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 September 2016

Case Number: T 0290/14 - 3.3.06

Application Number: 07794550.9

Publication Number: 2024481

IPC: C11D3/43, C11D17/00, C11D17/04

Language of the proceedings: EN

Title of invention:
Compact fluid laundry detergent composition

Patent Proprietor:
The Procter & Gamble Company

Opponent:
Henkel AG & Co. KGaA

Headword:
Compact fluid laundry composition / P&G

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

Keyword:
Inventive step (yes) - non-obvious alternative

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern
Boards of Appeal
Chambres de recours

European Patent Office
D-80298 MUNICH
GERMANY
Tel. +49 (0) 89 2399-0
Fax +49 (0) 89 2399-4465

Case Number: T 0290/14 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 9 September 2016

Appellant: (Opponent)	Henkel AG & Co. KGaA Henkelstrasse 57 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:	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 6 December 2013 rejecting the opposition filed against European patent No. 2024481 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman	B. Czech
Members:	L. Li Voti
	C. Heath

Summary of Facts and Submissions

I. The present appeal is from the decision of the Opposition Division to reject the opposition filed against European patent no. 2 024 481.

II. Claim 1 as granted reads as follows:

"*1. An article of commerce for laundering comprising:*

(a) a compact fluid shear thinning laundry composition comprising a sum of water and non-aminofunctional solvent or [sic] *from 5% tu* [sic] *45%, by weight of the composition; and*

(b) a water-insoluble container releasably storing said compact fluid laundry detergent composition;

wherein said composition has a neat viscosity, V_n*, of from 1,000 cps to 10,000 cps as measured at 20* s^{-1}*, a diluted viscosity,* V_d*, that is less than or equal to 0.5*V_n*, as measured at 20* s^{-1}*, and a low shear neat viscosity* V_n *of from 10 000cps to 500 000 cps as measured at 0.5* s^{-1}*, and wherein said water insoluble container is selected from squeeze bottom dispersing* [sic] *containers.*"

Dependent claims 2 to 9 concern specific embodiments of the article according to claim 1.

Independent claim 10 reads as follows:

"*10. Use of the article of commerce according to Claim 2 for dispensing a premeasured dose of detergent and for laundering fabrics therewith.*"

III. The opposition had been filed on the ground of lack of inventive step (Article 100(a) EPC). The documents relied upon by the Opponent include the following:

D3: EP 0 364 880 A2; and

D6: WO 2004/056957 A1.

In the contested decision, the Opposition Division found that the granted claims complied with the requirements of the EPC. In particular, the granted claims also involved an inventive step over the cited prior art.

IV. The Appellant (Opponent) maintained in its statement of the grounds of appeal that the claimed subject-matter lacked an inventive step in the light of document D6, taken alone or in combination with document D3. With the statement, it also submitted inter alia an experimental report labelled D6a intended to prove implicit viscosity properties of an example composition disclosed in D6.

V. In its reply dated 5 August 2014, the Respondent (Patent Proprietor) rebutted all the Appellant's objections but nevertheless filed four sets of amended claims as auxiliary requests 1 to 4.

VI. With a further letter the Appellant filed a further experimental report labelled D6b to complement its arguments regarding the implicit disclosure of D6.

VII. The parties were summoned to oral proceedings and the Board issued a communication in preparation therefor.

VIII. The Appellant reacted by taking position on *inter alia*

the pending auxiliary requests.

IX. In a further letter, the Respondent rebutted the Appellant's arguments regarding the auxiliary requests and contested the conclusiveness of the experimental reports D6a and D6b.

X. Oral proceedings were held on 9 September 2016.

XI. 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 or, in the alternative, that the patent be maintained on the basis of one of the sets of claims filed as auxiliary requests 1 to 4 by letter of 21 March 2014.

XII. The Appellant's arguments regarding inventive step as maintained during oral proceedings were substantially the following:

- The closest prior art was represented by the composition disclosed in table 1 of document D6 contained within a squeezable container having a dispensing orifice as required by claim 1 of D6.

- As shown by experimental reports D6a and D6b, the composition disclosed in D6/table 1 had a viscosity profile complying with all the requirements of claim 1 at issue.

- The word "*bottom*" in the wording of claim 1 did not further characterize in an unequivocal manner the position of the opening in the squeezable container

referred to in claim 1 at issue. Therefore, any squeezable container with a dispensing orifice, as referred to in claim 1 of D6, could be considered to be a "*squeeze bottom dispe[n]sing container*" within the meaning of claim 1.

- Therefore, the article disclosed in document D6 differed from the article of claim 1 at issue only insofar as the composition contained within the squeezable container comprised more than 45% by weight of water (non-aminofunctional solvents not being contained in the composition of D6).

- The experimental comparisons with the prior art described in the patent in suit and in the Patent Proprietor's letter of 01 June 2012, filed during opposition (referred to hereinafter as **D8a**), were not comparisons with the closest prior art. Hence, they were not apt to show any possible advantage over the article disclosed in D6. Therefore, the technical problem solved by the claimed invention consisted simply in the provision of a further article for laundering comprising a shear thinning composition contained within a squeezable container from which it could be dispensed in a controlled way, which composition dispersed well in the wash.

- In this respect the skilled person would obviously consider reducing the amount of water contained in the composition of Table 1 of D6 down to an amount of 45% by weight, which was the lower limit of water content indicated in the description of this document. Thereby, he would obtain a more viscous shear thinning composition with viscosity characteristics similar to those indicated in Table 1, i.e. a composition that could be dispensed in a controlled way from a

squeezable container and dispersed well in the wash. Such a modified composition would have also viscosity characteristics falling within the broad ranges of claim 1 at issue.

- In any case, since methods for adjusting viscosity were well known to the skilled person, it did not require any inventive skill to adapt the viscosity of such a composition to a value suitable for being dispensed from a squeezable container, i.e. to viscosity values as required according to the patent in suit.

- Therefore, the skilled person would have arrived in an obvious way at a composition and an article for laundering as claimed merely by following the teaching of D6 and applying common general knowledge.

- The claimed subject-matter thus lacked an inventive step.

XIII. The counter-arguments of the Respondent can be summarised as follows:

- The experimental reports D6a and D6b could not be considered as a reproduction of the only example of document D6, since they did not specify the identity of all the components used which could affect the viscosity of the composition, such as the carboxy methyl cellulose and the impurities. Moreover, the tested composition contained a non-ionic surfactant which had a longer carbon chain than the class of non-ionic surfactants disclosed as preferred in D6. Therefore, these experimental reports were not suitable for showing that the viscosity characteristics of the composition of table 1 of D6 implicitly fell within the

limits of claim 1 at issue.

- Document D6 did not specify that the squeezable container used was a "***bottom dispensing*** *container*".

- In the light of D6, the goal of the invention was the provision of a further article for laundering, consisting of a compact detergent composition contained within a water-insoluble squeezable container, having improved properties as compared to the article disclosed in document D6. In particular, the article according to claim 1 at issue comprised a compact detergent composition having high viscosity which could be squeezed out of a container in a smooth and controlled way and dispersed easily through the wash.

- Moreover, even if a technical advantage over the article of D6 were not recognised, the skilled person would have had no motivation for modifying the composition of Table 1 of document D6 in such a way as to arrive at a composition as defined in claim 1 at issue, comprising not only less water but also specific viscosity characteristics not disclosed in or suggested by D6.

- In fact, as stated in the patent in suit, it was known that a reduction of the water and other solvents content in a fluid composition could lead to an undesirable increase of the viscosity and to the formation of products having worse dispensing characteristics. Therefore, the skilled person would have been dissuaded from modifying the composition of Table 1 of D6, which could be squeezed out from a container in a controlled way and dispersed well through the wash, by reducing its content of water and thus increasing its viscosity in an unpredictable way.

- The claimed subject-matter thus involved an inventive step.

Reasons for the Decision

Admissibility of the experimental reports D6a and D6b

1. The experimental reports D6a and D6b were filed by the Appellant to further corroborate its position regarding the implicit disclosure of document D6, in reply to the reasoning of the Opposition Division as regards the viscosity of the composition disclosed in D6.

The Respondent did not contest the admissibility of these reports.

The Board thus saw no reason for not admitting and considering them.

Main request - Inventive step

2. The invention

2.1 The present invention concerns an article of commerce for laundering comprising a fluid laundry composition in a dispensing container, and the use of such an article in laundering (see claims 1 and 10 as granted).

2.2 As regards the background of the invention the following is stated in the description of the patent in suit (paragraph [0003]): "*[c]ompaction of fluid laundry detergents is technically problematic... Overly viscous products may fail to dispense from containers or create mess when dispensed. On the other hand, compositions with very low viscosities are very often not practical*

for delivering suitable levels of cleaning ingredients, nor do they connote good value to the consumer."

2.3 According to the description (paragraph [0004]) the invention is "*[s]olving the problem of providing an article of commerce comprising a compact fluid laundry detergent and a dispensing container*". More particularly, the following is stated in paragraph [0015]: "... *together the compact fluid laundry detergent compositions and the water insoluble containers, as incorporated in the articles, promote good consumer acceptance e.g., controllable non-messy dosing, and ensure dissolution and effective working of the compositions for laundering fabrics.*"

3. The closest prior art

3.1 It was common ground between the parties that document D6 represented the closest prior art and that, more particularly, the article consisting of the shear thinning detergent composition of table 1 of D6 contained within a squeezable container having an orifice as referred to in claim 1 of D6, represented a most appropriate starting point for the evaluation of inventive step.

Considering the similarities between D6 and the patent in suit in terms of subject-matter concerned and goals to be achieved, respectively, the Board sees no reason to take a different stance in this respect.

3.2 Indeed, document D6 (page 1, first two lines; claim 1) discloses laundry detergent compositions in paste form having a specific viscosity profile (values in Pa.s at a shear rate of $10s^{-7}$ and $1s^{-7}$) and being contained within a "squeezable container having an orifice".

According to D6 (paragraph bridging pages 1 and 2) "[i]t is desirable to ensure that the viscosity of the composition is such that the composition is substantially not pourable, so that significant wastage is avoided in a direct application washing process and also that the composition is not so viscous that dispersibility and dissolution in a solution washing process become unacceptable if this flexibility of use is to be retained. Control of the viscosity of the composition to provide an optimum combination of characteristics is desirable."

4. The technical problem according to the Respondent

4.1 The Respondent did not dispute that the article disclosed in D6 comprised an aqueous shear thinning laundry detergent composition which could be dispensed in a controlled way from a squeezable container with an orifice and also dispersed well in the wash.

4.2 However, it maintained that the technical problem consisted in the provision of an article for laundering having improved properties as compared to the article described in document D6.

5. The solution

As a solution to the technical problem, the patent in suit proposes the article of claim 1, which is caracterised *inter alia* (emphasis added by the Board)

in that it comprises "*a compact fluid shear thinning laundry composition comprising a* ***sum of water and non-aminofunctional solvent of 5% to 45% by weight*** *of the composition*" which has "*a* ***neat viscosity, V_n, of from 1,000 cps to 10,000 cps as measured at 20 s^{-1}, a***

diluted viscosity, V_d, *that is* ***less than or equal to $0.5V_n$, as measured at 20 s^{-1},*** *and a* ***low shear neat viscosity V_n of from 10,000 cps to 500,000 cps as measured at 0.5 s^{-1}"*** (viscosity characteristics hereinafter),
and in that the composition is releasably stored "*in a water insoluble container ... selected from squeeze bottom dispe[n]sing containers*".

6. The alleged success of the solution

6.1 The Board remarks that neither the patent in suit nor D8a contain a comparison with respect to the closest prior art (point 3.1, *supra*), and that the patent in suit does not even refer to, let alone discuss the teaching of document D6. Therefore, it has not been established that the article for laundering of claim 1 at issue has improved properties when compared to the closest prior art article according to D6.

6.2 There is thus no evidence on file convincingly showing that the technical problem suggested by the Respondent (4.2, *supra*) is indeed solved by means of an article according to claim 1 at issue.

7. Reformulation of the technical problem

7.1 Under these circumstance, the technical problem actually solved by the invention must be reformulated in less ambitious terms.

7.2 The Board accepts that it can be seen in providing a further article for laundering containing a shear thinning aqueous detergent composition which can be dispensed in a controlled way from a squeezable container and disperses well in the wash.

8. The success of the claimed solution

8.1 The composition according to example 1 of the patent in suit comprises (see Table 1 on pages 17 and 18) 4.4% by weight of non-aminofunctional solvents (1,2-propandiol and 1-ethoxypentanol) and 22.1% by weight of water. It has (see Table 2 on page 18) a V_n of 2700 cps at 20 s^{-1} and a V_d of 250 cps at 20 s^{-1}. As indicated on page 2 (top table) of the Patent Proprietor's letter of 01 June 2012 filed during opposition, it has a low shear V_n of 16,000 cps at 0.5 s^{-1}.

It was not in dispute and the Board accepts that this composition is a shear thinning aqueous detergent composition which can be dispensed in a controlled way from a squeezable container and disperses well in the wash as stated in paragraphs [0015] and [0144] of the patent in suit.

8.2 Moreover, absent any evidence to the contrary, there is no reason for the Board to assume that other compositions encompassed by the wording of claim 1 would not display the same desirable behaviour.

8.3 Therefore, the Board's considers it plausible that the claimed compositions effectively solve the technical problem posed (point 7.2, *supra*). This was not disputed by the Appellant.

9. Non-obviousness of the solution

9.1 The entire relevant disclosure of document D6

9.1.1 In the present assessment the Board considers (*arguendo*) in the Appellant's favour that the "squeezable container having an opening" as disclosed

in document D6 (see claim 1) is a "*squeeze bottom dispensing container*" within the meaning of claim 1 at issue.

This container, comprising the composition of Table 1, must (inherently) be water-insoluble since it stores and contains a composition containing substantial amounts of water (52.68% by weight).

9.1.2 The viscosity values of the composition disclosed in Table 1 of D6 as well as those referred to in claim 1 of D6 are values measured at 10 s^{-1} and at 1 s^{-1}.

D6 does not disclose the viscosity characteristics of the compositions described when measured at 20 s^{-1} and at 0.5 s^{-1} (as referred to in claim 1 at issue).

9.1.3 The Appellant filed the experimental reports D6a and D6b, wherein the viscosity characteristics of a composition allegedly corresponding to that of Table 1 of D6 were measured under conditions prescribed by claim 1 at issue (i.e. at 20 s^{-1} and at 0.5 s^{-1}).

- Reports D6a and D6b do not, however, specify the exact nature of all the components used in the tested composition. For example, they neither specify which carboxy methyl cellulose compound nor which impurities are contained in the composition, although these components could significantly affect the viscosity characteristics of the composition.

- Moreover, the tested composition comprises a non-ionic surfactant (C_{12-18} fatty alcohol with a degree of ethoxylation of 7) which is not disclosed in D6 and has longer carbon chains than the preferred

non-ionic surfactants of D6 (alcohol alkoxylates with a linear or branched C_{9-15} alkyl chain and a degree of ethoxylation of 1 to 15; see page 9, lines 26 to 28).

- No viscosity measurements were carried out at 10 s^{-1} and 1 s^{-1} (as in D6) for "calibration" purposes.

9.1.4 Therefore, for the Board, the experimental details presented in D6a and D6b do not permit to conclude that the composition actually tested according to reports D6a and D6b corresponds to the specific composition of Table 1 of D6.

Hence, the Board holds that the Appellant's tests do not show convincingly that the composition of Table 1 of D6 has the viscosity characteristics (Vn, Vd) required by claim 1 at issue.

9.1.5 The composition of table 1 of D6 contains 52.68% by weight of water and no (0%) non-aminofunctional solvents, i.e. it contains water and amino-functional solvents in a total amount which is greater than the upper limit of 45% by weight for the sum of water and amino-functional solvents prescribed by claim 1 at issue.

9.2 Therefore, it remains to be evaluated whether it was obvious for the skilled person, starting from the closest prior art article (D6/table1/claim1) and seeking to solve the technical problem posed (point 7.2, *supra*), to modify the composition of Table 1 of D6 such as to arrive at a composition containing only 5 to 45% by weight of water and amino-functional solvents

whilst having the viscosity characteristics required by claim 1 at issue.

9.3 It is not in dispute that the description of document D6 (page 5, lines 15 to 16) discloses the possibility of including 45% or more water in the composition.

9.3.1 However, assuming that the person skilled in the art would envisage modifying the composition of Table 1 by reducing the amount of water from 52.68% to e.g. 45%, i.e. down to the upper limit of the water plus non-aminofunctional solvents range of claim 1 at issue, he would also have to make sure that the so-modified composition complies with all the viscosity requirements defined in D6, i.e. displays (see claim 1) a viscosity of from 5 to 100 Pa.s (i.e. 5,000 to 100,000 cps) at 10 s^{-1}, a viscosity of from 10 to 1000 Pa.s (i.e. 10,000 to 1,000,000 cps) at 1 s^{-1}, and a ratio of the viscosity at 1 s^{-1} to the viscosity at 10 s^{-1} of from 2:1 to 10:1.

9.3.2 As the viscosity ranges disclosed in D6, defined in terms of values measured under different conditions, are not directly comparable with those of claim 1 at issue, it is not predictable whether a modification as addressed under point 9.3.1, *supra,* would inevitably result in a shear thinning composition also having the viscosity characteristics required by claim 1 at issue.

9.3.3 Moreover, document D6 does not mention any viscosity values of the compositions after dilution at all, as prescribed by claim 1 at issue, and the V_d value reported in D6b is of insufficient probatory force in this respect for the reasons indicated under 9.1.3 and 9.1.4, *supra*.

9.4 Moreover, the person skilled in the art knew that a reduction of the content of the composition in water and other solvents usually brings about an increase of the viscosity of the composition. This is confirmed e.g. by a statement in document D6 (page 5, lines 14 to 15) that "*[l]ess viscous compositions may be provided by including water in the composition at a relatively high level such as at least 45 wt%*" as well as by the patent in suit (paragraph [0003]) stating that "*the reduction of the water and/or solvent content generally increases fluid laundry detergent viscosity.*"

However, it was also known from paragraph [0003] of the patent in suit that such increase in viscosity "*leads to problems such as an increased difficulty in measurable dispensing ... poor dissolution in use, and the like. Overly viscous products may fail to dispense from containers or create mess when dispensed.*"

Because of the very nature of shear thinning compositions, viscosity variations (increase or decrease) resulting from changes in composition are not linear and thus rather unpredictable in their extent. The validity of this statement presented by the Respondent orally and in writing (see letter of 8 August 2016: page 3, fourth full paragraph) was not called into question by the Appellant.

9.5 Therefore, the Board holds that the person skilled in the art, starting from the article disclosed in document D6, comprising a composition which dispenses well from a squeezable container and disperses well in the wash, would not be motivated to reduce the amount of water in this specific composition. In fact, he would expect some unpredictable and disadvantageous increase of the viscosity of the composition.

Therefore, the Board is convinced that he would not consider modifying the composition of Table 1 of D6 by simply (without taking further measures/precautions) reducing the amount of water in the expectation of success.

9.6 The Appellant also argued that the person skilled in the art would know how to adapt the viscosity of the composition and how to arrive at viscosity characteristics as required by claim 1 at issue.

9.6.1 In this respect, the Board remarks that, even though methods for adjusting viscosity were of course well known to the person skilled in the art, document D6 did not contain any pointer in the direction of the specific combination of viscosity characteristics required by claim 1 at issue, including also a specific upper limit for the diluted viscosity value.

9.6.2 Therefore, without hindsight, the person skilled in the art would not have found in D6 any motivation for adjusting the viscosity characteristics of the detergent composition such that they meet the criteria defined in claim 1 at issue.

9.7 For the sake of completeness, the Board also remarks that document D3 (claim 1 and Table 1 on pages 5 and 6), upon which the Appellant no longer relied during oral proceedings, although concerning pasty detergent compositions containing low amounts of water and non-aminofunctional solvents, which can be squeezed out from e.g. a tube, does not contain any indications permitting inferring whether such compositions display viscosity characteristics as required by claim 1 at issue.

Therefore, even the (hypothetical) consideration of this document would not lead the skilled person to an article comprising a composition as defined in claim 1 at issue.

9.8 The Board thus concludes that, starting from the article of the closest prior art (D6/table 1/claim1), it was not obvious to the skilled person to modify it such as to arrive at an article comprising a composition having all the features of claim 1 at issue.

Since the product of claim 1 is not obvious, the same is true for the more specific articles according to dependent claims 2 to 9, and for the use of such an article according to claim 10.

10. In the Board's judgement, the subject-matters of claims 1 to 10 as granted thus involve 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