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D E C I S I O N
of 12 October 1999

Case Number: T 0144/94 - 3.3.6

Application Number: 86301238.1

Publication Number: 0193360

IPC: C11D 3/12

Language of the proceedings: EN

Title of invention:
Detergent compositions

Patentee:
THE PROCTER & GAMBLE COMPANY, et al

Opponent:
Henkel Kommanditgesellschaft auf Aktien

Headword:
Polycarboxylate polymer additive/PROCTER & GAMBLE

Relevant legal provisions:
EPC Art. 54
EPC R. 67

Keyword:
"Inventive step (no)"
"Procedural violation (no) - technical evaluation cannot amount to procedural violation"

Decisions cited:
-

Catchword:

-



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Boards of Appeal

Chambres de recours

Case Number: T 0144/94 - 3.3.6

D E C I S I O N
of the Technical Board of Appeal 3.3.6
of 12 October 1999

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

Representative: -

Respondent: THE PROCTER & GAMBLE COMPANY
(Proprietor of the patent) One Procter & Gamble Plaza
Cincinnati
Ohio 45202 (US)

Representative: TER MEER STEINMEISTER & PARTNER GbR
Mauerkircherstrasse 45
D-81679 München (DE)

Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 15 December 1993
rejecting the opposition filed against European
patent No. 0 193 360 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: P. Krasa
Members: H. H. R. Fessel
C. Holtz

Summary of Facts and Submissions

I. The only independent claim, Claim 1, of European patent No. 0 193 360 reads as follows:

"A granular detergent composition having a phosphorus content of less than 5% by weight and comprising from 5% to 50% by weight of a water-insoluble aluminosilicate cation exchange material, characterized in that it additionally comprises from 0.1% to 20% by weight of a polycarboxylate polymer comprising on a monomer weight basis

(i) from 5% to 70% of a C₃ to C₁₀ monoolefinic monocarboxylic acid,

(ii) from 5% to 70% of a C₄ to C₆ monoolefinic dicarboxylic acid, and

(iii) from 1% to 80% of nonionic spacer selected from:

(I) C₁-C₆ alkyl and hydroxyalkyl esters of C₃-C₁₀ monoolefinic monocarboxylic acids,

(II) C₁-C₆ alkyl and hydroxyalkyl esters of C₄-C₆ monoolefinic dicarboxylic acids,

(III) C₁-C₆ alkyl and hydroxyalkyl esters of C₂-C₆ monoolefinic alcohols, and

(IV) C₂-C₆ monoolefinic alcohols."

II. An opposition was filed based on the grounds of lack of inventive step and was supported by the following documents:

D1: DE-B-2 539 071;

D2: US-A-3 887 480;

D3: EP-A-0 000 215;

D4: EP-A-0 076 992, and

D5: EP-A-0 124 913.

III. The Opposition Division rejected the opposition and maintained the patent unchanged. It held D1 and D5 to represent the most relevant prior art and that the problem to be solved by the patent in suit, as already specified in the description thereof, was to provide low phosphorous, aluminosilicate-based detergent compositions having a better detergent performance than those of the prior art. The solution differed from that given by D1 and D5 by the nature of the polymeric material used as zeolite auxiliaries. The Opposition Division was of the opinion that although D4 suggested that the specific terpolymer could be used as phosphate substitute in detergent compositions, the object of D4 was the manufacture of end products devoid of impurities, emphasizing that bipoymers were not excluded. The teaching of D2 was held to be 'more remote' than that of D4 and only with a degree of hindsight one could argue that a skilled person would use the terpolymers known from D2 and D4 in the zeolite based compositions known from D1 or D5. No indication was provided in the art that using these terpolymers would result in a better and unexpected performance compared with the bipoymers known from D1, D3 and D5.

IV. The appellant (opponent) disputed that there was any inventive step which could be based on a general improvement over the cited prior art. The only improvement not in dispute was a lower incrustation when using the specified terpolymers instead of bipoymers. This improvement, however, could not

contribute to inventive step, since a skilled person would expect that improvement in view of the teaching given by the comparative examples on pages 11 to 13 in D4.

- V. The respondent (patentee) argued in essence that the problem underlying the present invention could be seen in the provision of detergent compositions having improved overall detergency effectiveness and anti-deposition benefits under stressed conditions of low concentration and low ionic strength. By the comparative data submitted it was shown that with a combination of the water-insoluble aluminosilicate cation exchange material with the specific polycarboxylate terpolymer selected, surprisingly excellent bleach stability, fabric care, detergency performance across the range of wash temperatures (specifically on greasy and particulate soils), an unexpectedly improved suspension ability of the selected terpolymer under different ionic strength (declaration of Mr Kermodé), and unexpectedly superior primary cleaning effects and lower fabric greying (declaration of Mr Hall) were achieved.
- VI. The appellant requested that the decision under appeal be set aside and that the European patent No. 0 193 360 be revoked and that the appeal fee be reimbursed.

The respondent requested that the appeal be dismissed.

Oral proceedings took place on 12 October 1999.

Reasons for the Decision

1. Novelty was not attacked in opposition proceedings and is thus no issue in these appeal proceedings.
2. D1 and D5 were considered by the parties and the Opposition Division to represent the most relevant prior art. The Board concurs with that evaluation.
 - 2.1 Starting with D1 as most relevant prior art, the problem may be seen (i) in the provision of a further detergent composition with about the same properties or (ii) in the provision of a detergent composition with an improved detergent performance.
 - 2.2 These problems were said to have been solved by selecting a special class of polycarboxylate materials comprising three essential monomer units, as specified in Claim 1 of the patent in suit, and adding them as zeolite auxiliaries to the detergent composition.
 - 2.3 The Board is satisfied that the less ambitious problem (i) was effectively solved with the given means, which was not disputed by the parties.

In the present case the Board does not need to decide whether the more ambitious problem (ii) is also effectively solved by the claimed means, since, for the reasons given below, the solution of this problem would not involve any inventive step.

3. D1 relates to a composition for the washing of laundry, which composition comprises a water-insoluble aluminosilicate cation exchange material, a phosphonic acid or a calcium binding phosphate and a polyanionic compound which can be either a homopolymer or a

copolymer (Claims 1 and 3). By that composition having an overall content of P in an amount of 6, preferably 3% (columns 11, lines 40 to 42), it was possible not only to replace, as already known, phosphates by alumino silicates but in addition thereto to get excellent results when a complex building agent was used comprising a homo- or copolymer (Claim 3 in conjunction with the paragraph bridging columns 3 and 4). According to the teaching given in D1, only polymers should be used having a high complex building capacity, i.e. leaving the water hardness (Resthärte) unchanged after boiling the water for 30 minutes (cf. Table I in column 8). This was taught to be an essential criterium appropriate polymers should meet. This teaching is not confined to homo- and bipolymers, which are given as examples in that document, but holds generally for polycarboxylic acids, i.e. also for terpolymers even if they were not explicitly mentioned (column 7, last paragraph of D1). A skilled person would thus learn from D1 that only those complex building copolymers which would have a high complex building capacity proved to be suitable.

- 3.1 D4 discloses detergent compositions which can be used for laundry washing and which comprise a terpolymer made from maleic monomer, vinyl acetate, acrylic acid, methacrylic acid or an alkali metal salt thereof (Claims 4 and 5). These terpolymers have a high complex building capacity e.g. for calcium and were able to diminish the problem of incrustation caused by the absence of phosphates (the paragraph bridging pages 3 and 4 in conjunction with pages 4, lines 12 to 22 and with Claim 1).

A skilled worker seeking to improve the detergents known from D1 would, when being aware of the teaching given by D4, immediately try to improve the detergent performance by the replacement of the copolymers of D1 by those of D4. The Board considers this replacement to be obvious since a skilled person would not hesitate to try to replace the copolymers in a detergent composition known in 1976 (publication of D1) by new copolymers having improved properties known from D4 (published 1983) which were said to have a good complex building capacity and a good incrustation inhibition and to be at the same time a good substitute for undesired phosphates (page 19, 1st paragraph). With regard to the results given in Tables 2 and 3 of D4, it would have been obvious to try to diminish fabric incrustation by the use of terpolymers known from D4. This all the more since from Table 1 of D1 no fundamental difference between homo- and bipolymers could be derived Whereas Tables 2 and 3 of D4 demonstrate the superiority of terpolymers as compared with a homopolymer.

From what was said above, the Board concludes that a skilled person starting from D1 and looking for a detergent composition having better characteristics would learn from D4 that maleic acid polymers hitherto known, had some disadvantages but that the terpolymers provided by D4 were free of that drawbacks and led to an improved, i.e. lower incrustation (Tables 2 and 3).

It was thus obvious for a skilled person to replace the copolymers known from D1 by those of D4 with a realistic expectation to obtain thereby a detergent composition with an improved performance.

The Board cannot accept the respondent's further argument that in addition to the above discussed properties the selected terpolymers showed the improved suspension ability under different ionic strength conditions. Since in any case it would have been obvious to use the terpolymers any further effect, such as behaviour under different ionic strength, cannot render the claimed subject-matter inventive.

3.2 Given this outcome with regard to the more ambitious problem (ii) it is self evident that the same claimed means when suggested as solution to the less ambitious problem (i) likewise cannot involve an inventive step.

3.3 For these reasons, the Board decides that the subject-matter of Claim 1 was obvious over documents D1 and D4 and, consequently does not comply with the requirements of Articles 52(1) and 56 EPC.

4. *Reimbursement of the appeal fee*

As laid down in Rule 67 EPC the "reimbursement of appeal fees shall be ordered where the Board of Appeal deems an appeal to be allowable, if such reimbursement is equitable by reason of a substantial procedural violation." The appellant alleged that the admission of comparative tests during the opposition procedure constituted a procedural violation (2.3 of the grounds of appeal). According to the appellant, such admission resulted from an incorrect evaluation of the comparative tests which allegedly were not apt to prove inventive step at all (2.4 of the grounds of appeal).

The technical evaluation of technical facts and of the evidence produced in support of such facts is not an issue of procedural law. Therefore, even a completely incorrect technical evaluation of such facts and evidence which leads to a procedural step (here the admission of the tests in question) cannot amount to a procedural violation. Therefore, the Board must reject the request for reimbursement of the appeal fee.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The request for reimbursement of the appeal fee is refused.
3. The patent is revoked.

The Registrar:

The Chairman:

G. Rauh

P. Krasa