BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS

BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE

CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

Internal distribution code:
(A) [ ] Publication in OJ
(B) [ ] To Chairmen and Members
(C) [X] To Chairmen

D E C I S I O N
of 8 February 2001

Case Number: T 0821/97 - 3.3.7

Application Number: 92910137.6

Publication Number: 0578747

IPC: A61K 7/06

Language of the proceedings: EN

Title of invention:
Hair conditioning shampoo compositions with silicone conditioning agent

Patentee:
THE PROCTER & GAMBLE COMPANY

Opponent:
01: Henkel Kommanditgesellschaft auf Aktien
02: Goldwell GmbH

Headword:
Shampoo with silicone/THE PROCTER & GAMBLE COMPANY

Relevant legal provisions:
EPC Art. 54, 56, 84, 123

Keyword:
"Clarity - yes - wording of claims self-explanatory"
"Novelty - yes - selection out of at least two lists"
"Main-, first- and second auxiliary request - inventive step - no - obvious alternative composition"

Decisions cited:
T 0939/92

Catchword:
-

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0821/97 - 3.3.7

D E C I S I O N
of the Technical Board of Appeal 3.3.7
of 8 February 2001

Appellant:
(Opponent)

Henkel
Kommanditgesellschaft auf Aktien
TTP/Patentabteilung
40191 Düsseldorf (DE)

Other party:
(Opponent)

Goldwell GmbH
Zerninstrasse 10-18
D-64280 Darmstadt (DE)

Respondent:
(Proprietor of the patent)

The Procter & Gamble Company
One Procter & Gamble Plaza
Cincinnati
Ohio 45202 (US)

Representative:

Lawrence, Peter Robin Broughton
Gill Jennings & Every
Broadgate House
7 Eldon Street
London EC2M 7LH (GB)

Decision under appeal:

Interlocutory decision of the Opposition Division of the European Patent Office posted 16 July 1997 concerning maintenance of European patent No. 0 578 747 in amended form.

Composition of the Board:

Chairman: R. E. Teschemacher
Members: U. Oswald
G. Santavicca

Summary of Facts and Submissions

I. European patent No. 0 578 747, based on application No. 92 910 137.6, was granted on the basis of 14 claims.

Claim 1 as granted reads as follows:

"A hair conditioning shampoo composition comprising:

(a) from 5% to 50% of a detersive surfactant component, wherein said detersive surfactant component comprises from 0.5% to 20%, by weight of the composition, of polyethylene glycol glyceryl fatty ester nonionic surfactant;

(b) from 0.1% to 10%, by weight, of a dispersed , nonvolatile, insoluble, silicone conditioning agent;

and

(c) water."

II. Opponents 01 and 02 filed oppositions against the granted patent alleging lack of novelty and lack of inventive step under Article 100(a) EPC.

During the proceedings the following documents were cited inter alia:

(1) JP-A-56 086 113 (English translation)

(5) EP-A-0 471 606

(7) EP-A-0 181 773

In the grounds of opposition, filed on 25 October 1995, Opponent 01 argued inter alia that the description of the patent in suit did not provide any evidence that the problem of improving the silicon deposit on the hair was indeed solved and that there was a lack of information as to what problem should actually be solved by the inclusion of the components mentioned in the dependent claims. In reply (letter dated 10 June 1996, page 11), the Patentee argued inter alia that "it is not even necessary ... to rely upon the improved properties. ... it is sufficient ... to rely on the fact that the compositions of the invention are alternative to those of U.S. 4,741,855."

III. By the interlocutory decision of the Opposition Division dated 16 July 1997, the patent as amended was found to meet the requirements of the EPC.

Document (5), a prior art document under Article 54(3) EPC describing a hair-conditioning shampoo composition, did not directly and unambiguously disclose a nonvolatile insoluble silicone conditioning agent. Therefore, the subject-matter of amended claim 1 was considered novel.

For the assessment of inventive step, the Opposition Division saw the problem underlying the patent in suit in the provision of "a hair conditioning shampoo which not only has good shampooing properties but also good conditioning effects, due to improved deposition of the silicone on the hair".

The prior-art documents neither taken alone nor in combination rendered obvious the solution to this problem by the addition of a polyethylene glycol glyceryl fatty ester non-ionic surfactant to a hair-conditioning shampoo composition.

More particularly, the Opposition Division concluded that the skilled person would not combine the teachings of documents (1) and (7) in order to achieve the missing cleansing and lathering properties of the hair-conditioning composition of document (1) by the addition of an anionic surfactant known from the conditioning shampoo of document (7).

In the Opposition Division's view, even by starting from document (7) the skilled person would not expect stable hair-conditioning shampoo compositions to be obtainable by replacing the long chain-acyl derivatives of document (7) by the claimed polyethylene glycol glyceryl fatty esters.

IV. The Appellant (Opponent 01) lodged an appeal against the said decision.

Oral proceedings took place on 8 February 2001 during which the Respondent (Patentee) filed a main request, a first and a second auxiliary request.

Claim 1 of the main request reads as follows:

"A hair conditioning shampoo composition comprising:

(a) up to 50% of a detersive surfactant component, wherein said detersive surfactant component comprises from 0.5% to 20%, by weight of the composition, of polyethylene glycol glyceryl fatty ester nonionic surfactant and from 5 to 20%, by weight of the composition, anionic surfactant;

(b) from 0.1% to 10%, by weight, of a dispersed, nonvolatile, insoluble, silicone conditioning agent;

and

(c) water."

Claim 1 of the first auxiliary request differs from claim 1 of the main request in that the upper limit of the amount of silicone conditioning agent is restricted to 5%.

Claim 1 of the second auxiliary request contains the same limitations as claim 1 of the first auxiliary request but includes the definition of the polyethylene glycol glyceryl fatty ester by the formula:

$$RC(=O)OCH_2CH(OH)CH_2(OCH_2CH_2)_nOH$$

wherein n is from 20 to 200 and R is an aliphatic alkyl or alkenyl radical having from 7 to 19 carbon atoms.

V. The Appellant's submissions in written form and during the oral proceedings may be summarised as follows:

Regarding the amendments to claim 1, none of the requests filed during the oral proceedings met the requirements of Article 123 EPC since there was no basis in the patent in suit as originally filed for cancellation of the lower limit of 5% and the introduction of the floating limit of "up" to 50% of detersive surfactant component of the conditioning shampoo composition of claim 1. Since the claims were not self-explanatory regarding the limits on the contents of each of the substances in the hair-conditioning shampoo composition, the claims also were open to objection under Article 84 EPC.

The disclosure of document (5), in particular page 4, lines 13/14 and lines 30 to 34, taught the use of non-volatile, insoluble silicone conditioning agents instead of paraffin wax and therefore example 3 of document (5) destroyed the novelty of the hair-conditioning shampoo of the patent in suit.

For the assessment of inventive step, the relevant person skilled in the art was the person qualified to solve problems related to the production of detergent-containing cosmetic products in general and accordingly even prior art relating to compositions for protecting the skin rendered obvious the hair-conditioning shampoo composition of the patent in suit since both compositions contained the same classes of detergent components.

Since the anionic surfactant was the only distinguishing feature between the hair conditioner of document (1) and the shampoo conditioner of the patent in suit and since the cleansing and lathering effect of anionic surfactants was well-known in the art, it was obvious to add an anionic surfactant to the composition of document (1).

Having regard to the disclosure of document (7) showing a preferred range of non-volatile silicone fluid of 0.5% to 5%, it could not be accepted that an improved silicone hair-conditioner deposition on the hair could be achieved by the use of 10% or 5% of non-volatile silicone fluid according to the patent in suit. Moreover, the general disclosure of long-chain acyl derivatives as an essential component of the hair-conditioning shampoo of document (7) was a clear incentive to use polyethylene glycol glyceryl fatty ester nonionic surfactants.

VI. The Respondent's counter arguments may be summarised as follows:

Cancellation of the lower limit of 5% and the introduction of the newly created floating limit of "up" to 50% of detersive surfactant component of the conditioning shampoo composition of claim 1 clearly excluded compositions impossible to produce when using 5% of the anionic surfactant and 0.5% of the nonionic surfactant but did not include compositions originally not disclosed.

Document (5) in no way destroyed the novelty of the claimed subject-matter. For the replacement of paraffin wax in example 3 of this document the skilled person was confronted with several possibilities, inter alia, selection of example 3 out of a palette of 35 working examples, selection of silicones from a large group of chemically different lipophiles and selection of the right type of silicone.

Since the problem underlying the patent in suit was an improved deposition of silicone on the hair when using a conditioner containing shampoo, prior art relating to a sun screen or skin-protection composition was an artificial starting point for the assessment of inventive step. Document (7) also relating to a conditioning shampoo represented the closest prior art. Moreover, in the description of the patent in suit the US equivalent of this document was discussed extensively as a starting point for the invention and, accordingly, each of the advantages of the shampoo composition of the patent in suit were achieved over the shampoo composition disclosed in this prior art. Document (7) described several classes and concrete examples of nonionic surfactants but neither pointed to the specific nonionic surfactant polyethylene glycol glyceryl fatty ester of the invention nor taught in

general the use of nonionic surfactants for improving the deposition of silicone on the hair. In contrast, the whole teaching of document (7) was focused on the use of very special suspending agents.

In the absence of a rinse-out step when using the pure hair-conditioning composition of document (1), this prior art taught the use of polyoxyethylene glyceryl fatty acid ester for purposes other than those according to the invention of the patent in suit. Document (1) in fact contained the polyoxyethylene glyceryl fatty acid ester in order to stabilise the emulsion. Moreover, document (1) only exemplified the use of polyoxyethylene glyceryl tristearate, a nonionic surfactant not encompassed in claim 1 of the second auxiliary request.

There was no evidence on file showing that the composition of the patent in suit failed to improve silicone deposition on the hair when compared with the composition of document (7). Moreover, data showing such improvement were at the disposal of the Respondent. The description of the patent in suit clearly demonstrated that each of the advantages of the invention could be achieved by the use of a silicone conditioning agent in amounts as low as 5% by weight of the composition. The use of 5% or even 3% of silicone conditioning agent according to document (7) was less efficient than the use of the same amount according to the patent in suit.

Even assuming that the composition of the patent in suit represented an alternative in comparison with the composition of document (7), it was inventive to select polyethylene glycol glyceryl fatty ester from the group

of thousands of surfactants. Applying the so-called could/would approach, there was no reason for a person skilled in the art to select polyethylene glycol glyceryl fatty ester as an alternative nonionic surfactant.

VII. The Appellant (Opponent 01) and the Opponent 02 (party as of right to the appeal proceedings), requested that the decision under appeal be set aside and that European patent No. 0 578 747 be revoked.

The Respondent requested that the appeal be dismissed and that the patent be maintained, on the basis of either the main request, or one of the first and second auxiliary requests, as filed during the oral proceedings.

VIII. In addition, the Respondent requested that the case be remitted to the first instance should the allegation of one of the Appellant's representatives, that according to his personal experience PEG glyceryl fatty acid ester was commonly used in cosmetics, become relevant for the decision.

Reasons for the Decision

1. The appeal is admissible

2. *Article 84 EPC*

2.1 Claim 1 of each of the requests includes the feature that the hair-conditioning shampoo composition comprises up to 50% of a detersive surfactant component wherein said detersive surfactant component comprises a

lower limit of 0.5% by weight of the composition of polyethylene glycol glyceryl fatty ester nonionic surfactant and a lower limit of 5% by weight of the composition of anionic surfactant.

2.2 Accordingly, the wording of claim 1 clearly concerns the mixture of substances forming the detersive surfactant component so that in the presence of more than one nonionic surfactant and/or more than one anionic surfactant and/or other substances having the effect of a detersive surfactant, the lower limit of **the sum of all substances forming the detersive surfactant component** is inevitably **above 5.5%** of the hair-conditioning shampoo composition.

2.3 Following this clear understanding of the wording of claim 1 of each request, there is neither a contradiction between the content in percentage by weight of the nonionic surfactant and anionic surfactant as an essential part of the detersive surfactant component and the calculation of the lower limit of the percentage by weight of the detersive surfactant component in the hair-conditioning shampoo composition, nor an arbitrariness in choosing a lower limit for the overall surfactant content in the hair-conditioning shampoo composition.

2.4 Since claim 1 of each request is self-explanatory regarding the limits of the contents of each of the essential substances and since the Board sees no other objections under Article 84 EPC with respect to the amendments to the claims of each of the requests, the Appellant's objections regarding lack of clarity of the claimed subject-matter must fail.

3. *Article 123(2) and (3) EPC*

3.1 Claim 1 of each of the new requests is based on claim 1 as originally filed (claim 1 as granted) in combination with page 4, lines 16 to 18 (patent specification, page 3, lines 29/30); additionally page 18, lines 1 to 8, for the first auxiliary request (patent specification, page 9, lines 23 to 26) and, for the second auxiliary request, additionally claim 2 as originally filed (claim 2 as granted) with page 5, lines 3/4 (patent specification, page 3, line 49). There is no technical reason to exclude a combination of the originally disclosed upper limit of 5% of silicone conditioning agent of the originally disclosed preferred range of 0.05% to 5% with the lower limit of 0.1% of the originally disclosed preferred range of 0.1% to 2.5%.

3.2 In comparison with claim 1 as granted, claim 1 of each of the new requests, by deleting the value of 5% detersive surfactant component, does indeed no longer contain a concrete value for the lower limit of the sum of all substances forming the detersive surfactant component, as objected by the Appellant.

However, as explained in detail under point 2 above, the 0.5% and the newly-introduced 5% values for the lower limits for the content of the nonionic surfactant and anionic surfactant, respectively, represent individual values for lower limits of defined ranges of contents of these substances.

3.2.1 Claim 1 according to each request is open as to the content of surfactants other than the nonionic and anionic ones mentioned expressly. The same applies to claim 1 as originally filed and claim 1 as granted. However, as explained in detail above, the sum of all substances forming the detersive surfactant component

is inevitably **above 5.5%** up to 50% of the hair-conditioning shampoo composition. Therefore, the percent by weight-range of surfactants does not extend beyond the content of the application as originally filed disclosing from 5% to 50% of a detersive surfactant component.

3.2.2 Furthermore, without ignoring the clear wording of claim 1, the values for the lower limits for the content of nonionic surfactant and anionic surfactant cannot be taken together in an arbitrary way and mixed up with the sum of all possible surfactants in the conditioning shampoo composition and therefore these values do not establish a new lower limit for the sum of all substances forming the detersive surfactant component which would extend beyond the content of the application as filed. In the absence of a concrete value for the lower limit of the sum of all substances forming the detersive surfactant component and thus, contrary to the Appellant's assertion, claim 1 of each request does not relate to an unallowable selection of a new percent-by-weight range of surfactants.

3.3 The Appellant and Opponent 02 (other party to the proceedings) did not raise objections other than those discussed above regarding unallowable amendments to the sets of claims of each of the requests and the Board also sees no reason to discuss this matter further.

Accordingly, the Board can only conclude that each of the set of claims of each request fulfils the requirements of Article 123(2) and (3) EPC.

4. *Novelty*

Claim 1 of each of the requests comprises *"a dispersed, nonvolatile, insoluble, silicone conditioning agent"* as an obligatory component of the conditioning shampoo composition.

Document (5) discloses on page 4, lines 13 ff, a long list of conditioning agents such as *"petrolatums paraffin waxes, isoparaffins, mineral oils, microcrystalline waxes, beeswaxes, organosilicon compounds including silicones and aminosilicones..."*. Subsequently, it is indicated on lines 30 to 35 that *"the organosilicone compounds and silicones that may be employed include any of those which are conditioning agents for fibrous materials"* and that *"such are normally non-volatile..."* and that *"it has been found that aminosilicones are usually more effective conditioning agents in the composition of this invention than are conventional silicones, and of such it is preferred to utilize...."*.

In the light of this disclosure there is no basis for the assumption that document (5) directly and unambiguously teaches replacing paraffin wax, one of the components of example 3 on page 9, by a non-volatile insoluble conditioning agent.

Therefore, the Board accepts the Respondent's argument that such a replacement involves several selection steps, and at least a selection of two lists of compounds with different properties.

During oral proceedings before the Board, the Appellant and Opponent 02 no longer objected under Article 54 EPC with respect to documents other than document (5) and,

having regard to the disclosure of the other documents cited during the proceedings, the Board sees no reason to question the novelty of the subject-matter of the sets of claims of each of the requests.

Accordingly, the Board can only conclude that the subject-matter of each of the requests fulfils the requirements of Article 54 EPC.

Inventive step (main and first auxiliary request)

5. Document (7) represents the closest prior art.

5.1 This document (see claim 1) discloses a shampoo composition comprising:

(a) from 5% to 70% of a synthetic surfactant;

(b) from 0.01% to 10% of a dispersed insoluble, non-volatile silicone;

(c) from 0.5% to 5% of a long-chain acyl derivative; and

(d) water.

The surfactant may be selected from synthetic anionic, amphoteric, zwitterionic and nonionic surfactants at levels of from about 5% to 70%, preferably from about 10% to about 30%. The surfactants are essential components of shampoo compositions (see page 3, lines 8 to 12)

The preferred range for the insoluble non-volatile silicone component is 0.5% to 5% (see page 8, lines 23 to 29).

According to Example VI on page 12, an anionic shampoo composition comprises inter alia 15% by weight of TEA C_{12}-C_{14} alkyl sulfate as an anionic surfactant; 3% by weight Dimethicone DC-200 as an insoluble, non-volatile silicone; and 1.5% by weight ethylene glycol distearate as a long- chain acyl derivative. It is indicated that such a composition is stable and produces good hair-conditioning.

5.2 The Respondent agreed that the disclosure of document (7) differed from the subject-matter of claim 1 of the main request and first auxiliary request only in that the conditioning shampoo of document (7) does not comprise polyethylene glycol glyceryl fatty ester as a nonionic surfactant but argued that in the absence of counter-evidence it must be accepted that in comparison with the composition of document (7) the composition of the patent in suit showed an improved deposition of silicone on the hair and that as a consequence the amount of silicone that is incorporated into the shampoo is reduced.

5.3 The Board agrees that the description of the patent in suit as granted on page 3, lines 5/6, as well as originally filed on page 3, lines 21 to 23, indeed contains the statement that *"surprisingly, the polyethylene glycol glyceryl fatty ester .... **can** improve the deposition of the silicone hair conditioning agent upon the hair" (emphasis added)*.

However, the existence of such an effect was already contested by the Appellant in the grounds of opposition (see paragraphs II and III "Facts and Submissions" above) and the Board notes that the Respondent neither during the proceedings before the first instance nor in the course of the appeal proceedings, offered evidence that the alleged improvement has indeed been achieved

in comparison with prior-art conditioning shampoo compositions but took the view that the claimed subject-matter was patentable as an alternative. Since even the patent in suit refers to US patent 4,741,855 corresponding to document (7) [parent application to the application from which priority is claimed] as a suitable starting point for the invention, the Respondent's argument, that during the oral proceedings before the Board the situation changed regarding evidence necessary to prove an effect to be achievable by the composition of the patent in suit, must fail.

In this respect the Board has to take into account that document (7) discloses a preferred range of 0.5% to 5% for the non-volatile insoluble silicone agent and that example VI relates specifically to contents as low as 3% of that agent. In the absence of any concrete indication that the deposition of the composition of document (7) is not satisfactory or that the composition of the patent in suit performs better in this respect, the problem underlying the patent in suit with respect to the maximum amount of silicone of 10% or 5% according to claim 1 of the main request and first auxiliary request can neither be based on an improved silicone deposition on the hair nor on a reduction of the amount of silicone and thus not on a reduction of raw material costs either.

It has not been shown that the alleged reduction of silicone conditioning agent is objectively achieved in comparison with the compositions known from document (7), and there is no reason to question that for practical purposes the conditioning shampoo disclosed in document (7) is intended for deposition of a maximum amount of the silicone contained in the composition on the hair.

5.4 Accordingly, in the light of the disclosure of document (7), the problem underlying the patent in suit with respect to the main request and first auxiliary request can only be seen in the provision of an alternative conditioning shampoo.

5.5 The claimed solution to this problem is the hair-conditioning shampoo composition according to claim 1 comprising 0.5% to 20%, by weight of composition, of polyethylene glycol glyceryl fatty ester nonionic surfactant.

Having regard to the worked examples of the patent in suit, the Board is convinced that the problem has indeed been solved. This was not contested by the Opponents.

6. It remains therefore to consider, whether, in the light of the cited prior art, the solution to this problem involves an inventive step.

6.1 Document (7) does not contain the slightest suggestion that the specific nonionic surfactant polyethylene glycol glyceryl fatty ester should be included in a conditioning shampoo composition. However, as set out under point 5.1 above, document (7) proposes in general that synthetic anionic, amphoteric, zwitterionic and nonionic surfactants at levels of from about 5% to 70%, preferably from about 10% to about 30%, are essential components of shampoo compositions. This essential presence is indeed not confined to specific nonionics (see pages 6 to 8). Accordingly, the skilled person working in the field of hair cosmetic compositions and confronted with the problem of finding alternatives

suitable for use in conditioning-shampoo compositions of the type described in document (7) will clearly pay attention in general to all documents relating to surfactants suitable for use in hair cosmetic compositions.

6.2 Document (1) represents such prior art and teaches, without placing emphasis on any one member of the group, that out of a group of polyoxyethylene fatty acid ester emulsifiers polyoxyethylene glyceryl fatty acid ester is a nonionic surface-active agent suitable for stably emulsifying dimethyl polysiloxane in a hair cosmetic composition. The composition contains 0.1% to 10% by weight of the emulsifier (see page 7, last paragraph, up to page 8, first paragraph).

6.3 The hair cosmetic composition of document (1) is a pure conditioning composition and does not show shampoo effects. However, document (1) clearly teaches in general the nonionic emulsifier and surfactant effect of a group of polyoxyethylene fatty acid esters in amounts as required by claim 1 of the main request and first auxiliary request, and there is no reason for the assumption that polyoxyethylene glyceryl fatty acid ester shows particular properties which would make this specific emulsifier less suitable than the other members of the fatty acid ester group. Accordingly, in the absence of evidence that polyoxyethylene glyceryl fatty acid ester shows unacceptable interference with shampoo compositions, the Board can only conclude that it is obvious to a skilled person to provide an alternative conditioning shampoo composition by the inclusion of polyoxyethylene glyceryl fatty acid ester as one of the surfactant components in the composition disclosed in document (7).

6.4 The Respondent's argument that in the present case the skilled person could have chosen polyoxyethylene fatty acid ester out of a group of thousands of surfactants but that there was no reason that he would have done so must fail (see also decision T 939/92 OJ 1996, 309, in particular points 2.5.2 and 2.5.3 of the reasons for the decision). Once the skilled person has recognised that each member of the group of polyoxyethylene fatty acid esters disclosed in document (1) represents surfactants equal in function, where a pure alternative composition is to be provided, each member of the group can be regarded as an alternative. Accordingly, when applying the so-called could/would approach the skilled person would include each member of the said group without preference in the conditioning shampoo composition of document (7).

The subject-matter of claim 1 of the main request and first auxiliary request therefore does not fulfil the requirements of Article 56 EPC.

Inventive step (second auxiliary request)

7. In comparison with claim 1 of the main request and first auxiliary request, claim 1 of the second auxiliary request is further restricted to a polyethylene glycol glyceryl fatty ester having a defined range for the number of ethoxy groups and a defined range for the number of carbon atoms of the alkyl or alkenyl radical.

In the absence of any particular effect derivable from this restriction regarding the chemical constitution of the polyethylene glycol glyceryl fatty ester surfactant, document (7) remains the closest prior art and the problem underlying the patent in suit with respect to the second auxiliary request can also only be seen in providing an alternative composition. For

this reason it is not apparent that the additional feature contributes to the solution of a problem and the reasoning as set out under point 6 above remains the same for this request (see also Case law of the Boards of Appeal, 3rd ed 1998, I.D.6.5).

8. In the light of the reasoning under point 5 above, the Opposition Division's point of view that the patent in suit shows an improvement over document (7) cannot be confirmed and the Opposition Division's decision to maintain the patent in amended form on the basis of Article 102(3) EPC cannot be upheld.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar:

C. Eickhoff

BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS ★ BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE ★ CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS 23

The Chairman:

R. E. Teschemacher

C. Eickhoff
Geschäftsstelle
Registry/Greffe

Beglaubigt/Certified
Certifiée conforme:
München/Munich 17. APR. 2001