



**D E C I S I O N** of 21 March 1988  
correcting errors in the decision  
of the Technical Board of Appeal 3.3.2  
of 16 December 1986

**Appellant :**  
(Opponent)                      Unilever PLC  
   Unilever House  
   Blackfriars  
   London EC4  
   Great Britain

**Representative :**                      Gambell, Derek  
   UNILEVER PLC  
   Patents Division  
   PO Box 68  
   Unilever House  
   London EC4 4BQ

**Respondent :**                              The Procter & Gamble Company  
(Proprietor of the patent)              301 East Sixth Street  
   Cincinnati, Ohio  
   USA

**Representative :**                      Gibson, Tony Nicholas  
   Procter & Gamble  
   European Technical Center  
   Temselaan 100  
   B 1820-Strombeek-Bever

**Other Party :**  
(Opponent)                              Henkel KGaA  
   ZR-FE/Patente  
   Postfach 1100  
   Henkelstrasse 67  
   D-4000 Düsseldorf 1

**Decision under appeal :**                      Interlocutory decision of the Opposition Division of the  
   European Patent Office dated 23 November 1984  
   concerning maintenance of European Patent No 6 268  
   in amended form.

**Composition of the Board :**

**Chairman :** P. Lançon  
**Members :** G. Szabo  
   F. Benussi

In application of Rule 85 EPC the decision given on 16 December 1986 is hereby ordered to be corrected as follows:

No. 2 letter (c) of the order "description pages 2 and 9 as submitted in the oral proceedings,"

should read

"description page 2 according to the conditional submission (c) filed on 19.07.85, amended as submitted in the oral proceedings and page 9 as submitted in the oral proceedings"

The Registrar:



The Chairman:



Veröffentlichung im Amtsblatt JA/Nein  
Publication in the Official Journal Yes/No  
Publication au Journal Officiel Oui/Non



Aktenzeichen / Case Number / N° du recours : T 35/85

Anmeldenummer / Filing No / N° de la demande : 79 200 295.8

Veröffentlichungs-Nr. / Publication No / N° de la publication : 6 268

Bezeichnung der Erfindung:

Title of invention: Washing and softening compositions and  
Titre de l'invention : processes for making them

Klassifikation / Classification / Classement :

### ENTSCHEIDUNG / DECISION

vom / of / du

16 December 1986

Anmelder / Applicant / Demandeur :

Patentinhaber / Proprietor of the patent /  
Titulaire du brevet :

The Procter & Gamble Co. (Respondent)

Einsprechender / Opponent / Opposant :

Unilever PLC  
Henkel KGaA

(Appellant)  
(Other party)

Stichwort / Headword / Référence :

Washing compositions/PROCTER

EPÜ / EPC / CBE

Art. 56 EPC

Kennwort / Keyword / Mot clé :

"Inventive step - Comparative tests"

### Leitsatz / Headnote / Sommaire

Applicant or patentee may discharge his onus of proof by voluntarily submitting comparative tests with newly prepared variants of the closest state of the art making identical the features common with the invention in order to have a variant lying closer to the invention so that the advantageous effect attributable to the distinguishing features of the invention is thereby more clearly demonstrated (further to decision T 181/82 "Spiro-compounds" OJ 7/1985, 401).



Case Number : T 35 /85

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of 16 December 1986

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(Opponent)

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**Decision under appeal :**

Interlocutory decision of the Opposition Division  
of the European Patent Office dated 23 November 1984  
concerning maintenance of European Patent No. 6268  
in amended form.

**Composition of the Board :**

**Chairman :** P. Lançon

**Member :** G. Szabo

**Member :** F. Benussi

## Summary of Facts and Submissions

I. European patent No. 6268 was granted on 4 November 1981 with 11 claims in response to the European patent application No. 79 200 295.8 filed on 11 June 1979 claiming the priority of the earlier application of 20 June 1978.

II. Admissible notices of opposition were filed against the European patent requesting that it be revoked on the ground of non-patentability because of lack of novelty and of inventive step. The oppositions were, *inter alia*, supported by the following documents:

- (1) DE-B-1 220 956
- (2) EP-A-225
- (3) US-A-3 686 025
- (4) GB-A-1 392 284
- (5) Waterback, S.J. et al, *Nature*, 1956, 178; 321

III. In a decision of 23 November 1984 the Opposition Division decided to maintain the patent in an amended form, with Claim 1 filed on 7 January 1983, as follows:

"A granular softening and detergent composition, said composition comprising by weight,

- (a) from 10% to 20% of one or more polyethoxy nonionic surfactants having hydrophilic-lipophilic balance in the range from 8 to 15 and having not more than an average of 16 ethoxy units per molecule;
- (b) from 3% to 10% of one or more water insoluble cationic textile softeners selected from
  - (i) non-cyclic quaternary ammonium salts having two  $C_{12}$ - $C_{30}$  alkyl chains in the molecule;

(ii) C<sub>8</sub>-C<sub>25</sub> alkyl imidazolinium salts; and

(iii) mixtures thereof;

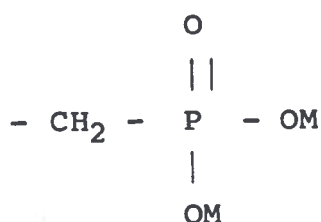
(c) optionally up to 1.5% of one or more anionic surfactants; and

(d) from 10% to 80% of one or more detergency builders;

characterised in that the composition comprises from 0.1% to 5% of a water-soluble polyphosphonate compound having the general formula A<sub>2</sub>NB

where A is

and where B is A or



where x is 0, 2 or 4, y is 0 or 1, provided that where y is 1, x is 2 and M is hydrogen, an alkali metal, ammonium or substituted ammonium cation."

IV. The Opposition Division decided that the amendments were supported by the documents as filed and by the priority documents. Citation (5) was found to be belatedly filed and thereby falling "within the consideration of Article 114(2) EPC", without any further discussion of its relevance. The claimed combinations were found novel and inventive in view of a surprising advantage over the closest prior art (1), based on the evidence from the Applicant submitted during the examination procedure.

V. The Appellant (one of the Opponents) filed an appeal against the decision on 16 January 1985 with the payment of the fee, and submitted a Statement of Grounds on 14 March 1985. In the oral proceedings on 16 December 1986, the Respondent (Patentee) filed an amended Claim 1, based on the auxiliary request (C), received on 19 July 1985, in which the claim of the 7 January 1983 referred to above under III was further amended so that component (b)(i) is having "two C<sub>12</sub>-C<sub>22</sub> aliphatic hydrocarbyl chains...." and the definition of substituents in the characterising part reads:

"where y is 0, x is 0 or 4 or where y is 1, x is 2, and M is hydrogen, an alkali metal, ammonium or substituted ammonium cation."

VI. The Appellant (Opponent) accepted at the oral proceedings that set (C) of the claims submitted by the Respondent was supported by the specification and claims as filed and by the priority documents. It was, however, maintained that the subject-matter was obvious, particularly in view of citations (4) and (5), which disclosed the chelating properties of ethylene diamine tetramethylene phosphonic acid (EDTMP). Thus it was predictable that the yellowness of washed fabrics owing to ferric salts could be prevented by adding such agent to the compositions otherwise already known from (1). Since the problem which the Patentee sought to overcome was discoloration, the claimed combination was obvious. He submitted that Opposition Division wrongly considered document (5) as belatedly filed.

VII. The Respondent insisted that document (2) was no longer citable since it had been published in the Convention period. The claims were limited to specific phosphonic acid derivatives, which had been responsible for the improved stain removal benefits shown in the evidence submitted

during prosecution. It was unexpected that such additives solve the apparently contradictory requirements of softening and adequate cleaning. Although iron content may be one of the relevant factors, nevertheless organic, e.g. peaty colouring matter, would usually be the principal cause of discoloration (cf. specification, page 2, lines 28-29). Such phosphonate agents were previously used only under conditions different from those required by the patent and their compatibility and effectiveness to solve the complex problem was not predictable.

VIII. The Appellant requests that the decision under appeal be set aside and the patent be revoked. The Respondent requests that the appeal be dismissed and that the patent be maintained on the basis of Claim 1, according to auxiliary submission (C) filed on 19 July 1985 and amended at the oral hearing (cf. V.), and of Claim 2 of the same submission.

#### Reasons for the Decision

1. The appeal complies with Articles 106 to 108 and Rule 64 EPC and is, therefore, admissible.
2. There are no objections on formal grounds against amended Claims 1 and 2 according to set (C) since all features derive support from the disclosure as originally filed and the scope of the claims is substantially restricted. The limitation to "10 to 20%" for the non-ionic surfactant for component (a) is derived from the actual quantities used in Examples II, III, and IV. The detachment of these values from the other specific values for other components in the examples is not objectionable because these particular values are not so closely associated with the other features of the examples as to determine the effect of the whole composition to a significant degree in the detergent



(cf. "Lead alloys/SHELL", T 201/83, 10/1984, 481). The other relevant features of the claim were disclosed on page 6, line 4; page 4, lines 1 to 12; and granted Claim 5 (for (b)); page 8, line 53 (for (c)); and granted Claim 1 and page 7, in particular lines 54 to 63 for the characterising part. Claim 2 is relying on page 6, line 57 and page 7, lines 60 to 62. The claims comply with Article 123(2) and (3) EPC and are also supported by the priority document.

3. The invention relates to detergent compositions of the kind which comprises non-ionic surfactants and cationic softeners, together with detergency builders and optionally some anionic surfactants. The closest state of the art is represented by (1) which discloses such compositions. The technical problem in relation to such art was to improve the softening and cleaning properties of the composition (cf. page 9, lines 36-37) and avoid yellowing of the fabric (cf. page 2, line 19). The solution of the problem incorporates water soluble polyphosphonate compounds of a certain structure.

4. The evidence submitted during prosecution (3 January 1981) by the Applicant indicated that stains with wine, tea and cocoa could be somewhat better removed with formulations according to the patent containing the polyphosphonate component than with the same compositions without that additive. True, the tests were not carried out with a formulation according to the closest prior art which had been specifically disclosed (cf. T 181/82 "Spiro-compounds OJ 7/1984, 401), but with a specifically prepared version thereof which, if anything, lay closer to the invention than anything published before. Nevertheless, it is the view of the Board that the Applicant or Patentee may discharge his onus of proof by voluntarily submitting comparative tests with newly prepared variants of the closest state of the art making identical the features

common with the invention in order to have a variant lying closer to the invention so that the advantageous effect attributable to the distinguishing features of the invention is thereby more clearly demonstrated (supplementing the above decision). The tests showed that the cleaning effect was significantly improved in consequence of the polyphosphonate alone.

5. The Appellant submitted no evidence on his part to refute the presumption created by the granted patent, and presented no convincing argument suggesting that the alleged cleaning and softening properties were non-existent or represented no improvement over the cited art. The submission by the Appellant that the comparative tests were not carried out with granular material and that the softener containing quaternary alkyl chains was contaminated with alkenyl chains cannot be accepted as significantly influencing the outcome of the experiments, particularly in this case where care had been taken to compare under identical conditions apart from the presence or absence of the characterising feature. In the absence of evidence to the contrary the Board can only reject the challenge in this respect and assume that the suggested effects have been achieved by using the claimed composition.
  
6. Since none of the cited documents describes a composition comprising all four essential features of the claim, the subject-matter is novel. As to the inventive step, the acceptance on the part of the Appellant that the amended claims of set (C) are supported by the disclosure in the priority document implies that document (2), having been published in the priority interval, need not be considered. Document (5) was, on the other hand, filed in time, i.e. on

2 August 1982, two days before the expiry of the opposition period - contrary to the finding of the Opposition Division - and must therefore be taken into consideration. Its contents disclose the chelating properties of EDTMP which could be relevant to keeping ferric ions in solution.

7. Whilst it is unfortunate that the Opposition Division misconstrued the actual date of filing of this citation, the same kind of information was also disclosed in document (4). According to the latter, EDTMP stabilizes oxygen releasing components in bleaching liquors in the presence of heavy metal ions. In this way damage to cotton by detergents could be avoided. Whilst both documents imply certain advantages for EDTMP addition to various simple detergent compositions, there is no suggestion as to the beneficial effect, or even compatibility, when the highly complex formulation of document (1) is to be supplemented with such phosphonates with chelating properties. There was, therefore, no reason to assume that the use of EDTMP would alleviate the well-known limitations of a system based on a non-ionic surfactant and a cationic softener and allow an unexpected improvement in the results.
  
8. Although the comparative test formulations already mentioned above contained plenty of an oxidising agent in the form of 12% perborate, the added 0.5% sodium EDTMP was not simply countering the undesirable effect of the perborate, or more precisely of the ferric ions generated in consequence of such oxidising agent since in all instances there was also sufficient quantity (0.2%) of the very powerful chelating agent EDTA present (ethylene diamine tetraacetic acid) to keep traces of iron in solution. Thus the effect of added EDTMP according to the invention was independent of any problem with ferric ions and the beneficial results in removing various stains solely in consequence of EDTMP was unexpected. In

conclusion, the Appellant (Opponent) has not presented a convincing case against the validity of the patent with the amended claims, and the presumption must therefore be maintained that the subject-matters of Claim 1, as well as of fully dependent Claim 2, are based on an inventive step.

## ORDER

### For these reasons, it is decided that:

1. The decision of the Opposition Division is set aside;
2. The case is remitted to the first instance with the order to maintain the patent in the amended form based on:
  - (a) Claim 1 as submitted at the oral proceedings,
  - (b) Claim 2 of auxiliary request (c), filed on 19 July 1985,
  - (c) description page 2 according to the conditional submission (c) filed on 19.07.85, amended as submitted in the oral proceedings and page 9 as submitted in the oral proceedings,
  - (d) description pages 4 and 6, amended, as submitted on 19 July 1985, and
  - (e) the rest of the pages as published in the patent, page 5 being deleted.

The Registrar

The Chairman