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Datasheet for the decision of 28 April 2017

Case Number: T 0080/15 - 3.3.06

Application Number: 07111539.8

Publication Number: 2011856

IPC: C11D17/04, C11D3/39

Language of the proceedings: EN

Title of invention:
Method of treating laundry

Patent Proprietor:
The Procter & Gamble Company

Opponent:
Henkel AG & Co. KGaA

Headword:
Bleach-containing pouch / P&G

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

Keyword:
Inventive step (yes)

Decisions cited:
T 1009/12, T 2044/09

Catchword:

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Case Number: T 0080/15 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 28 April 2017

Appellant: (Opponent)	Henkel AG & Co. KGaA Henkelstrasse 67 40589 Düsseldorf (DE)
Representative:	Henkel AG & Co. KGaA CLI Patents Z01 40191 Düsseldorf (DE)
Respondent: (Patent Proprietor)	The Procter & Gamble Company One Procter & Gamble Plaza Cincinnati, OH 45202 (US)
Representative:	Kellenberger, Jakob NV Procter & Gamble Services Company S.A. Intellectual Property Department Temselaan 100 1853 Strombeek-Bever (BE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 10 November 2014 rejecting the opposition filed against European patent No. 2011856 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman B. Czech
Members: M. Maremonti
J. Hoppe

Summary of Facts and Submissions

I. The appeal lies from the decision of the Opposition Division to reject the opposition against European patent no. 2 011 856.

II. The patent in suit was granted with a set of 9 claims, independent claims 1 and 9 reading as follows:

"*1. A method of treating fabrics by placing a multi-compartment pouch in the drum of the washing machine; wherein said pouch is made from a water-soluble film, has at least two compartments, is free of bleach activator and comprises a composition comprising a solid and a liquid component, wherein;*
(a) a first compartment comprises a liquid component
(b) a second compartment comprises a solid component containing from 60 to 95 % of a peroxide source by weight of the composition."

"*9. The use of a multi-compartment pouch said pouch being made from a water-soluble film, has at least two compartments, is free of bleach activator and comprises a composition comprising a solid and a liquid component, wherein a first compartment comprises a liquid component and a second compartment comprises a solid component containing from 60 to 95 % of a peroxide source by weight of the composition in view of reducing the patchy damage when treating fabrics.*"

Claims 2 to 8 depend on claim 1 and are directed to more specific embodiments of the method.

III. The opponent had requested revocation of the patent in its entirety on the ground of lack of inventive step (Article 100(a) EPC).

The evidence cited during the opposition proceedings included the following documents :

D1: Carbohydrates as Organic Raw Materials III (1996), VCH; page 302
D2: WO 01/83667 A1

D4: Technical report filed by the Applicant on 22 January 2010 during substantive examination.

IV. In the decision under appeal, the Opposition Division, taking D2 as the closest prior art concluded that the subject-matter of the claims as granted involved an inventive step.

V. With its statement of grounds of appeal, the Appellant (Opponent) filed the following further documents:

D5: E. Smulders et al., Laundry Detergents, ISBN 3-527-30520-3, Wiley-VCH, 2002, pages 74-82, 242 and 243,
D6: US 4,179,390 A and
D7: GB 2 375 543 A.

It maintained that the subject-matter of claim 1 lacked an inventive step over the disclosure of D2 in combination with the disclosure of either D5 or D7. It further submitted that the subject-matter of claim 9 lacked an inventive step in view of the combination of D2 with D1.

VI. In its reply, the Respondent (Patent Proprietor) rebutted the Appellant's objections, commenting specifically on each of the combination of documents invoked.

VII. Oral proceedings were held on 28 April 2017. The issue

of inventive step was debated with regard to the question of whether or not the subject-matter of claim 1 was an obvious alternative to the method of treating laundry with the pouches disclosed in examples IV-VI of D2.

VIII. Requests

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

The Respondent requested that the appeal be dismissed.

IX. In so far as they are relevant to the present decision, the Appellant's arguments can be summarised as follows:

- The experimental data presented in technical report D4 could not show any technical effect attributable to the composition used according to the claimed method as compared to the compositions of examples II and IV-VI of D2 representing the closest prior art. As a consequence, the technical problem underlying the claimed invention could at most be seen in the provision of an alternative method also entailing the avoidance of patchy discoloration but sufficient stain removal from the treated fabric.
- Based on common general knowledge, as illustrated by e.g. D1 and D6, the skilled person would understand that the compositions used in the cited examples of D2 did not generate any patchy discoloration, given the absence of bleach activators.
- It would thus have been obvious for the person skilled in the art seeking to solve the posed problem to increase the concentration of the

peroxide source in order to improve or at least maintain the stain removal performance.

- In particular, it would have been obvious to increase the concentration of the bleaching agent in the solid component compartment of the pouches of the examples of D2 to a value falling within the range of from 60 to 95% by weight of the composition, as required by claim 1 at issue.
- More specifically, document D5 would have prompted the skilled person to increase the concentration of the bleaching agent, since it showed in figure 55 that in the absence of bleach activators, an increase in the amount of perborate allowed an improvement in the bleaching performance.
- D7 (page 8, lines 11 to 15; examples 1 and 2) also prompted the person skilled in the art to increase the concentration of the bleaching agent. This document disclosed washing compositions, comprising a solid component including a peroxide source, e.g. sodium percarbonate, and being free of bleach activators. The peroxide source was present in an amount ranging from 30 to 81% by weight of the composition (calculated values), this range overlapping with the range defined in claim 1 of the patent in suit.
- The use of washing pouches free of bleach activators for reducing patchy discoloration, as defined in claim 9, was obvious in view of the combination of D2 with D1 (in particular lines 3 to 8 of the penultimate paragraph).
- The subject-matter of independent claims 1 and 9 thus lacked an inventive step.
- This conclusion was also reached when applying the respective *rationale* of decision T 1009/12 or of decision T 2044/09 to the present case.

X. The Respondent's counter-arguments of relevance here can be summarised as follows:

- The claimed subject-matter differed from D2 taken as the closest prior art by the combination of a high relative amount of peroxide source with the absence of a bleach activator.
  The objective technical problem was thus to be seen in the minimization of patchy discoloration during dissolution of the pouch, whilst still providing acceptable bleachable stain/soil removal from fabrics.
- Even accepting *arguendo* that the technical problem merely consisted in providing an alternative, the claimed subject matter involved an inventive step since there was no indication in the prior art prompting the person skilled in the art to increase the relative amount of the bleach component in the pouches disclosed in D2/ examples II and IV-VI, let alone to levels according to claim 1 at issue. In fact, the person skilled in the art would rather have expected that such an increased amount of peroxide source could generate locally high transient concentrations of bleaching species upon use/dissolution of the pouch, potentially resulting in localized, i.e. patchy fabric discoloration.
- D2 taught the use of substantially less than 50% by weight of a peroxide source based on the composition and to compensate the lower bleach activity *viz.* to raise the bleaching power of the pouch by incorporating a bleach activator. Thereby, the correct balance between bleaching efficiency and avoidance of patchy discoloration damage was achieved.
- D5 provided a clear teaching on page 80 to use bleach activators. Figure 55 clearly taught that

the addition of TAED as bleach activator improved the bleaching effect of perborate.

- D7 related to compositions in tablet form and not in the form of water-soluble pouches. Moreover, D7 was silent as to the problem of avoiding patchy discoloration. It was concerned with the problem of stabilising the enzyme and bleach components of the tablets. There was, therefore, no reason for the skilled person to consider D7 when looking for a solution to the posed technical problem. Even a combination of D2 with D7 (*arguendo* only) would not lead to a method as claimed, since D7 also taught to use bleach activators.
- D1 taught that patchy discoloration may be avoided by improving the dispersability of the detergent. D1 failed to give any hint to dispense with bleach activators and increase the level of the peroxide source. The combination of D2 with D1 could thus not lead to the subject-matter of claim 9.
- The respective *rationale* of decision T 1009/12 or of decision T 2044/09 did not apply to the present case since the level of peroxide source combined with the absence of bleach activator was effective in solving the problem underlying the invention.

Reasons for the Decision

1. The invention

1.1 The invention concerns a method of treating fabrics by placing a multi-compartment pouch in the drum of the washing machine, said pouch comprising a peroxide source as bleach component, as well as the use of such a pouch in view of reducing patchy discoloration damage when treating fabrics (see paragraph [0001] and claims 1 and 9 of the patent in suit).

1.2 In the description of the patent in suit the following is stated:

"*[0004] The growth in usage of organic peroxyacid bleach precursors has mirrored a decrease in fabric wash temperatures which itself has accompanied an increase in the proportion of fabrics that are coloured. One problem that has become more significant as a result of these trends is that of "patchy" localised discolouration to fabric colours and materials caused by the development of localised high concentrations of bleaching species.*"

"*[0006] The development of so-called concentrated products and their delivery via dispensing devices placed in the machine drum together with the fabric load has merely served to exacerbate these problems.*"

"*[0008] The Applicants have now found a method of treating laundry ... which avoid* [sic] *the problem of "patchy" discolouration and which is found to be more attractive and convenient to the consumers.*"

2. Closest prior art

2.1 It is common ground between the parties that document D2 represents the most suitable starting point for the assessment of inventive step. Considering the similarities between the patent in suit and D2 in terms of issues addressed and the methods and pouches disclosed, the Board has no reason to take a difference stance in this respect.

2.2 Indeed, D2 discloses (cf. page 2, lines 15 to 20) a multi-compartment pouch made from a water-soluble film and having at least two compartments, which comprises a

composition comprising a solid component and a liquid component, and wherein a first compartment comprises a liquid component and a second compartment comprises a solid component, which pouch is to be used in laundry washing and may be added to the drum of a washing machine (page 37, lines 15 to 20). The solid composition may comprise ingredients selected from a group comprising *inter alia* a "bleach agent" and a "bleach activator" agent (page 8, lines 23 to 26).

2.3 More particularly, examples IV to VI of D2 (page 40 to 42) disclose two-compartment pouches wherein the solid component in one of the compartments comprises *inter alia* a "bleaching agent" in an amount of 36% by weight of the solid component.

2.3.1 According to the Respondent, the component identified as "bleaching agent" in these examples could also, absent any unambiguous indication to the contrary, include bleach activators.

The Board holds, however, that in D2 the term "*bleaching agent*" is clearly distinguished from the term "*bleach activator*", see e.g. page 8, lines 23 to 26 and claim 5, the former being used to refer to the peroxide source, cf. page 23, lines 13 and 18.

Examples IV to VI do not mention an ingredient that could be considered as "bleach activator". Since this was not in dispute, the Board concludes that the pouches described in these examples are "*free of bleach activator*" as required by claim 1 at issue.

2.3.2 The solid component of the pouches described in D2/ examples IV to VI thus in each case contains 36 % by weight of a peroxide source, i.e. an amount based on

the weight of the total (liquid + solid component) composition, less than the 60 % to 95 % by weight required according to claim 1 at issue.

2.4 For the Board, the method of laundering fabrics using a pouch as described in any of examples IV to VI of D2 thus represents the most appropriate starting point for the purpose of assessing inventive step.

3. Technical problem

3.1 The Appellant argued that neither the contested patent nor the technical report D4 demonstrated a technical effect attributable to the use of a pouch as defined in claim 1 at issue, i.e. comprising a higher relative amount of peroxide source, as compared to the use of a pouch according to the closest prior art as identified under 2.4, *supra*.

3.2 Hence, the technical problem would consist in the provision of a method of treating fabrics comprising placing a water-soluble multi-compartment pouch in the drum of a washing machine, the pouch comprising an alternative composition, comprising a liquid component and a solid component including a peroxide source, and wherein similar results as regards suppression of patchy discoloration and sufficient stain removal from the treated fabric are achieved.

3.3 In the following assessment of inventive step, the Board bases its considerations, for the sake of argument only but in the Appellant's favour, on this minimalistic formulation of the technical problem.

4. Solution

As a solution to this technical problem, the patent in suit proposes the "*method of treating fabrics*" using *"a multi-compartment pouch*" according to claim 1, which is characterised in particular in that the pouch

"*is* ***free of bleach activator*** *and comprises a composition comprising a solid and a liquid component, wherein;*
(a) a first compartment comprises a liquid component
(b) a second compartment comprises a ***solid component containing from 60 to 95 % of a peroxide source by weight of the composition.***"

5. Success of the claimed solution

It is plausible and not disputed that the solution provided by claim 1 solves the technical problem identified under 3.2, *supra*. Considering also the results reported in D4, which show that a method according to claim 1 does not entail patchy discoloration but achieves sufficient stain removal from the treated fabric, the Board has no reason to take a different stance in this respect.

6. Non-obviousness of the solution

6.1 The method disclosed by D2/examples IV-VI differs from the method of claim 1 in that the amount of the peroxide source in the solid component contained in the multi-compartment pouch is in each case significantly lower than the minimum level of 60 % by weight of the composition required by claim 1 at issue.

6.2 What remains to be decided is thus whether or not,

having regard to the state of the art and common general knowledge, it was obvious to the skilled person seeking to solve the posed technical problem (3.2, *supra*) to modify the method of D2/examples IV to VI by increasing the amount of the peroxide source contained to a level of more than 60 % by weight of the composition.

6.3 Document D2

6.3.1 It is not disputed that D2 does not contain any **explicit** teaching that would prompt the person skilled in the art to increase the amount of the peroxide source contained in the pouch of any of examples IV to VI. In fact, according to D2 (page 23, lines 23 to 25), the peroxide source should preferably be present in an amount of at most 50% by weight of the composition.

6.3.2 The Appellant argued, however, that the person skilled in the art looking at examples IV-VI of D2 would realise that since bleach activators were not present, patchy discoloration would not occur, whereas stain removal would be insufficient due to the low amount of bleaching agent used. He would thus be prompted to increase this amount, the corresponding method falling within the ambit of claim 1.

6.3.3 For the Board, however, nothing in D2 suggests that the compositions described in examples IV-VI would **not** bring about a sufficient stain removal, considering that a bleaching agent is incorporated into these pouches which are intended to be used for washing laundry. Quite to the contrary, the Board holds the person skilled in the art reading D2 would understand that the authors of D2 considered these pouches to be

effective in the removal of *inter alia* bleachable stains.

6.3.4 The Board accepts that the person skilled in the art would expect that the incorporation of a greater relative amount of peroxide source into a pouch can potentially bring about an increased bleaching efficiency with respect to some particular types of stains. However, this does not mean that he would have been motivated to increase substantially the relative amount of the peroxide source contained in the pouches according to examples IV-VI of D2. As convincingly argued by the Respondent, the person skilled in the art would be rather reluctant to do this in view of the increasing risk of higher transient concentrations of bleaching species, entailing an increased risk of patchy discoloration of the treated fabrics, as also specifically addressed in the patent in suit (paragraph [0005]).

6.3.5 Moreover, according to D2 (page 23, lines 12 to 25) the bleaching agent is preferably present at a level of from 0.01% up to 50% by weight of the composition. Excluding hindsight considerations, increasing this amount to values of 60 % by weight or more is thus not a measure that the skilled person would envisage.

6.3.6 The method of claim 1 is thus not obvious in the light of D2 taken alone.

6.4 D2 in combination with common general knowledge as illustrated by D5

6.4.1 The Appellant further argued that the person skilled in the art would have been motivated to increase the level of bleach in the pouches of examples IV to VI of D2 in

view of the disclosure of document D5, particularly figure 55 thereof.

6.4.2 Document D5 is an excerpt from a textbook illustrating common general knowledge in the field of laundry detergents, more particular with regard to bleaches contained therein. Section 3.3.2 at pages 80 to 82 is a section dedicated to bleach activators. Though mentioning at page 80, last three lines, that "*activated bleach systems may adversely affect the color fastness of fibers treated with some specific dyes upon multiple washing*", this section recognises that the employment of bleach activators improves low-temperature bleaching (cf. page 81, last four lines and page 82).

6.4.3 Figure 55, referred to by the Appellant, shows that an increase in perborate alone, i.e. without activator, only marginally improves bleaching efficiency, whereas the effect is strongly increased in the presence of an activator (TAED). The Board therefore accepts the Respondent's argument that D5 strongly suggests to use bleach activators.

6.4.4 Based on the above considerations, the Board concludes that starting from D2/examples IV to VI, the common general knowledge as illustrated by D5 would prompt the person skilled in the art to add, in accordance with a preference also expressed in D2 (page 24, lines 11 to 14), some bleach activator to the composition used, rather than to increase the relative amount of the peroxide source.

6.4.5 The method of claim 1 is thus not obvious in the light of D2 in combination with the common general knowledge as illustrated by D5.

6.5 Combination of D2 with D7

6.5.1 According to another line of argument of the Appellant, the person skilled in the art would have been motivated by the disclosure of document D7 to increase the relative amount of bleach in the pouches according to examples IV-VI of D2.

6.5.2 D7 discloses solid laundry enzyme-containing bleaching compositions in **tablet** form (cf. page 1, lines 2 to 5). More particularly, D7 (page 5) concerns a two-phase tablet, in which a first phase is an admixture comprising a peroxide bleach compound and a second phase is an admixture comprising an enzyme. Even though D7 (paragraph bridging pages 5 and 6) discloses that a bleach activator can be added to said enzyme phase, it is preferred that the tablets do not contain bleach activators. The preferred bleach compound is sodium percarbonate as in the contested patent.

6.5.3 The Respondent contested that the person skilled in the art starting from D2 and seeking to solve the posed technical problem would actually turn to D7, considering that this document concerned a different type of product and that it was silent as to the problem of avoiding patchy discoloration damage.

6.5.4 For the Board water-soluble pouches as described in the contested patent and the detergent tablets of D7 are indeed consumer products, the fabrication and use of which involve different technical concepts. Moreover, D7 does not address the problem of suppressing patchy discoloration but is concerned with the problem of increasing bleach and enzyme stability (cf. page 4, lines 21 to 30).

The Board is thus of the opinion that the person skilled in the art would not have turned to D7 when looking for a solution to the problem posed under 3.2, *supra*.

6.5.5 Even assuming, for the sake of argument only and in the Appellant's favour, that the person skilled in the art would actually have consulted D7, the Board holds that he would primarily have turned to the examples contained in this document:

i) The Appellant pointed to examples 1 and 2 of D7, alleging that they disclosed sodium percarbonate amounts falling within the range of claim 1 at issue and that the compositions used according to these examples were free of bleach activators.

Example 1 of D7 discloses a tablet having 74% of a "white phase" and 26% of a "blue phase". The white phase contains a sodium percarbonate component in an amount of 75.930% **by weight of the white phase**. This means that the sodium percarbonate component is present in an amount of about **56% by weight of the (total) composition**, i.e. in a relative amount which is smaller than the minimum of 60% required by claim 1 at issue. The same calculation holds for example 2.

ii) The Appellant also pointed to the general description of D7, particularly to page 7, lines 5 to 9 and page 8, lines 11 to 15, arguing that it could be inferred from these passages that the peroxide source might be present in a relative amount of from 30 % to 81% by weight of the total tablet composition. This range derivable from D7 overlapped with the range defined in claim 1 at issue.

The cited passage on page 7 generally discloses that the tablet comprises from 50% to 95% by weight of the "first admixture" and from 50% to 5% by weight of the "second admixture". The passage on page 8 only mentions generally that the bleach compound can be present in an amount ranging from 60% to 90% by weight of the "first admixture".

For the Board, it is not possible to gather from these passages a preference for tablets comprising a high relative amount of the "first admixture", the latter itself containing a high amount of peroxide bleach compound, and, more particularly, a preference for relative amounts of bleach compound in % by weight based on the total tablet composition of more than the 56% illustrated by examples 1 and 2 of D7, let alone of more than 60% as required by claim 1 at issue.

6.5.6 Hence, the Board concludes that even taking into account (*arguendo*) the disclosure of D7, the person skilled in the art would not be induced to modify the method of the closest prior art by increasing the relative amount of bleaching agent, such as to arrive at a method falling within the ambit of claim 1 at issue, in particular because D2 does not suggest that that the stain removal achieved using the pouches of examples IV to VI was insufficient.

6.5.7 The method of claim 1 is thus not obvious in the light of D2 and the disclosure of D7.

6.6 In support of its inventive step objections against claim 1, the Appellant also invoked decisions T 1009/12 of 08.01.2013 and T 2044/09 of 11.02.2014.

6.6.1 More particularly, referring to the *rationale* of

T 1009/12 (Reasons, point 2.7), the Appellant argued that since no technical effect could be attributed to a higher relative amount of peroxide source (bleaching agent) contained in the pouches used according to the claimed invention, as compared to the composition used according to the closest prior art, the range defined in claim 1 at issue as regards the relative amount of peroxide source contained in the composition was an arbitrarily selected and technically ineffective feature. Hence, it was not to be considered in assessing inventive step. Since there was no further difference, no technical problem could be formulated, not even the provision of an alternative. The claimed subject-matter was therefore not inventive even without an assessment of its obviousness.

6.6.2 The Appellant further submitted that the mere fact that a claimed subject-matter was novel over a combination of prior art documents was not sufficient to make this subject-matter inventive. Following the *rationale* of T 2044/09 (Reasons, 4.6, 4.8 and 4.9), the absence of a technical effect achieved over the closest prior art implied that the claimed subject-matter had to be regarded as an arbitrary and non-functional modification of the closest prior art, which was not, therefore, to be considered as inventive.

6.6.3 For the Board however, these decisions concern situations completely different from the present case:

i) In particular, in the case dealt with in T 1009/12, the differentiating feature was regarded as not to provide any contribution to the solution of the technical problem as set in the description (cf. point 2.7 of the reasons).

ii) In T 2044/09, the Board held that in the absence of a proven effect, the differentiating feature was not linked to any particular functionality (cf. point 4.6 of the reasons).

6.6.4 In contrast thereto, in the present case, the differentiating feature, i.e. the higher relative amount of peroxide source (60 to 95% by weight of the composition), is **the** feature which, in combination with the required absence of bleach activator, provides a further effective solution (see 5, *supra*) to the technical problem of providing a method of treating laundry making use of a bleaching agent containing pouch which allows adequate stain removal whilst avoiding patchy discoloration of the treated fabrics.

The Board therefore concludes that in the present case the differentiating feature does indeed contribute to the solution of the technical problem and cannot be considered as an "arbitrary" feature "not linked to a particular functionality".

6.7 Based on the above considerations, the Board concludes that having regard to the state of the art and the invoked common general knowledge, it was not obvious to the person skilled in the art seeking to solve the technical problem posed, to modify the pouches of the closest prior art such as to arrive at a method falling within the ambit of claim 1 at issue.

6.8 Independent use claim 9 also requires a pouch with the features defined in claim 1

6.8.1 The Appellant submitted in writing that the subject-matter of claim 9 was obvious to the skilled person in view of a combination of D2 with D1. This argument

however, was not further substantiated, neither in writing nor at the oral proceedings.

6.8.2 D1 is a one-page document merely disclosing that patchy discoloration of fabrics ("spotting" in D1) possibly resulting from local high concentrations of poorly soluble bleach activators contained in powdered detergent can be avoided by increasing the dispersability of the detergent. In this way the speed of dissolution would be enhanced.

6.8.3 D1 therefore does not contain any teaching that would prompt the person skilled in the art to use bleach activator-free pouches as exemplified in D2, modified by increasing the relative amount of bleaching agent contained therein.

6.8.4 Hence, the Board sees no reason for which the conclusion drawn with regard to claim 1 should not apply *mutatis mutandis* to the subject-matter of the independent use claim 9.

6.9 In the Board's judgement, the subject-matter of independent method claim 1, of claims 2 to 8 dependent on claim 1, and of independent use claim 9, thus involves an inventive step (Articles 52(1) and 56 EPC).

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

D. Magliano B. Czech

Decision electronically authenticated