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Datasheet for the decision of 15 April 2015

Case Number: T 0134/13 - 3.3.06

Application Number: 00943167.7

Publication Number: 1196522

IPC: C11D3/22, C11D11/00, C11D11/02, C11D17/06

Language of the proceedings: EN

Title of invention:
DETERGENT COMPOSITIONS OR COMPONENTS

Patent Proprietor:
THE PROCTER & GAMBLE COMPANY

Opponent:
Henkel AG & Co. KGaA

Headword:
Hydrophobically modified cellulose compositions/P&G

Relevant legal provisions:
EPC Art. 52(1), 56

Keyword:
Inventive step - main request (yes)

Decisions cited:

Catchword:

Europäisches Patentamt
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Case Number: T 0134/13 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 15 April 2015

Appellant: (Patent Proprietor)	THE PROCTER & GAMBLE COMPANY One Procter & Gamble Plaza Cincinnati, OH 45202 (US)
Representative:	Samuels, Lucy Alice Gill Jennings & Every LLP The Broadgate Tower 20 Primrose Street London EC2A 2ES (GB)
Respondent: (Opponent)	Henkel AG & Co. KGaA Henkelstrasse 67 40589 Düsseldorf (DE)
Representative:	Stevermann, Birgit Henkel AG & Co. KGaA FJI Henkelstrasse 67 40589 Düsseldorf (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 2 November 2012 revoking European patent No. 1196522 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman	B. Czech
Members:	E. Bendl
	C. Heath

Summary of Facts and Submissions

I. The appeal lies from the decision of the opposition division to revoke European patent No. 1 196 522.

II. Granted claim 1 of the patent in suit reads as follows:

"*1. A detergent composition or component comprising a particulate hydrophobically modified cellulosic material, whereof at least 100% by weight* [sic] *has a particle size of below 500 micrometers.*"

Dependent claims 2 to 8 are directed to preferred embodiments of the composition or component according to claim 1.

III. In the appealed decision the opposition division concluded that the subject-matter of the claims as granted and of the claims according to the then pending auxiliary requests 1 - 3 was novel and sufficiently disclosed. However, the opposition division, taking document D5 (DE 1 97 57 217 A1) as the closest prior art, rather than document D4 (WO 99/14295 A1) as submitted by the parties, concluded that the claimed subject-matter lacked an inventive step, in spite of the experimental data presented in the test report ("the test report" hereinafter) filed on 19 January 2007 during substantive examination of the patent.

IV. In its statement of grounds of appeal, appellant (patent proprietor) submitted that the opposition division erred in considering inventive step taking D5, instead of D4, as the closest prior art. The advantageous effects achieved using the compositions according to the invention were demonstrated by the

test report. Irrespective of whether D4 or D5 was taken as the starting point, the subject-matter of the granted claims was inventive.

With the statement of grounds, the appellant nevertheless also filed six sets of amended claims as auxiliary requests.

V. In its reply the respondent (opponent) rebutted the appellant's arguments. Considering D5 as the proper starting point for the assessment of inventive step, it submitted *inter alia* that the subject-matter of claim 1 as granted lacked an inventive step over D5 taken alone.

VI. The parties were summoned to oral proceedings. In a communication issued in preparation for the oral proceedings, the board indicated the issues possibly to be addressed at the oral proceedings, in particular inventive step having regard to the claims as granted.

VII. With its letter of 13 March 2015 the appellant submitted eight sets of amended claims as auxiliary requests 1 to 8.

VIII. Oral proceedings took place on 15 April 2015. The only issue addressed was inventive step in the light of documents D4 and D5, *inter alia* in respect of the claims as granted (main request).

IX. The appellant requested that the decision under appeal be set aside and the patent be maintained as granted (main request) or, alternatively, on the basis of the claims according to one of auxiliary requests 1 to 8, filed with letter dated 13 March 2015.

The respondent requested that the appeal be dismissed.

X. The arguments of the appellant of relevance here, i.e. concerning inventive step as regards the claims as granted (main request), can be summarised as follows:

- D4 was the closest state of the art, as it related to a similar technical problem as the patent in suit.
- However, D4 did not refer to the particle size of the cellulosic materials and the corresponding effect achieved by the claimed invention, which was demonstrated by the test report filed on 19 January 2007.
- Without the benefit of hindsight, the skilled person had no incentive to combine D4 with D5, as the compositions described in these documents served different purposes, respectively.
- D5 was not a suitable starting point, as the skilled person had no reason to use specifically hydrophobically modified cellulose, as the cellulosic component of the disclosed particulate detergent compositions.
- Hence, the claimed subject-matter of all claims involved an inventive step.

The arguments of the respondent of relevance here can be summarised as follows:

- D5 was the closest state of the art, because it disclosed detergent compositions comprising a cellulosic component having a small particle size (< 150µm) in order to avoid unwanted deposits on the textiles treated.
- Although it contained no specific example of a hydrophobically modified cellulose, it referred to

modified celluloses in general, which encompassed also hydrophobically modified celluloses as required according to claim 1 as granted.

- D5 also taught to use cellulosic material with a particle size < 500 µm. The skilled person would therefore automatically come across the claimed invention.
- When starting from D4, the skilled person bore in mind and sought to avoid depositions on the fabric, as this was generally a goal in the technical field of detergent compositions.
- Solving the problem of deposits by using cellulosic component of small particle size was suggested by D5, and further effects attributable to the small particle size had to be considered as "bonus effects".
- Trying out possible options in terms of the nature of the cellulosic component to be used according to D5, the skilled person would inevitably come across the claimed solution.
- Therefore, the claimed subject-matter did not involve an inventive step.

Reasons for the Decision

Inventive step - claims as granted (main request)

1. The invention

1.1 The invention relates to detergent compositions or components comprising hydrophobically modified cellulosic materials (patent in suit, paragraph [0001]).

1.2 According to the description of the patent (paragraphs [0001] and [0002]), the compositions of the invention are supposed to provide protection to the fabric treated and prevent its deterioration and diminished appearance caused by the formation of lint, fuzz or "pills".

2. Closest prior art

2.1 Document D4

2.1.1 Like the patent in suit, document D4 (see claims 1 and 6) relates to detergent compositions containing specific hydrophobically modified celluloses, which compositions may be in granular form. When used in laundry applications, the hydrophobically modified cellulosic materials associate themselves with the fibres of the textiles and fabrics, thereby imparting appearance and integrity benefits to the latter. More precisely the formation of visible lint, fuzz or "pills" on the surface of the fabrics is avoided (D4, page 1, second and fourth paragraphs; page 2, first paragraph).

2.1.2 Considering the similarities between D4 and the patent in suit as regards the purpose and nature of the components of the respective detergent compositions, D4 is, for the board, the most appropriate prior art document for the assessment of inventive step.

2.1.3 More particularly, the detergent compositions described on page 16, second paragraph, of D4 constitute the best starting point since the cellulosic component may be provided in dry granular form. However, the particle size of the hydrophobically modified cellulose to be used is not specified in D4.

2.2 Document D5 - not the closest prior art

The board is convinced that D5 is not the closest prior art for the following reasons:

Although D5 (claims 1 and 2) describes particulate detergent compositions comprising a cellulosic material with a small particle size of "usually less than 150 µm" (page 2, lines 43 to 44), an interaction of the latter with the fibres of a textile to be washed, let alone any effect to be achieved thereby, is not addressed. The cellulosic material is preferably pure cellulose and is added for an entirely different purpose, namely in order make the preparation of the particulate detergent composition somewhat easier and to improve the solubility of the detergent particles (page 2, lines 31 to 34).

3. Technical problem

According to the appellant, the technical problem in the light of the closest prior art D4 was the provision of an improved laundry detergent composition or component.

4. Solution

As the solution to said technical problem the patent in suit proposes the detergent composition or component according to claim 1, which is characterised in that it contains "*a particulate hydrophobically modified cellulosic material with a particle size below 500 micrometers*".

5. Success of the solution

5.1 In paragraphs [0002] and [0004] of the patent in suit it is indicated that the detergent compositions/ components provide appearance and integrity benefits by virtue of the hydrophobically modified cellulose, and that the improvements achieved by using this material in the form of particles with a size "*below 500 micrometers*" include a better dispersion of the cellulosic components (and of other ingredients of the detergent composition), resulting in improved efficiency and performance, and less unwanted localised residues on the textiles.

5.2 The board considers it plausible, and it was not disputed, that these effects are indeed obtained using the claimed composition or component. The experimental data presented in the test report submitted on 19 January 2007 additionally corroborate the criticality of the upper particle size limit of 500 µm as regards the avoidance of localised residual deposits and, hence, the efficiency of such hydrophobically modified cellulosic material.

6. Non-obviousness of the solution

6.1 It remains to be decided whether a composition or component as claimed is obvious to the skilled person with regard to the state of the art.

6.2 Document D4 taken alone

6.2.1 As pointed out by the appellant at the oral proceedings, the detergent compositions according to D4 are to be used in washing solutions and may be provided *inter alia in* granular form (page 1, second paragraph;

page 3, last paragraph; page 16, first and second paragraphs). However, no details are given in D4 as regards the particle size of the cellulosic material added as "granules" or "granular powder".

6.2.2 For the board, the cited passages of D4 do not provide any teaching that the solubility or dispersibility of the cellulosic additive particles need to be improved. D4 merely mentions that the additive is either provided in liquid form (i.e. dissolved/dispersed in the liquid detergent compositions; see page 3, last paragraph), or the additive is added in the course of the washing process to form a "washing **solution**" (page 1, second paragraph; emphasis added by the board). Given the fact that the (dry) cellulosic ingredient according to D4 may contain amounts of hydrophobically modified cellulose as high as 80% by weight (page 4, second full paragraph), supposed to form said washing solution in the course of its application in laundry treatment, a possible lack of solubility/dispersibility does not appear to be an issue in D4.

6.2.3 Thus, considering that according to D4, the cellulosic component is used in the form of washing solutions/ dispersions, the problem of localised depositions on/in the surface of a fabric is not even implicitly touched upon in D4. Hence, the skilled person seeking to solve the technical problem posed would have no reason to reflect on ways to avoid such depositions or to improve the solubility/dispersibility of the cellulosic component.

6.2.4 Therefore, in the board's judgement, D4 does not orient the skilled person towards the use of particulate, hydrophobically modified cellulose with a size of less than 500 micrometers.

6.3 Combination of D4 with D5

6.3.1 The respondent argued that the improved dissolution/ dispersion properties of hydrophobically modified cellulose with such a small particle size, and the avoidance of depositions on the surface of the fabrics, were known from D5, and that, therefore, the claimed subject-matter was obvious in the light of a combination of D4 with D5.

6.3.2 Considering that D5 is concerned with different issues (ease of preparation and dissolution of the detergent particles; see point 2.2, *supra*) the board doubts that a skilled person seeking a solution to the technical problem posed (point 3, *supra*) would actually turn to D5 at all and look for some relevant teaching therein. However, for the sake of argument and in favour of the respondent, this line of argumentation is dealt with below.

i) D5 relates to particulate washing and cleaning compositions comprising as essential ingredients a non-ionic surfactant and a builder (page 2, lines 1-2 and 31-32). It is stated in D5 (page 2, line 16) that the non-ionic surfactant tend to form gels when incorporated into compacted "compounds". The aim in D5 is to provide detergent granules only necessitating reduced amounts of granulation aid in their preparation and overcoming the solubility problems associated with such particulate wash and cleaning compositions (page 2, lines 27 to 30).

ii) D5 proposes to overcome these problems by using a particulate cellulosic material to reduce the amount of granulation aid required (page 2, line 29) and/or as granulation/compacting aid (page 4, lines 30 to 31),

and to improve solubility of the detergent particles produced. In order to avoid visible deposits on the surface of the fabrics treated, the cellulose particles have a size of less than 150 µm (page 2, lines 43 to 46).

Thus, the aim in D5 is to improve the solubility of the detergent particle comprising non-ionic surfactant and builder by using the cellulose as a granulation aid, and not the improvement of the solubility or dispersibility of the modified cellulose *per se*, as according to the patent in suit.

iii) D5 teaches that the celluloses used may either be pure cellulose, modified cellulose or mixtures thereof. However, preference is expressly given to the use of modified celluloses in minor amounts (< 50 wt.%) and in admixture with pure cellulose and, most preferably, to the use of pure cellulose (page 2, lines 40 to 56). Although it was pointed out that D5 generally refers to *inter alia* esterified and etherified celluloses, the respondent confirmed at the oral proceedings before the board that D5 does not exemplify any specific hydrophobically modified cellulose.

For the board, D5 thus clearly points towards the use of pure cellulose rather than modified celluloses, let alone hydrophobically modified celluloses.

6.4 Consequently, the skilled person seeking to solve the technical problem posed was neither induced to combine the closest prior art D4 with a teaching from D5, nor would such a combination inevitably lead to the subject-matter of claim 1 without the benefit of hindsight. Therefore, in the present case there is no "one-way street" situation and the cumulated effects of

using hydrophobically modified with a size of less than 500 micrometers cannot be considered as a "bonus" effect.

6.5 Alternative approach - D5 as closest prior art

For the sake of completeness, the board also finds that taking, *arguendo* and in favour of the respondent, document D5 as the closest prior art, providing compositions according to claim 1 as granted was not obvious either, since D5 induces the skilled person to use **pure** cellulose rather than a modified cellulose.

6.6 In the board's judgement, the claimed subject-matter was thus not obvious to the skilled person having regard to the state of the art invoked by the respondent.

6.7 Therefore, the subject-matters of claim 1 as granted and, consequently, of claims 2 to 8 dependent thereon, are considered to involve an inventive step (Articles 52(1) and 56 EPC).

Order

For these reasons it is decided that:

1. The appealed decision is set aside.

2. The patent is maintained as granted.

The Registrar: The Chairman:

D. Magliano B. Czech

Decision electronically authenticated