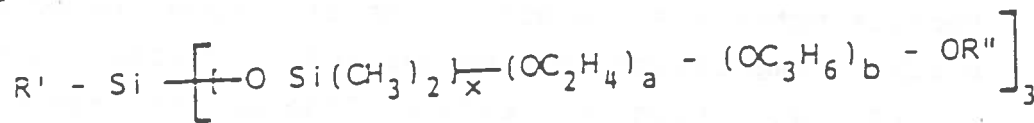
VIII. The text of the granted claim 1 reads as follows:

"A conditioning composition, useful on human hair, comprising (all levels being by weight of composition) from 0.1% to 10% of a silicone conditioning agent and a gel-type vehicle therefor, the silicone conditioning agent consisting of one or more materials selected from unsubstituted polydimethylsiloxanes, and vinyl, phenyl, carboxy, alkoxy, mercapto, alkyl and amino-substituted polydimethylsiloxanes, the gel-type vehicle comprising from 0.1% to 10% of a lipid vehicle material, from

0.05% to 5% of a cationic surfactant material, and water, characterised in that the composition additionally comprises from 0.01% to 10% of a dimethicone copolyol as antiresoiling agent and as agent for reducing deposition of the lipid and cationic surfactant vehicle materials on the hair, the dimethicone copolyol being a polyalkylene oxide modified dimethylpolysiloxane having the formula:



and



wherein R is hydrogen, an alkyl group having from 1 to 12 carbon atoms, an alkoxy group having from 1 to 6 carbon atoms or a hydroxyl group; R' and R'' are alkyl groups having from 1 to 12 carbon atoms; x is an integer of from 1 to 100, y is an integer of 1 to 20, and a and b are integers of from 0 to 50."

Reasons for the Decision

1. The appeal is admissible.
2. *Sufficiency of disclosure*

An objection of insufficiency of disclosure of the invention was raised in relation to the gel-type vehicle for the silicone conditioning agent.

The board notes that claim 1 does not require, for the silicon vehicle, any special feature other than those of comprising from 0.1% to 10% of a lipid material and from 0.05% to 5% of a cationic material and of being of gel-type. Therefore any types of gel vehicle meeting the above conditions would appear to be equally suitable for the present invention.

Vehicle materials, as all the other components of the claimed composition, are extensively disclosed in the patent description (cf. page 4, line 62, to page 6, line 25). Three prior documents generally describing suitable gel-type systems are quoted under the header "Vehicle Materials". The description also contains five detailed examples of the claimed compositions. Moreover, example I illustrates sufficiently the preparing process for compositions in the desired gel form.

The description of this aspect of the invention is therefore regarded as clear and complete.

On the other hand, the appellants' objection is not properly founded on the identification of information, or conditions, which, though essential for preparing the desired gel-type composition, would be missing in the patent disclosure, to the effect that the skilled

person would be unable in practice to prepare the claimed compositions. On the contrary, the objection is based on the allegation that the compositions according to (1), which in the appellants' opinion are identical to those of claim 1, are not in gel form. Therefore the appellants' conclusion is that, beside the teaching of the components of the gel-system, a skilled person would need additional information to achieve the desired result.

The board cannot follow these arguments, firstly because the compositions described in (1) are not necessarily identical to the compositions of the opposed patent, as will be extensively discussed later (see reason 3). Secondly, as stressed by the respondents during the oral proceedings, the method used to prepare the composition may influence the results to be obtained, so that, though the same components are employed, a gel-type formulation may or may not be obtained. However, methods for preparing gel-type formulations are well known to the skilled person since they are comprised in the common general knowledge. Moreover a suitable method is disclosed in example I.

In conclusion, the board's judgment is that the invention is sufficiently disclosed in all respects and that the patent meets the requirements of Article 83 EPC.

3. *Novelty*

Document (1), or its GB corresponding document (6), has been cited by the appellants as prejudicial to the novelty of the subject matter of claim 1. The board shares the opinion that this publication represents the most relevant prior art.

This document describes a hair rinse composition comprising as essential components one or more quaternary ammonium salts, a silicone derivative and a polyethylene glycol in given amounts.

The silicone derivative may be any one selected from seven different groups of modified polysiloxanes. Among these, groups (1), (2) and (3) are preferred, and (1) is the most preferred. The polyether modified silicone oils of group (3), include the dimethicone copolyol of the present invention. The derivatives (1) to (7) may be used alone or in combination as a mixture of two or more. As an optional feature, the composition may also comprise fat and oil, as well as other agents such as germicides or perfume.

The document contains three examples describing different compositions. None of these comprises a mixture of silicone derivatives; instead, they always comprise one silicone derivative only. For this reason it is undisputable, firstly, that none of the compositions of the examples is prejudicial to the novelty of claim 1 of the opposed patent and, secondly, that (1) is mainly concerned with compositions comprising one silicone only.

Relying on decision T 666/89 (OJ EPO, 1993, 495), the appellants maintain that the technical teaching of a prior art document is not confined to the content of the examples, but rather it is the total information contained in the description, drawings and claims that has to be considered, and that the total information in (1) covers compositions as claimed in the opposed patent.

While accepting this statement in its general terms, the board cannot share the appellants' conclusions. In the case of the above-cited decision, the opinion of

the then competent board was in fact that the selection of different agents which resulted in a composition prejudicial to the novelty of the claimed subject matter represented a **preferred embodiment** of the prior art invention as evident from reason 4 of that decision. Thus no selection had to be performed by the skilled reader of the prior art document in order to devise the claimed composition.

In the present instance, unlike the previous case, the skilled person aware of the content of (1), in order to produce a composition as claimed in the patent under appeal, would be obliged firstly to choose the optional and **non-preferred** solution of employing a mixture of silicone derivatives, secondly to specifically select, from equivalent groups of silicone derivatives, at least one derivative of group (3) to be combined with a derivative from a second group, and finally to opt for the solution, also optional, of adding to the composition fat or oil. Therefore the question of the novelty of the subject matter of claim 1 over the content in (1) is to be considered in view of this multiple selection, and subsequent combination, of different optional possibilities contemplated in the prior document in order to construct, purposively and artificially, a composition falling within the scope of claim 1.

Therefore, as document (1), considered in any of its parts, does not individualise any composition according to claim 1, the claimed subject matter is recognised as novel. In its decision, the board maintains the line already indicated in previous decisions, eg T 401/94 dated 18 August 1994, and T 1028/93 dated 8 February 1996, (both not published in OJ EPO).

4. *Inventive step*

4.1 In the light of the discussion at the oral proceedings, the board agrees with the parties that document (1) represents the closest prior art. Among all the cited prior documents, (1) describes the compositions which are structurally most related to the compositions of the patent under appeal.

Moreover, as evident from the tests reported in example 2, the compositions of (1), beside the purpose of improving softness and smoothness, are also intended to decrease the stickiness of hair. As the stickiness would appear to be one factor influencing the tendency to resoiling of hair, the board accepts that decreasing the stickiness of hair practically means decreasing the tendency of hair to resoiling, which is indeed the purpose of the present invention. Therefore the compositions of (1) are also functionally related to the compositions of the invention.

Document (3) also describes hair compositions, which comprise a silicone derivative as conditioning agent and which are intended for the same purpose of decreasing the tendency of hair to resoiling. In this case, however, the use of a mixture of two different silicone derivatives is not even envisaged as an optional possibility.

4.2 The technical problem underlying the present invention, formulated over the teaching in (1), is to make available conditioning compositions exhibiting improved properties. This improvement derives from the decreased deposition of the vehicle components (lipid material and cationic surfactants) on hair, with the effect that the tendency of hair to resoiling is also reduced, however, while maintaining unaffected the deposition of the silicone conditioning agent.

4.3 The solution proposed by the patent under appeal is a composition which, in addition to the silicone conditioning agent and a gel-type vehicle comprising lipid material and a cationic surfactant material in the given amounts, contains a dimethicone copolyol of given formulas.

4.4 The properties of the claimed compositions are evaluated and reported in two experimental examples: experiments I and II (pages 10 to 12 of the published patent). Experiment I relates to the deposition on hair of the cationic surfactant and silicone material from four different compositions. Composition D comprises both silicone conditioning agent and dimethicone copolyol and represents the invention. Compositions B and C comprise one silicone derivative only. Hence they are illustrative of the compositions of the closest prior art, which, as already seen under reason 3, in its first and main embodiment envisage only one silicone type selected from seven different groups. Composition A comprises the vehicle only. The results reported in table I show that the deposition of cationic surfactant from the composition of the invention (0.176 µg) is significantly lower than the deposition from the compositions of the prior art (0.196 µg and 0.286 µg). At the same time, the deposition of the silicone conditioning agent remains unaffected. Also the results reported in table II show that the tendency to resoiling of hair sprayed with synthetic sebum is unambiguously lower when the hair is treated with the composition of the invention (D) as compared to hair treated with compositions containing only one silicone derivative (C and B) or the vehicle only (A).

The Board is therefore satisfied that the composition of claim 1 of the opposed patent actually solves the above-identified technical problem.

4.5 It remains to decide whether or not the proposed solution is obvious for the skilled person in the light of either the closest prior art in itself or any other prior document.

4.5.1 The technical effect obtained by the composition of the invention, ie to prevent the vehicle components from depositing on hair, thereby reducing the resoiling, is the result of the accurate selection and combination in due amounts of the different components of the composition according to claim 1.

The board accepts that (1) envisages, though as a less preferred embodiment, the use of a mixture of silicone derivatives, (cf. page 8, second paragraph):

Diese Silikonderivative (1) bis (7) können einzeln oder in Kombination als Mischung von zwei oder mehreren verwendet werden.

However, since, as has already been seen, the main embodiment of (1) envisages compositions comprising one silicone derivative only, the document does not give any specific reason to the skilled person why he should reduce this invention to practice by employing a mixture of silicone derivatives. Should, nonetheless, this option be chosen, no further suggestion could be found in the document to concomitantly select and combine all the other elements which would eventually lead to the claimed composition: namely to consider a dimethicone copolyol as an essential member of the mixture and to consider a vehicle comprising a lipid material and being in gel form. The board, in fact, notes that (1) leaves room for broad variations in respect of the type of the silicone moiety and to the combination of the different components.

On the other hand, the appellants stress that the second part of the aforementioned paragraph cites polyether-modified silicone oil (ie dimethicone copolyol of the present invention) among the three preferred silicone groups:

Unter den genannten [(1) bis (7)] sind das Polyäthermodifizierte Silikonöl, das Dimethylpolysiloxan und das Methylphenylpolysiloxan bevorzugt.... Speziell Dimethylpolysiloxan wird am meisten bevorzugt.

However, the board cannot recognise in this passage any clear suggestion that derivatives from exactly the group of polyether-modified silicone oils should be used in the mixture of silicones cited in the first sentence of the same paragraph, as maintained by the appellants. On the contrary, while these three groups are preferred in general terms (no matter whether alone or in combination), any derivative of the groups (1) to (7) is equivalent, should a mixture be contemplated. In other words, document (1) does not recognise that the concomitant presence of a dimethicone copolyol and a second silicone derivative, as conditioning agent, is crucial for the technical effect to be obtained. This is further confirmed by the examples. All the compositions therein described indeed comprise one of the preferred silicone derivatives, which, however, is always taken alone.

Still more important is the fact that (1) fails to recognise the qualitative impact of the dimethicone copolyol on the property profile of the compositions now claimed.

As already seen, the compositions of (1), among other results, decrease the stickiness of hair. This effect may be achieved by acting on different factors. In the

specific instance of (1), the compositions exhibit antistatic properties and influence the electrostatic properties of the hair. However in the board's view, there is no clear and predictable relationship between the antistatic activity evidenced in (1) and the ability to reduce the deposition of the vehicle materials on the hair typical of the compositions of the invention. On this issue, no arguments have been submitted by the appellants. It follows that no suggestion to use a mixture of a silicone conditioning agent and a dimethicone copolyol, in order to decrease the resoiling of the hair due to the deposition of the vehicle components, can be found in (1) since the very reason of this tendency is not recognised by this prior document.

- 4.5.2 The question remains whether the skilled person would have found any support or relevant information in document (3).

As already seen, the hair compositions therein described comprise a silicone conditioning agent, which, being partially volatile, evaporates after a determined period of time. In this way, the stickiness and accordingly the tendency to resoiling of the hair is decreased. It is immediately evident that (3) partially addresses the same problem as the present invention; however, it suggests a different solution. Like (1), document (3) also fails to recognise, in the deposition of vehicle materials on the hair, one of the factors influencing the resoiling. Should the skilled person rely on the teaching in (3) alone or should he read (1) assisted by that teaching, he would probably conclude that the aforementioned problem could be solved by reducing the deposition of the silicone conditioning agent, and he would select among all the groups of silicone derivatives cited in (1) those exhibiting a higher volatility, such as the

dimethylpolysiloxanes. However, he would not consider the polyalkylene oxide-modified dimethylpolysiloxanes (dimethicone copolyols) of the present invention since these, being much more polar, exhibit a lower volatility.

Finally document (4) has been also cited. This document relates to skin conditioning compositions. However, the physical and chemical nature of skin is very different from that of hair. Moreover the goals to be achieved in the two cases are very different. In fact, the purpose of the compositions in (4) is that of preventing the skin from becoming too dry, which is achieved with emollient or humectant materials which are deposited on the skin and increase the state of hydratation. However, the effect sought by the present invention is to reduce as much as possible the deposition on hair of material which would increase stickiness. In the board's view, therefore, (4) does not bear any relevance.

It follows from the above that neither the closest prior art nor any other cited prior document, taken alone or in combination, renders the subject matter of claim 1 obvious.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

P. Martorana

P. A. M. Lançon