Internal distribution code:

(A) [-] Publication in OJ
(B) [-] To Chairmen and Members
(C) [-] To Chairmen
(D) [X] No distribution

Datasheet for the decision of 9 October 2025

Case Number: T 0713/23 - 3.3.07

Application Number: 16187534.9

Publication Number: 3293247

IPC: C11D1/22, C11D3/22

Language of the proceedings: EN

Title of invention:
A LIQUID LAUNDRY DETERGENT COMPOSITION COMPRISING A FIRST POLYMER AND A SECOND POLYMER

Patent Proprietor:
The Procter & Gamble Company

Opponent:
Henkel AG & Co. KGaA

Headword:
Detergent composition/ P&G

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - (yes)

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0

Case Number: T 0713/23 - 3.3.07

D E C I S I O N
of Technical Board of Appeal 3.3.07
of 9 October 2025

Appellant: (Opponent)	Henkel AG & Co. KGaA Henkelstrasse 67 40589 Düsseldorf (DE)
Representative:	Henkel AG & Co. KGaA CLI Patente 40191 Düsseldorf (DE)
Respondent: (Patent Proprietor)	The Procter & Gamble Company One Procter & Gamble Plaza Cincinnati, OH 45202 (US)
Representative:	Gill Jennings & Every LLP The Broadgate Tower 20 Primrose Street London EC2A 2ES (GB)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 17 February 2023 rejecting the opposition filed against European patent No. 3293247 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman	A. Usuelli
Members:	D. Boulois
	L. Basterreix

Summary of Facts and Submissions

I. European Patent 3 293 247 B1 had been opposed under Article 100 (a) EPC on the grounds that its subject-matter lacked inventive step.

Claim 1 as granted read:

"1. A liquid laundry detergent composition comprising:
a. between 5% and 35% by weight of the liquid laundry detergent composition of an amine neutralised C12-14 linear alkylbenzene sulphonate;
b. between 0.05% and 3% by weight of the liquid laundry detergent composition of a first polymer, wherein the first polymer is a cationically modified polysaccharide;
c. between 0.05% and 3% by weight of the liquid laundry detergent composition of a second polymer, wherein the second polymer is a cellulosic polymer."

II. The appeal lies from the decision of the opposition division to reject the opposition.

III. The documents cited during the opposition proceedings included the following:

D1: EP 2399980 A1
D2: US 2010/075887 A1

IV. According to the decision under appeal, D1 was the closest prior art and the problem was the provision of a liquid laundry detergent composition leading to a fabric having an improved softness. Starting from the composition of D1, the skilled person would not have

been hinted to add a cellulosic polymer in order to increase the softness of a fabric neither by using D1 alone nor by combining it with D2. The claimed subject-matter was inventive for this reason.

V. The opponent (hereinafter the appellant) filed an appeal against said decision.

VI. The patent proprietor (hereinafter the respondent) responded to the statement of grounds of appeal with its letter of 19 October 2023.

VII. A communication from the Board, dated 2 May 2025, was sent to the parties.

VIII. The arguments of the appellant may be summarised as follows:

The closest prior art D1 disclosed in the examples liquid detergents containing a cationic cellulose polymer as well as LAS (linear alkylbenzene sulphonate) and monoethanolamine. A second cellulosic polymer was not included in these examples.

D2 also disclosed compositions containing cationically modified polysaccharides, carboxymethylcellulose, and LAS, the latter being unneutralized.

The person skilled in the art was thus already aware from D2 that carboxymethylcellulose could serve as a cleaning polymer and thus contributed to improving the whiteness of the fabric; moreover, they could see from D2 that compositions containing LAS, carboxymethylcellulose, and cationically modified polysaccharides could be formulated.

Due to the observed softening effect of carboxymethylcellulose, the objective technical problem was the provision of means by which improved softness could be achieved.

The addition of carboxymethylcellulose to the formulation of D1 was quite obvious given the sub-problem of improving the whiteness of the fabric. The improved softness of the fabric represented a simultaneously achieved additional effect which, according to established case law on the bonus effects, was not capable of supporting the presence of an inventive step.

IX. The arguments of the respondent may be summarised as follows:

D1 was considered the closest prior art and disclosed a liquid composition comprising LAS, monoethanolamine and a cationic cellulose polymer. The difference between the prior art and the invention was the presence of a second cellulosic polymer. The technical benefit associated to this difference, as evidenced by the example in the patent in suit, was improved whiteness; the second polymer also contributed to softness. The prior art did not teach that cellulosic polymers contributed to the achievement of these effects. Accordingly, the subject-matter of the patent met the requirements of Article 56 EPC.

X. Requests

The appellant requested that the decision under appeal be set aside and the patent be revoked.

The respondent requested that the appeal be dismissed.

Reasons for the Decision

1. Main request - Inventive step

1.1 The claimed invention relates to a liquid laundry detergent composition comprising a linear alkylbenzene sulphonate anionic surfactant. Cationic modified polysaccharides may be added to the liquid laundry detergent to provide softening benefits, but whiteness benefits on fabrics may be compromised by the addition of such polymers. The claimed composition provides for a fabric softening benefit without compromising the fabric whiteness (cf. par. [0001]-[0006]).

1.2 D1 is considered by all parties and by the opposition division in its decision as the closest state of the art.

D1 discloses a liquid laundry detergent composition comprising cationic cellulose polymers and a cellulase enzyme. The examples on pages 13 and 14 disclose the further presence in the composition of a cationic cellulose polymer, such as Polymer LK400, Polymer LR400 or Polymer JR30M, an alkylbenzene sulfonic acid and monoethanolamine; the compositions deliver a good softening and cleaning benefit (see par. [0083]).

A second cellulosic polymer is not included in these examples; D1 lists however cleaning polymers as further optional ingredients and mentions, among other possible ingredients, carboxymethylcellulose (page 9, paragraph [0043], particularly line 9).

1.3 The problem as defined by the opposition division in its decision is the provision of a liquid laundry

detergent composition leading to a fabric having an improved softness.

The appellant defined the problem essentially as the opposition division.

1.4 The examples of the patent were discussed with regard to a possible technical effect linked with the addition of a second cellulosic polymer.

1.4.1 The examples of the patent show comparisons between different test products A-D based on a reference composition A. The compositions of the tested products are illustrated in paragraph [0086] of the patent as follows:
A : Reference composition;
B: Reference composition (30g) & cationically modified hydroxyethyl cellulose (0.46 g);
C: Reference composition (30g) & carboxymethyl cellulose (0.25g);
D: Reference composition (30g) & cationically modified hydroxyethyl cellulose (0.46g) & carboxymethyl cellulose (0.25g).

The results of the softness tests are reported in paragraph [0092] of the patent. A preference "1" indicates a preference for composition A over the relevant composition selected from B to D, whereas a preference "2" indicates a preference for the relevant composition selected from B-D. The more negative the PSU value, the softer the feel of the fabric. The results are as follows:

		Actual			
Comparison	**Fabric**	**Pref 1**	**Pref 2**	**No Pref**	**Average PSU**
vs B	Terry Towel	11	32	5	-0.73
vs. C	Terry Towel	8	29	11	-0.54
vs. D	Terry Towel	9	37	2	-0.92

Composition D provided the softest feel. It is clear from the experiments of the contested patent that the addition of one polymer in the composition, i.e either a cationically modified polysaccharide or a cellulosic polymer, will improve the softness of the fabric, which is a direct evidence of their softening effect.

Comparing composition D to compositions A, B and C of the contested patent, it is also clear that the addition of both a cationically modified polysaccharide and a cellulosic polymer increases further the softness of the fabric compared to the use of only one polymer.

Further data in the patent show no loss in whiteness maintenance when comparing composition D with composition A (cf. par. [0096] and page 12 of the specification). However, these data do not demonstrate any improvement in whiteness, particularly because no comparison is provided on this specific effect with composition B, corresponding to the composition of D1.

1.4.2 Consequently, the problem is as defined by the opposition division in its decision or by the appellant, namely the provision of a laundry detergent composition capable of improving the softness of the treated fabric.

1.5 With regard to obviousness of the claimed solution, i.e the addition of a second cellulosic polymer as a softening agent, documents D1 and D2 are cited.

D1 suggests the addition of a cleaning polymer, such as *inter alia* carboxymethylcellulose (see par. [0043] of D1); however, there is no indication that such a cellulosic polymer may be preferred as cleaning polymer. Moreover, there is no suggestion in D1 that any of these cleaning polymers, including carboxymethylcellulose would contribute to the softness of the treated fabric.

D2 discloses in Table 3 cleaning compositions containing cationically modified polysaccharides, carboxymethylcellulose, and LAS, the latter not being amine-neutralized (see also the contested patent, paragraph [0004]). Said compositions are used to promote release of hydrophilic or hydrophobic soil and/or staining material from a treated fabric surface during a washing process. D2 does not mention that carboxymethylcellulose, or any other cellulosic polymer, can be used as a softener in a liquid laundry detergent composition.

Consequently, the skilled person would not be hinted to add a cellulosic polymer in order to increase the softness of a fabric neither by using D1 alone nor by combining it with D2, because these documents are silent on a softening effect of any cellulosic polymers other than cationic cellulosic polymers. Therefore, when seeking to achieve improved softening, the skilled person would find no indication in either D1 or D2 pointing towards the claimed solution. The claimed subject-matter is thus inventive.

1.6 The appellant argued that the enhanced softness of the fabric obtained through the addition of a second cellulosic polymer constituted a mere bonus effect that could not support an inventive step, since the addition of a cellulosic polymer as cleaning agent was already a known alternative.

However, the appellant's argument based on a bonus effect is unpersuasive and does not apply to the present situation. In the present case, the distinguishing feature, i.e. the presence of a second cellulosic polymer, leads to an unexpected advantage, namely a softening effect which was not known from the cited prior art and which is documented in the contested patent.

For an additional, unexpected effect to be disqualified as a mere bonus effect, it must be shown either that the situation is characterised by a lack of alternatives as regards the means for achieving the first, expected effect, in the present case the cleaning properties, such as in a “one-way-street” situation, or that, considering the relative technical and practical importance of the effects in the circumstances of the case, the additional unexpected effect is merely accidental (see Case Law of the Boards of Appeal, 11th Edition, I.D.10.8.1).

None of these conditions are met:
- first, cellulosic polymers are suggested as alternative cleaning polymers in a long list of possibilities in paragraph [0043] of D1, making it clear that a cellulosic polymer represents only one option among many.
- second, achieving improved softening without compromising fabric whiteness was the central problem

and objective of the contested patent (see, for example, paras. [0005] and [0064] of the specification, as well as the example). Any effect on fabric softness is therefore at least as important as any cleaning effect, which is not even addressed in the patent. Accordingly, improvements in fabric softness cannot be dismissed as merely accidental.

1.7 Consequently, the main request meets the requirements of Article 56 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

B. Atienza Vivancos A. Usuelli

Decision electronically authenticated