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DECISION of 13 January 1998

Case Number:

T 0932/94 - 3.3.2

Application Number:

84109141.6

Publication Number:

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IPC:

A61K 7/13

Language of the proceedings: EN

Title of invention: Colouring shampoo

Patentee:

Wella Aktiengesellschaft

Opponent:

Henkel Kommanditgesellschaft auf Aktien Wella AG Société anonyme dite: L'Oreal

Headword:

Dye composition/WELLA

Relevant legal provisions:

EPC Art. 123(2), (3), 84, 56, 54

Keyword:

"Main request - novelty (yes); inventive step (no); obvious choice of colouring shampoo components"

"Auxiliary request 1 unallowable under Article 123(2) EPC" "Auxiliary request 2 - novelty (yes); inventive step (yes); improvement not based on a straightforward situation" Decisions cited:

Catchword:



Europäisches **Patentamt** 

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Beschwerdekammem

Boards of Appeal

Chambres de recours

Case Number: T 0932/94 - 3.3.2

DECISION of the Technical Board of Appeal 3.3.2 of 13 January 1998

Appellant:

Wella Aktiengesellschaft

(Proprietor of the patent)

Berliner Allee 65

64295 Darmstadt (DE)

Representative:

Keil & Schaafhausen

Patentanwälte

Eysseneckstrasse 31

60322 Frankfurt am Main (DE)

Respondent 01: (Opponent 01)

Henkel

Kommanditgesellschaft auf Aktien

TFP / Patentabteilung 40191 Düsseldorf (DE)

Respondent 02:

Société anonyme dite: L'Oreal

(Opponent 03)

14, rue Royale

(FR) 75008 Paris

Representative:

Dossmann, Gérard

Bureau D.A. Casalonga-Josse

Morassistrasse 8 80469 München

Decision under appeal:

Decision of the Opposition Division of the European Patent Office posted 13 October 1994 revoking European patent No. 0 137 178 pursuant

to Article 102(1) EPC.

Composition of the Board:

Chairman:

P. A. M. Lançon

Members:

U. Oswald R. E. Teschemacher

## Summary of Facts and Submissions

- I. European patent No. 0 137 178 relating to a colouring shampoo was granted on the basis of nine claims contained in European patent application No. 84 109 141.6.
- Three oppositions were filed against the granted patent. According to the grounds of opposition, the patent was opposed by Opponents 01, 02 and 03 under Article 100(a) EPC for lack of novelty and lack of inventive step and additionally by Opponent 03 under Article 100(b) EPC for insufficiency of disclosure.

  Opponent 02, WELLA AG, now the Appellant and proprietor of the patent in suit, withdrew its opposition during the proceedings before the Opposition Division. Of the numerous documents cited during the opposition the following remain relevant to the present decision:
  - (3) COSMETIC RESEARCH December 1977, page 117;
  - (4) COSMETIC RESEARCH January/February 1979, page 15,
  - (5) COSMETIC RESEARCH November/December 1979, page 133,
  - (8) Harry's Cosmeticology, Seventh Edition 1982, George Godwin London, pages 427 to 459;
  - (14) Harry's Cosmeticology, Seventh Edition 1982, George Godwin London, chapter 27, pages 520 to 549;
  - (10) FR-A-2 096 377,
  - (12) EP-A-0 046 543.

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III. By a decision posted on 13 October 1994, the Opposition Division revoked the European patent under Article 102(1) EPC.

The Opposition Division took the view that the subjectmatter of claim 1 according to the main request comprised henna as a direct dye and thus lacked novelty over documents (3) to (5).

The subject-matter of claim 1 according to the auxiliary request did not involve an inventive step in the light of the cited prior art known from documents (8), (10) and (12).

More particularly, it was pointed out that the shampoo composition "(17)", on page 456 of document (8), comprising an anionic shampoo base and a betaine represented the closest prior art and that the problem to be solved was "to increase the colour intensity of direct dyes deposited on hair from shampoo-based compositions". Since document (10) described the combination of a betaine with a cationic dye in a colouring shampoo and since (12) described a tinctorial composition for hairs containing an anionic shampoo base, a betaine and a dye which could be a direct dye, it was obvious to add to the composition of document (8) a synthetic dye as specified in the patent in suit.

Auxiliary requests 2 and 3 including the disclaimer "free of oxidation dyes" did not meet the requirements of Article 123(2) EPC.

IV. The Appellant lodged an appeal against the said decision. Oral proceedings took place on 13 January 1998.

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With the grounds of appeal, the Appellant submitted a new main request. Claim 1 of the main request reads as follows:

- "1. A dye composition for treating hair consisting of:
- 0.01 to 10% by weight of a direct dye selected from the group of an anthraquinone, azo, nitro, basic, triarylmethane or disperse dye or any combination thereof;
- 5 to 20% by weight of an anionic shampoo base;
- 1 to 10% by weight of an auxiliary surfactant which is a betaine surfactant; and

conventional ancillary ingredients such as conditioning agents, opacifiers, pearlescent agents, sequestrants, perfumes, preservatives, glycols and water."

The Appellant filed two auxiliary requests at the oral proceedings. Claim 1 of the first auxiliary request differs from claim 1 of the main request by the wording

- "1. A dye composition for treating hair consisting essentially of:
- 0.01 to 10% by weight of a direct, non-cationic dye selected from..."

Claim 1 of the second auxiliary request is limited to

- "1. A dye composition for treating hair consisting of:
- 0.01 to 10% by weight of a direct nitro dye;..."



The arguments of the Appellant, both during the written procedure and at the oral proceedings, may be summarised as follows:

It was self-evident that the weight-percent ranges of the essential components had to be completed by certain amounts of the ancillary ingredients such that the overall percentage value of the components of the composition was 100%. The wording of claim 1 was clearly intended to exclude under the term "ancillary ingredients" dyestuffs in addition to those mentioned as the first component in the claimed composition. Moreover, the said ancillary ingredients were not intended to concur with one of the three essential components of the dye composition as required by claim 1. The comparative examples annexed to the grounds of appeal showed, in the absence of ancillary ingredients, the dyeing effect of the said three essential components of claim 1.

As regards auxiliary request 1, it was noted that the limitation to non-cationic dyes was not explicitly mentioned in the description of the patent in suit but found support as an implicit feature derivable from the problem underlying the patent in suit, which was to improve a dye composition consisting of an anionic shampoo base. It was indeed well-known that the skilled person would never include a cationic dye in an anionic shampoo base. Accordingly, the restriction to direct non-cationic dyes was nothing more than a clarification of the scope of the claim.

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Since, furthermore, none of the requests included a main claim which comprised 2-hydroxy-1,4-naphtoquinone, the essential colouring component of henna, the claimed subject-matter clearly was novel over documents (3) to (5). Having regard to the wording "a dye composition ... consisting of", the requests also excluded the oxidation dyes known from document (12).

As regards inventive step, it was noted that the prior art according to documents (3) to (5) did not contain any suggestion that henna be replaced by one of the synthetic direct dyes specified in new claim 1.

Moreover, the comparative examples annexed to the grounds of appeal showed an improvement in colour intensity of the dye compositions according to the patent in suit over those known from the prior art. The test results were based on compositions including a nitro dye which made it possible to colour the hair in the same shade as henna. The invention did not only rest upon an easy change of the colouring component henna by one of the selected direct dyes which were known as hair colorants but the crux was to improve the colour intensity by simply mixing a betaine auxiliary surfactant into a commonly used anionic shampoo basis in order to achieve said improvement. Such an effect of the betaine surfactant was not made obvious by the prior art. It was furthermore proven by comparative examples that the skilled person would not include the cationic direct dyes known from document (10) in a shampoo base as described in document (8).

Since the colouring composition according to document (12) contained an oxidation dye component which was known per se to provide effectively permanent colouration with excellent colour intensity, there was also no reason to replace totally the said oxidation dye component by a direct dye which was known to



provide less colour intensity. This prior art merely proposed the use of a direct dye component in order to carry out a colour correction. In contrast to what was taught by document (12), the dye composition according to the patent in suit provided a high colour intensity but was non-injurious to the hair.

V. The Respondents contested these grounds and argued that the wording "a dye composition...consisting of... ancillary ingredients such as ... " rendered the claimed subject-matter totally open as to the presence of further components not mentioned in the description of the patent in suit and particularly did not exclude further colorants such as oxidation dyes. Moreover, most of the ancillary ingredients referred to in the description of the patent in suit had a great influence on the colouring effect of the claimed composition. Taking further account of the fact that the sum of the content of the so-called essential components of the dye composition did not exceed 40% by weight, claim 1 according to each of the requests was open to objections under Article 84 EPC.

Since there was no proof that the skilled person inevitably would avoid the inclusion of cationic dyes in an anionic shampoo base, the claimed use of a non-cationic dye could not be regarded as a feature implicitly disclosed in the patent in suit. Therefore, claim 1 according to the first auxiliary request contained subject-matter which extended beyond the content of the application as filed.

As regards the question of novelty of the claimed subject-matter, it was accepted that the composition according to document (12) contained oxidation dyes and that this document did not explicitly describe a numerical value of the direct dye to be included in the hair-colouring composition, but it was argued that in

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view of the fact that the wording of claim 1 of each of the requests did not exclude oxidation dyes as ancillary components and that the broad range of 0.01% to 10% of a direct dye covered percent-by-weight values belonging to the common general knowledge of the skilled person, the claimed subject-matter was still open to objections under Article 54 EPC.

There was clearly no unexpected effect when using the claimed composition for hair-colouring purposes. Taking into account that the henna shampoo compositions as described in documents (3) to (5) differed from the claimed composition only in the use of a synthetic direct dye component and that each of the said synthetic direct dyes as well as the shampoo basis were well-known in the art, in case the henna shading went out of fashion, the skilled person would, by simply replacing this colorant by another, arrive at the claimed subject-matter without the exercise of inventive skill. It was particularly pointed out that the claimed group of direct dyes comprised chemically and physically heterogenic compounds. As a consequence, the alleged improvement in colour intensity to be achieved by the use of a betaine surfactant neither could be deduced from the comparative examples nor was it credible that a positive effect on colour intensity was attainable over the large group of heterogenic direct dyes claimed. Reference was made to the Appellant's own comparative examples showing that the use of direct azo dyes resulted in a drastic decrease of colour intensity.

As regards the patentability of auxiliary request 2, the Respondents took the view that the skilled person knew very well that colouring properties such as shade and intensity were achievable by direct nitro dyes. Having regard to the well-known practical experience with direct nitro dyes as hair-colouring agents for



decades, there was no need to file counter experimental evidence by the Respondents. It was furthermore pointed out that none of the comparative examples was suitable for showing an effect with respect to the basic effect of betaine acting as an auxiliary surfactant which influenced the L\*; a\*; b\*-values as set out in the comparative examples annexed to the grounds of appeal.

VI. The Appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of either the request submitted with the letter dated 7 February 1995 as "Anlage 1" (main request) or on the basis of one of the requests submitted during the oral proceedings (auxiliary requests 1 and 2).

The Respondents requested that the appeal be dismissed.

#### Reasons for the Decision

1. The appeal is admissible.

#### Main Request

2. The Respondents made no objection under Article 100(c) EPC and the Board considers that the requirements of Article 123(2) and (3) EPC are satisfied. Claim 3 includes a correction of imino in claim 5 on page 2, line 17, originally filed to amino in claim 4 on page 6, line 32, of the patent specification. This correction is in accordance with the chemical structure of betaines exemplified in the description of the application originally filed and that of the patent in suit as well as the IUPAC nomenclature of organic chemistry proposals for acylamino radicals.

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- 3. The claims also fulfil the requirements of Article 84 EPC
- 3.1 For reasons of lucidity, the subject matter of claim 1 may be split up into the following schema:

A dye composition for treating hair consisting of:

- (i) 0.01 to 10% by weight of a direct dye selected from the group of an anthraquinone, azo, nitro, basic, triarylmethane or disperse dye or any combination thereof;
- (ii) 5 to 20% by weight of an anionic shampoo base;
- (iii) 1 to 10% by weight of an auxiliary surfactant which is a betaine surfactant; and
- (iv) conventional ancillary ingredients such as conditioning agents, opacifiers, pearlescent agents, sequestrants, perfumes, preservatives, glycols and water.

The components defined under (i) to (iii) are obligatory elements which are essential for the desired dying effect. It was, however, not contested that a marketable product usually contains further components for other purposes for which examples are given in feature (iv). From this, it becomes clear that components (i) to (iii) are different from the ancillary ingredients and particularly further dye components are excluded as ancillary ingredients. In these circumstances the terms "a dye composition ... consisting of" are consistent with the explanations in the description and the hair-colouring formulations according to the worked examples as originally filed corresponding to those in the patent specification.

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3.2 Furthermore, the Appellant clearly stated that he does not seek protection for subject-matter covering, under the term "ancillary ingredients", such components which, having regard to their chemical structure or properties, would per se act as colorants.

The Board shares the Appellant's point of view that this statement is not in contradiction with the fact that some of the ancillary ingredients may interact with the direct dye component under (i), for example by influencing the nuance of the colour. Having regard to the comparative tests annexed to the grounds of appeal, the Board is convinced that the basic colouring effect of the claimed dye composition is indeed attainable by the obligatory components (i) to (iii).

Finally, it should be noted that the criteria to be 3.3 taken into consideration when deciding on the meaning of the expression "consisting of" depend also on the particular specific technical field. In the present case the claimed subject-matter relates to products which find application in the field of cosmetics. In the Board's view, restricting the Appellant to specific types of ancillary ingredients only necessary when commercialising the claimed product but not necessary in order to attain an effect related to the obligatory components claimed, would be going to far. Having regard to the fact that it is common practice to include a major portion per weight of ancillary ingredients in commercialized cosmetic preparations, there leaves no doubt as to a completion of the percent by weight ranges required by the claimed composition.

Accordingly, the Respondents' objections that the subject-matter of claim 1 was not sufficiently clear or certain must fail.

4. Having regard to the outcome of point 3 above, it is clear that the wording of claim 1 excludes compositions as disclosed in document (12) comprising oxidation dyes. Furthermore, document (12) does not contain a reference to the amount of direct dyes to be included in a hair-colorant composition.

Henna is now excluded from claim 1 and the Respondents did not continue to object with respect to a lack of novelty over documents (3) to (5) relating to a henna colorant.

Since, furthermore, none of the other documents cited in the course of either the examination or opposition procedure discloses the combination of components of the colouring shampoo as set out in claim 1, the Board is satisfied that claim 1 relates to novel subjectmatter.

- 5. The Board regards document (3) as the closest prior art
- This prior art discloses on page 117, right column, second paragraph, a so-called "HENNA SHAMPOO" containing "Sodium Laureth Sulfate, Water, Lauryl Betaine, Myreth-3, Caprate, Hydrolyzed Animal Proteins, Glycerin, Henna Extract, Quaternium-23, Lactic Acid, Methylparaben, Methanal, Propylparaben". Taking account of the use of trade names and abbreviations well-known in the field of cosmetics, the said shampoo comprises each of the obligatory components as required by claim 1, except the use of henna extract instead of a synthetic direct dye.

As regards the problem underlying the patent in suit, the Appellant has argued that the comparative examples annexed to the grounds of appeal would contain enough evidence to prove that an increase in colour intensity may be attained by the claimed dye composition.

On considering the experimental evidence on file, particularly that according to Anlage 4 annexed to the grounds of appeal showing for a direct cationic dye with an azo group, namely 1-(2'-nitro-4'amino)phenylazo-2-hydroxy-7-trimethylammoniumchloridenaphthalene, in combination with the obligatory components of claim 1 a decrease in colour intensity, the Board is not convinced that the alleged increase in colour intensity is achievable over the whole group of direct dyes claimed, and is thus not convinced that the objective problem could be seen in general in an improvement of colour intensity. In its conclusion the Board did not overlook the fact that Anlage 2 annexed to the grounds of appeal shows an increase in colour intensity to be attained by using a direct nitro dye instead of lawson, a chemical component responsible for the colouring effect of henna. However, although this is a good example of one specific class of direct dyes and the Respondents did not file any counterexperimental evidence, the nitro dye tested according to Anlage 2 cannot, in view of the results for the dye with an azo group, be considered representative of the other members of the group of claimed dyes forming heterogenic classes as to their chemical structure and properties.

5.3 According to the Appellant's submission, claim 1 should be regarded as implicitly restricted to non-cationic dyes because it was common general knowledge that cationic dyes were not compatible with an anionic shampoo base and under these circumstances the

comparative examples annexed to the grounds of appeal would contain enough evidence to prove that an increase in colour intensity could be attained for each of the members of the group of direct dyes mentioned in claim 1.

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In this respect, it is to be noted that, in response to a question by the Board, the Appellant itself has confirmed that neither the description nor the worked examples of the patent in suit contained a reference to the use of non-cationic dyes. Accordingly, in the absence of any additional proof by the Appellant and taking into account that the Respondents contested the alleged common general knowledge, the Board cannot accept an implicit disclosure of non-cationic dyes comprised by the patent in suit. Therefore, it is not possible to base a discussion of the problem to be solved on claimed subject-matter deemed to be restricted to non-cationic dyes.

Accordingly, with regard to document (3), the problem to be solved can only be seen in the provision of a colouring shampoo allowing an extended palette of colouring shades of the hair.

The solution proposed by the patent in suit is, in accordance with claim 1 of the main request, a dye composition consisting of a specified group of direct dyes within defined percent-by-weight ranges of the dyes, of the anionic shampoo base and the betaine surfactant.

Having regard to the experimental evidence on file, the Board finds it plausible that the problem has been solved. This was not contested by the Respondents.

- 5.5 There is nothing in document (3) itself to suggest that the skilled person should have investigated hair colorants other than henna.
- 5.6 However, if confronted with the problem as stated above, the skilled person inevitably would turn to other prior art relating to hair colorants and first of all take into account documents containing technical information more generally with respect to dyestuffs in the field of cosmetics.

Document (14), titled "Harry's Cosmeticology", contains such information. "Chapter Twenty-seven" relating to "Hair Colorants" discloses, on pages 526/527, under the heading TEMPORARY HAIR DYES, a large list of dyestuffs. Expressly mentioned are: azo dyes belonging to the chemical classes of acid, basic, disperse and metallized dyes; anthraquinone dyes belonging to the chemical classes of acid dyes and disperse dyes; triphenylmethane belonging to the chemical classes of acid dyes and basic dyes. Nitrophenylenediamines are mentioned on page 529 under the heading SEMI-PERMANENT COLORANTS.

Since claim 1 relates to broad ranges of percent-by-weight of the obligatory components covering quantities which are commonly used in the formulation of hair colorants and for which no particular advantage or effect to be achieved has been shown, the Board can only conclude that the subject-matter of claim 1 according to the main request relates to an obvious choice of a colouring shampoo consisting of direct dyes well-known in the art and, accordingly, does not involve an inventive step as required by Article 56 EPC.

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For the above reasons, the appeal must fail in respect of the main request.

#### Auxiliary Request 1

6. As already set out under point 6.2 above, the restriction of claim 1 to non-cationic dyes finds no basis in the description of the patent in suit as originally filed.

Since the said restriction also does not represent a "disclaimer" based on an accidental novelty-destroying prior art disclosure, which means prior art relating to a different purpose and solving a different problem, claim 1 does not meet the requirements of Article 123(2) EPC.

Therefore, the appeal must also fail in respect of the first auxiliary request.

#### Auxiliary Request 2

7. Claims 1 to 5 according to this request are restricted in respect of the obligatory present dye component to a composition consisting of a direct nitro dye. This restriction can be regarded as a direct response to the Respondents' objections with respect to the broadness and heterogeneity of the group of direct dyes covered by claim 1 of the main request. Furthermore, it is to be noted that each of the "Formulations 1 to 4" according to the worked examples of the patent in suit as originally filed contains nitro dyes. Therefore, the Board sees no reason to refuse auxiliary request 2 as being late filed.



- 7.1 In view of the said restriction, the considerations under points 2 to 5, 6 and 6.1 above relating to the requirements of Articles 123, 84 and Article 100(a) in regard to Articles 54 and 56 of the main request, apply to auxiliary request 2 as well.
- 7.2 Claim 1 of auxiliary request 2 relates to a homogenic class of direct dyes and accordingly the objections raised under points 6.2 and 6.3 above are no longer relevant to the subject-matter of this request.

Therefore, in relation to document (3), the problem to be solved is the provision of a colouring shampoo showing improved colour intensity of a henna shade.

The problem is solved by the dye composition for treating hair according to claim 1, consisting of defined amounts of a direct nitro dye in combination with defined amounts of the anionic shampoo base and betaine to be included in the composition.

Comparative examples A1 and A2 of the so-called 7.3 Anlage 2 annexed to the grounds of appeal contain an anionic shampoo base and a betaine and contain, on the one hand, the colorant of the closest prior art and, on the other, a colorant representative of the class of direct nitro dyes as required by claim 1. The Respondents did not dispute that 6-chloro-4-nitro-2aminophenol, the colorant used in comparative example A 2, shows per se a similar shade nuance as lawson, the colorant used in comparative example A 1, which is responsible for the colouring effect of henna. According to test results of colour measurements expressed in the said comparative examples in the form of the so-called L'; a'; b'-system, the inclusion of a direct nitro dye in the shampoo base known from document (3) shows an increased colour intensity over lawson included in the same shampoo base. The



Respondents did not contest these L\*; a\*; b\*-values but argued that 6-chloro-4-nitro-2-aminophenol would per se show a more intensive shade than lawson. However, in the absence of any proof provided by additional prior art or by counter-experimental evidence, the Board cannot take into consideration the said objection in respect of the problem underlying the patent in suit.

Since both the closest prior art and the dye composition according to the request under discussion contain an auxiliary surfactant which is a betaine, the Board likewise cannot share the Respondents' point of view that, in addition to comparative examples A 1 and A 2, there is a need for further comparative examples relating to a colorant on a henna basis but without a betaine surfactant and showing an effect of a betaine surfactant on the L\*; a\*; b\*-values as set out in the comparative examples, A 1 and A 2.

The fact that document (3) does not disclose quantities of the components to be included in the shampoo colorant, is not opposed to the conclusion that comparative examples A 1 and A 2 do indeed provide sufficient evidence as to an increase in colour intensity over the closest prior art.

Accordingly, the Board sees no reason to doubt that the problem has indeed been solved.

7.4 As regards the question of obviousness of the solution to the said problem, the Respondents have argued that nitro dyes as such, as well as their chemical and physical properties, and in particular their use as direct dyes in colouring shampoos, are so well known in the art that there is no need to file counter-

experimental evidence or to make reference to specific prior art documents. They also argued that it is a straightforward procedure to deny, in the case of the said restriction to direct nitro dyes, the required inventive step of the claimed subject-matter.

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In the Board's judgment, however, the inclusion of a direct nitro dye in the shampoo base known from document (3) in order to increase the colour intensity of a specific shade does not establish a straightforward situation. Having regard to the test results according to "Anlage 4" annexed to the grounds of appeal, it is proven that, for example, in the case of the inclusion of a specific direct azo dye in a shampoo base as known from document (3), a drastic decrease in colour intensity occurs.

In these circumstances the Board can only conclude that the Respondents have, by way of hindsight, argued that it would have been foreseeable to attain an increase in colour intensity of henna shade by the claimed solution.

Since there is also not the slightest hint in any of the cited documents of the said effect on colour intensity, there is no need, with respect to the subject-matter of auxiliary request 2, to discuss in detail either citation, taken singly or in combination. It is again pointed out that with respect to auxiliary request 2 the Respondents did not refer to specific prior art. Thus, there is no basis for the Board to conclude that the required inventive step is lacking and claim 1 as well as dependent claims 2 to 5 satisfy the requirements of Article 56 EPC.

### Order

# For these reasons it is decided that:

- 1. The decision under appeal is set aside.
- The case is remitted to the first instance with the order to maintain the patent on the basis of auxiliary request no. 2 as submitted during the oral proceedings and a description to be adapted.

The Registrar:

P Martorana

The Chairman:

P. A. M. Lançon





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