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D E C I S I O N
of 30 April 1996

Case Number: T 0122/93 - 3.3.2
Application Number: 84200088.7
Publication Number: 0115888
IPC: A61K 7/08
Language of the proceedings: EN

Title of invention:

Preparation without detergent ingredients for the hygiene and the cleaning of skin scalp and hair

Patentee:

Crinos Industria Farmacobiologica S.p.A.

Opponent:

Hüls Aktiengesellschaft
Henkel Kommanditgesellschaft auf Aktien
Wella AG

Headword:

Hygiene cleaner/CRINOS

Relevant legal provisions:

EPC Art. 54, 56, 84, 123

Keyword:

"Novelty (yes)"
"Inventive step (no) - obvious substitution of known alternatives"

Decisions cited:

-

Catchword:

-



Case Number: T 0122/93 - 3.3.2

D E C I S I O N
of the Technical Board of Appeal 3.3.2
of 30 April 1996

Appellant/other party: Hüls Aktiengesellschaft
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Representative: -

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Decision under appeal: Interlocutory decision of the Opposition Division
of the European Patent Office posted 13 January
1993 concerning maintenance of European patent
No. 0 115 888 in amended form.

Composition of the Board:

Chairman: P. A. M. Lançon
Members: R. E. Gramaglia
S. C. Perryman

Summary of Facts and Submissions

- I. European patent No. 0 115 888 was granted in response to European patent application No. 84 200 088.7, filed on 23 January 1984.
- II. Notices of opposition were filed against the patent by Opponents (01), (02) and (03). Revocation of the patent was requested on the grounds of lack of novelty and lack of inventive step (Article 100(a) EPC).

Of the documents cited by the Parties, the following are referred to in the present decision:

- (1) S. Jellinek: "Kosmetologie", Hüthig Editions, Heidelberg, pages 266-267 (1967).
 - (2) E.Sagarin: "Cosmetics Science and Technology", Interscience Publisher, New York, pages 998-1020 (1957).
 - (3) Remington's Pharmaceutical Sciences, 15th Edition, Mack Publishing Company, pages 317-323, 326, 331-332 and 1249-1250 (1975).
 - (4) M.A. Lesser, Drug and Cosmetic Industry, pages 326, 327 and 409-414 (1953)
 - (5) M.J. Schick et al. in "Surfactant Science Series", Vol. 6, Emulsions and Emulsion Technology, Part II, Chapter 13, K.J. Lissant, New York, pages 701 and 743-747 (1974).
- III. The Opposition Division in an interlocutory decision issued on 13 January 1993 held that the patent could be maintained in amended form on the basis of claim 1 filed

by the Patentee on 9 January 1991 and claim 2 as granted, and with the amendments to the description agreed to by the Patentee on 12 June 1992. Said claim 1 read as follows:

"1. Preparation for the hygiene and cleaning of the skin, the scalp and hair adapted to be applied to the skin, scalp or hair and rinsed with water, characterized in that it consists of the following active ingredients, as a weight percent of the preparation: 5 to 10% of one emulsifier or a mixture of emulsifier of a non ionic type, having a HLB value comprised between 10 and 19; 0,5 to 5% of a thickening agent formed by organic substances capable of forming gels and colloidal solutions in the presence of water, wherein said non ionic emulsifiers are selected from:

- polyoxyethylenethers of higher alcohols, having 10 to 40, preferably 15 to 25 oxyethylene groups, and their mixtures;
- polyoxyethylenesters of fatty acids, having 20 to 100, preferably 20 to 40 oxyethylene groups, and their mixtures;
- polyoxyethylene sorbitan esters of fatty acids, having 10 to 30, preferably 15 to 20 polyoxyethylene groups;
- glycerides and mixtures of glycerides of fatty acids, partially etherified with polyoxyethylene groups;
- saccharose esters with fatty acids;
- polyols condensed with ethylene and propylene oxide and said thickening agent being selected from alginic acid and salts carrageen, pectin, arabic gum, guar gum, tragacanth gum, carboxymethyl cellulose, methylcellulose, ethyl cellulose, dioxypopylcellulose, and the rest to 100% by weight of the composition consisting of water and conventional auxiliary components selected among preserving agents and perfumes."

IV. An appeal against this decision was lodged on 4 February 1993. The Statement of Grounds was submitted on the same date.

V. In his Statement of Grounds the Appellant (Opponent (02)) contested the arguments of the Opposition Division. With respect to the lack of novelty, document (1) disclosed on page 266 (see formulation 10) an hygiene composition for the cleaning of the skin comprising 6.25% of Tween 80[®], which was a non ionic emulsifier with a HLB (Hydrophile-Lipophile-Balance) value of 15, and 2.5% of the thickening agent sodium carboxymethylcellulose. It was true that formulation 10 of document (1) also included 1.25% of the non ionic emulsifier Arlacel C[®] with a HLB value of 3.7 only, however claim 1 did not exclude mixtures of emulsifiers, provided the resulting HLB value of the mixture fell within the range recited in the claim. This interpretation of claim 1 found support in the specification in suit, where the now deleted Example 1 illustrated a composition also containing cetyl alcohol, ie, an emulsifier with a very low HLB value. Further, Example 2 of the specification disclosed a formulation according to the invention including, as an additional ingredient, polyethoxylated cholesterol not belonging to any of the emulsifier families listed in the claim. All this showed that claim 1 did not require that each of the emulsifiers should exhibit a HLB value between 10 and 19 but merely that the sum of the HLB's, by virtue of the additive effect of the single HLB's, should do so. Thus formulation 10 of document (1) comprising a thickening agent and as emulsifier a mixture of 6.25% Tween 80[®] (HLB = 15) and 1.25% of Arlacel C[®] (HLB = 3.7) was novelty destroying to claim 1 because the emulsifier (in this case a mixture) exhibited a HLB value of

$$[(1.25 \times 3.7) + (6.25 \times 15)] \times [1.25 + 6.25]^{-1} = 13.11$$

by virtue of the HLBs' additive law.

In connection with the inventive step, it was already known to combine non ionic detergents with thickening agents. Document (1) on page 268, lines 32 to 36 encouraged the incorporation of up to 2% of thickening agents in cleansing preparations. Therefore, nothing prevented the skilled person from combining non ionic surface active agents with thickening agents in order to arrive at a cleansing composition falling within the scope of claim 1.

VI. As to the novelty of the claimed preparations, the Respondent argued that claim 1 was very clear in excluding components of the emulsifier mixture with HLB values outside the claimed range. Cetyl alcohol was to be seen as a stabilizer rather than as an emulsifier (see documents (2) and (3)), while polyethoxylated cholesterol was a soluble form of cholesterol.

In connection with the inventive step, page 268 of document (1) did not impart the technical teaching of the present invention, namely the synergistic effect with respect to the solubilization of fatty substances such as sebum following from mixing a non ionic emulsifier and a thickening agent. Sodium carboxymethylcellulose exerted a different technical effect in formulation No. 10 of document (1) (gelling agent) than in the composition of claim 1 (enhancer of the surfactant). It was also pointed out that document (1) disclosed "waterless hand cleaners" that did not require the addition of water, contrary to the claimed compositions which required a rinse with water. It was argued that the skilled person would not remove Aralcel[®] from composition 10 for reasons of stability.

VII. At the oral proceedings of 30 April 1996, wherein Appellants (01) and (03) did not appear despite having had been duly summoned, the Respondent filed a new claim 1 worded in such a manner as to overcome the Board's objection of lack of clarity raised in the communication accompanying the summons to oral proceedings. The amendments also purported, in the Respondent's view, to make it clear that each of the emulsifiers rather than their mixture should exhibit a HLB value of 10 to 19:

"1. Preparation for the hygiene and cleaning of the skin, the scalp and hair adapted to be applied to the skin, scalp or hair and rinsed with water, characterized in that it consists of the following active ingredients, as a weight percent of the preparation: 5 to 10% of one emulsifying agent of a non ionic type, having a HLB value comprised between 10 and 19 selected from:

- polyoxyethylenethers of higher alcohols, having 10 to 40, preferably 15 to 25 oxyethylene groups, and their mixtures;
- polyoxyethylenesters of fatty acids, having 20 to 100, preferably 20 to 40 oxyethylene groups, and their mixtures;
- polyoxyethylene sorbitan esters of fatty acids, having 10 to 30, preferably 15 to 20 polyoxyethylene groups;
- glycerides and mixtures of glycerides of fatty acids, partially etherified with polyoxyethylene groups;
- saccharose esters with fatty acids;
- polyols condensed with ethylene and propylene oxide and their mixtures and 0,5 to 5% of a thickening agent formed by organic substances capable of forming gels and colloidal solutions in the presence of water, said thickening agent being selected from alginic acid and salts and esters thereof, carrageen, pectin, arabic gum, guar gum, tragacanth gum, carboxymethyl cellulose, methylcellulose, ethyl cellulose, dioxypopylcellulose,

and the rest to 100% by weight of the composition consisting of water and conventional auxiliary components selected among preserving agents and perfumes."

VIII. Appellant (02) requested that the decision under appeal be set aside and the European patent 0 115 888 be revoked. Appellants (01) and (03) did not submit any request.

The Respondent requested that the decision under appeal be set aside and that the patent be maintained on the basis of claim 1 filed at the oral proceedings on 30 April 1996 and claim 2 as granted.

Reasons for the Decision

1. The Appeal is admissible.

Article 123(2) and (3) EPC

2. There is a basis for the amendments to claim 1 in the application as originally filed, on page 4, line 22 to page 5, line 9. The Appellant questioned as not supported by the original application the replacement of the term "comprising" with "consisting of". However, Example 2 (see column 5) of the patent in suit discloses a preparation comprising **only** the ingredients listed in claim 1, namely 9% polyoxyethylenated ricinoleic glyceride 40 which is a polyoxyethylenester of a fatty acid, 1.5% polyoxyethylene cholesterol, which is a polyoxyethylenether of a higher alcohol, 1% carboxymethylcellulose i.e., a derivative of cellulose, a preserving agent and water up to 100 g. Example 2 thus represents a basis for turning the wording "comprising"

into "consisting of". This expression has a more restricted meaning in comparison with the term "comprising" and therefore claim 1 infringes neither Article 123(2) nor Article 123(3) EPC.

Article 84 EPC

3. Although the claims fulfil the requirements of Article 84 EPC, it should be emphasized that the Board does not consider as successful the Respondent's attempt to modify claim 1 to make it clear that each of the emulsifiers rather their mixtures should exhibit a HLB value of 10 to 19. In fact the claim in its final version prescribes that the composition is made with one or more emulsifying agent of a non ionic type having an HLB value comprised between 10 and 19, selected from the seven families of surface active agents listed therein. While the claim now rules out the presence of a surfactant consisting of one single component of the seven families listed therein with a HLB value less than 10, it does not exclude the possibility that, when the surfactant is a mixture of two or more components of the same family, one member of the family might have a HLB value below 10. For instance, a mixture of polyoxyethylenether of higher alcohols is a suitable non ionic emulsifying agent, provided it exhibits a HLB value comprised between 10 and 19. Yet this does not imply that each of the components of such mixture must have a HLB value between 10 and 19, but merely that the mixture of ethers as a whole should do so.

Closest prior art

4. In relation to claim 1 directed to a composition, document (1) is regarded as constituting the closest prior art, since it also discloses compositions for the cleaning of skin comprising non ionic detergents and

thickening agents. Document (1) is a basic book on cosmetology, whose technical teaching is very general and can be summarized in that a non ionic detergent together with a thickening agent and water yield a good cleansing jelly. The detergent, which may also be a mixture of more components, is preferably non ionic (see page 267, line 7: "Hier kommen in erster Linie nichtionogene Detergens in Frage"). A composition fulfilling these conditions is exemplified by preparation No. 10 (see page 266) which comprises 6.25 wt% Tween® 80, 1.25 wt% Arlacel C®, 2.50 wt% sodium carboxymethylcellulose, 89.0 wt% water and 1.0 wt% preserving agent, a formulation taken from document (4).

Novelty

5. Formulation 10 of document (1) contains 1.25% of Arlacel C®. This low HLB surfactant is sorbitan sesquioleate (see document (4), page 411). As also admitted by the Appellant, sorbitan sesquioleate does not comprise any polyoxyethylene chain and thus it cannot be considered as a polyoxyethylenester of sorbitan. Consequently, it falls under none of the surfactant categories listed in claim 1. Since claim 1 requires that only surfactants listed therein are allowed in the preparation, the novelty can be acknowledged. It should be noted that the novelty follows from Arlacel C® being excluded by claim 1 rather than from the Respondent's attempt to clarify that each of the emulsifiers rather their mixtures should exhibit a HLB value of 10 to 19.

Document (3) is a basic textbook on the emulsifying agents and on the relationship between HLB range and surfactant application. Document (5) lists a great many non ionic surfactants with the corresponding HLB values. These basic documents can be seen as merely representing

the common general knowledge in the field of non ionic surfactants. Since neither of the citations discloses a preparation comprising in combination all the features of claim 1, its subject-matter is considered to be novel.

Inventive step

Problem to be solved and its solution

6. The Board does not agree with the submissions by the Respondent that the technical problem underlying the patent in suit consisted of providing milder skin compositions by taking advantage of the finding that a thickening agent unexpectedly increased the emulsifying power of a surfactant. Whilst said synergistic effect is not disputed by the Board, it cannot be retained as the actual problem to be solved, all the more since the Respondent has not shown that the compositions of claim 1 are somehow better than those of document (1). Thus in the light of the state of the art known from document (1), the objective technical problem underlying the subject-matter of product claim 1 can only be seen by the Board in the provision of alternative skin cleansing compositions comprising non ionic detergents and thickening agents. However, the provision of alternative products to known products is in general not inventive. That the patent in suit solves the above problem, is not disputed by the Board.

7. It should be established whether the skilled person who departs from composition No. 10 of document (1) and arrives at the claimed preparations has to exert inventive skill. The Board is of the opinion that it is not the case.

Firstly, the range of non ionic surfactant(s) and thickening agent(s) of claim 1 corresponds to that of composition No. 10 of document (1) and also to the figure "etwa 5%" (see bottom of page 266) mentioned therein. When preparing a formulation alternative to preparation No. 10 of document (1), nothing tells the skilled person to substantially alter the percentages of thickening agent and surfactant mentioned in document (1).

As regards the HLB range of claim 1, document (3) (page 323, Table XV) and document (5) (see pages 743 to 747) show that the HLB range of 10 to 19 recited in claim 1 is not unusual for emulsifying agents and detergents. Thus the skilled person selecting common surfactants to be incorporated in the formulation, will of necessity come within the HLB range of claim 1.

The spectrum of possible emulsifiers listed in claim 1 is very broad and corresponds to a palette of well known non ionic surfactants (see eg, document (5)), among which the skilled person is free to select any of them or any combination thereof. It should be noted that the teaching of document (1) is very general. The use of a non ionic surfactant, Tween 80[®] of formulation No. 10 being merely given as an example (see point 4 *supra*), the Board thus does not see any valid reason that would dissuade the skilled person from borrowing the surfactants disclosed in document (5).

In conclusion the Board does not see any hindrance that would prevent the skilled person merely working within the teachings of document (1) and illuminated by the common knowledge in the field of formulating cleansing compositions, from arriving at a preparation falling under claim 1 of the patent in suit.

8. The Respondent pointed out that document (1) disclosed "waterless hand cleaners" that did not require the addition of water, contrary to the claimed compositions which required a rinse with water. Yet the Board must consider this difference as immaterial to the inventive step question since formulation No. 10 of document (1) is not hydrophobic if one bears in mind that it contains 89% water and thus it can also be rinsed out with water, which the user would anyhow do so far as water is available. Document (1) (see page 267, lines 5 to 6) indeed emphasizes that wiping off the detergent is not comparable with rinsing it out with water.

9. Even if the Board accepted the Respondent's argument that the skilled person would not remove Aralcel® from composition 10 for reasons of stability (mixing surfactants with low and high HLB is known to yield more stable compositions, see eg, document (3), page 326, left-hand column, third paragraph), it would not prevent the skilled person from replacing it with another surfactant having the same effect. Claim 1, as the Board interprets it (see point 3 *supra*), indeed does not exclude the possibility of using a mixture of a high and low HLB surfactant of the same family.

10. Also the Respondent's line of argument based on the different technical effect exerted by sodium carboxymethylcellulose in formulation No. 10 of document (1) (gelling agent) than in the composition of claim 1 (enhancer of the surfactant) cannot convince the Board. While this difference is not disputed, the Board must emphasize that this fact has no bearing in assessing the inventive step of **product** claim 1 over document (1). Sodium carboxymethylcellulose is critical both as an ingredient for obtaining a jelly (document (1)) and as a

surfactant enhancer (claim 1). It cannot be dispensed with by the skilled person in either composition, regardless of its function.

11. The subject-matter of claim 1 and of dependent claim 2 thus does not involve an inventive step (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:



P. Martorana

The Chairman:



P. A. M. Lançon