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

Datasheet for the decision of 25 January 2013

Case Number: T 1694/10 - 3.3.06

Application Number: 04011038.9

Publication Number: 1443098

IPC: C11D 17/04, B65D 65/46

Language of the proceedings: EN

Title of invention:
Dishwashing product

Patent Proprietor:
THE PROCTER & GAMBLE COMPANY

Opponents:
Reckitt Benckiser (UK) Limited
Henkel AG & Co. KGaA

Headword:
Vacuum- or thermoformed pouch/PROCTER & GAMBLE

Relevant legal provisions:
-

Relevant legal provisions (EPC 1973):
EPC Art. 56

Keyword:
"Inventive step (no): obvious combinations of technical features bringing about expectable improvements"

Decisions cited:
T 0355/97, T 0611/04, T 1188/00

Catchword:
-

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1694/10 - 3.3.06

D E C I S I O N
of the Technical Board of Appeal 3.3.06
of 25 January 2013

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 I: (Opponent 1)	Reckitt Benckiser (UK) Limited Dansom Lane Hull HU8 7DS (GB)
Representative:	Hodgetts, Catherine Dawn Reckitt Benckiser Corporate Services Limited Legal Department - Patents Group Dansom Lane Hull HU8 7DS (GB)
Respondent II: (Opponent 2)	Henkel AG & Co. KGaA Henkelstrasse 67 D-40589 Düsseldorf (DE)
Representative:	Stevermann, Birgit Henkel AG & Co. KGaA VTP Patente D-40191 Düsseldorf (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted 4 June 2010 revoking European patent No. 1443098 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman: G. Santavicca
Members: L. Li Voti
U. Tronser

Summary of Facts and Submissions

I. The present appeal is from the decision of the Opposition Division to revoke the European patent no. 1 443 098.

II. In their notices of opposition the Opponents sought the revocation of the patent on the grounds of Article 100(a) EPC 1973, because of lack of novelty and inventive step of the claimed subject-matter, and of Article 100(c) EPC 1973.

The following documents were cited *inter alia* during the opposition proceedings:

(7): WO 00/55046;
(8): FR-A-2666349;
(11): EP-A-593952;
(12): CA-A-112534;
(14): The Wiley Encyclopedia of Packaging Technology, second edition, 1997, pages 910 to 923;
(18): WO 00/55068.

III. The Opposition Division found in its decision that

- the claims of the granted patent and of the then pending first and second auxiliary requests complied with the requirements of Article 76(1) EPC 1973 and Article 123(2) EPC and were novel over the cited prior art;

- as regards inventive step, document (8) represented the closest prior art;

- the late filed experimental report 2, filed on 30.04.2010, which contained some errors, was not to be admitted;

- the claimed subject-matter lacked an inventive step.

IV. An appeal was filed against this decision by the Patent Proprietor (Appellant).

The Appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of the main request or of one of the first to third auxiliary requests, all of them submitted during the oral proceedings.

The Respondents (Opponents 1 and 2) requested that the appeal be dismissed.

V. Claim 1 according to the Appellant's **main request** reads as follows:

"1. A method of washing dishware/tableware using a dishwashing product in an automatic dishwashing machine having a single or multi-compartment product dispenser having a volume in its closed state in the range from 15 to 70ml which is normally closed and sealed after charging the machine and prior to delivery of the dishwashing product into the wash liquor and in the method the dishwashing product comprises one or more dishwashing compositions in a unit dose form and is a vacuum- or thermoformed water-soluble pouch having a degree of deformability as calculated by the method herein defined greater than 10% and a shape and size such that the dishwashing product occupies more than

60%, preferably more than 85% of the volume of the corresponding compartment of the product dispenser in its closed state, and wherein the water-soluble pouch is a multi-compartment pouch comprising at least one compartment containing a liquid composition, said liquid composition preferably comprising a non-ionic surfactant."

Claim 1 according to the **first auxiliary request** differs from claim 1 according to the first auxiliary request insofar as it requires that the used dishwashing product is a vacuum-formed water soluble pouch and is in a state of compression within the closed product dispenser across the smallest transverse section of the product in a direction generally perpendicular to the product dispenser closure means.

Each claim 1 according to the **second** and **third auxiliary request** differs from each claim 1 according to the main request and the first auxiliary request, respectively, insofar as they require that the multi-compartment pouch comprises additionally at least one compartment containing a powder composition.

VI. The Appellant submitted essentially that

- document (12) was a more suitable starting point for the evaluation of inventive step than document (8);

- the first and second experimental reports showed that a water-soluble pouch prepared by vacuum- or thermoforming had improved dissolution characteristics with respect to a heat-sealed pouch of the type used in document (12);

- moreover, the claimed water-soluble pouch had a more three-dimensional form and a lower surface area to volume ratio than a heat-sealed pouch; these qualities resulted in an improved handling and feel for the user and allowed a more efficient use of the pouch volume to enclose the desired dose of detergent;

- the use of a liquid composition in one of the multiple compartments conferred more robustness to the pouch, especially when a solid composition was contained in a further compartment;

- a water-soluble pouch prepared by vacuum-forming had not only improved dissolution characteristics but also more elasticity; therefore, a pouch enclosed within the dispenser in a state of compression across the smallest transverse section of the product in a direction generally perpendicular to the product dispenser closure means would be better delivered from the dispenser;

- the cited prior art did not suggest that a water-soluble pouch prepared by thermo- or vacuum-forming would have the mentioned advantages with respect to a heat-sealed one; moreover, even if the technical problem to be solved were the mere provision of an alternative method of dishwashing over document (12), the prior art did not suggest to use, in a dishwashing process, a pouch having all the features of claim 1 in combination;

- therefore, the claimed subject-matter involved an inventive step.

VII. The Respondents submitted *inter alia* that

- the experimental reports did not contain a correct comparison with the closest prior art and were not apt to show any technical advantage achieved by using a product according to claim 1;

- it was expectable in the light of the teaching of the prior art, e.g. of documents (11), (14) and (18), that a thermo- or vacuum-formed water-soluble pouch would be more thin and, therefore, more soluble than a heat-sealed one;

- moreover, it was known that thermoformed or vacuum-formed pouches could be used in a dishwashing process and had a more three-dimensional form, as shown in documents (7), (8) and (18); therefore, the advantages obtained in connection with the increased three-dimensionality of the pouch were expectable;

- the use of a plurality of compartments for including, for example, incompatible ingredients in the same pouch was well known in the art;

- the alleged technical advantage of increased elasticity of a vacuum-formed pouch was not mentioned in the patent in suit and had not been made credible by the Appellant; the same applied for the increased robustness of a pouch containing a liquid composition in one compartment and, optionally, a solid composition in a further separate compartment;

- the other technical features of claim 1 were also obvious in the light of the cited prior art;

- moreover, all the technical features of claim 1 did not provide any additional unexpected advantage in combination;

- the claimed subject-matter thus did not involve an inventive step.

Reasons for the Decision

1. Main request

1.1 *Inventive step*

1.1.1 The invention of claim 1 relates to a method of washing dishware/tableware in an automatic dishwashing machine using a dishwashing product in pouch form (see paragraph 1 of the patent in suit).

As explained in the description of the patent in suit, it was known to use a unit dose of dishwashing detergent in tablet form and detergent products in pouch form (paragraph 2). It was also known to design tablets and pouches to have a size and shape which fit all machine dispensers. However, this fact together with the mechanical properties of tablets and pouches usually constrained the amount of product composition which could be incorporated therein (paragraph 4).

The technical problem underlying the invention thus is formulated in the patent in suit as the provision of a

dishwashing product containing a unit dose of detergent composition, which product allows for optimum delivery of active components across different washing machine types and provides improved processing and dissolution characteristics (paragraph 9).

1.1.2 Document (12), indicated by the Appellant as representing the closest prior art, relates to the provision of a dishwashing product containing a unit dose of detergent to be used in a machine dishwashing method, which product allows optimum delivery of the active components from a dishwashing machine dispenser, has excellent dissolution characteristics and can be easily handled and dispensed by the user (see page 3, lines 21 to 30); therefore, this document deals with all the technical problems addressed to specifically in the patent in suit.

Document (8), chosen by the Opposition Division as closest prior art, concerns the provision of a dishwashing article containing a unit dose of detergent, which article provides more stability upon storage to the detergent contained therein and can be easily and safely handled by the user (see page 1, lines 6 to 24).

Therefore, this document does not deal specifically with the technical problem of providing optimum delivery of the active components or improved dissolution characteristics.

Consequently, the Board finds that document (8) is less suitable than document (12) as starting point for the evaluation of inventive step. The Board thus agrees with the Appellant that document (12) represents the

most suitable starting document for the evaluation of inventive step.

1.1.3 It is not disputed that the technical problem addressed to in the patent in suit had been already solved by means of the dishwashing article of document (12). Therefore, the Appellant formulated the technical problem underlying the invention, in the light of the disclosure of document (12), as the provision of a water-soluble pouch having improved dissolution characteristics in a machine dishwashing process, which pouch allowed a more efficient use of the pouch volume to enclose the desired dose of detergent and allowed more flexibility in the choice of the detergent composition.

The first experimental report submitted by the Appellant in writing shows that a water-soluble pouch produced by thermoforming, vacuum-forming or by forming with heat and vacuum dissolves faster than a heat-sealed pouch of the type used in document (12).
Even taking into account the late submissions of Respondent I, who contested the validity of this test report with the letter of 3 January 2013, i.e. about three weeks before oral proceedings, the Board finds valid the results of these tests, which had already been considered convincing in the decision under appeal (see passage bridging pages 8 and 9).

As regards the second experimental report, which had not been admitted at first instance, the Appellant explained during oral proceedings that it had been filed only for supporting further the results of the first one. Since the results of the first experimental

report are already considered to be convincing there is then no need to discuss the second experimental report in this decision.

The Board thus finds that it has been convincingly proven that the pouches defined in claim 1 have improved dissolution characteristics in a machine dishwashing process.

As regards the other technical advantages mentioned by the Appellant, the Board finds credible that the thermoformed or vacuum-formed pouches of the patent in suit, prepared by drawing the film into a mould, have necessarily a more three-dimensional form than the heat-sealed pouches of document (12), which are prepared without a mould so that their form is given principally by the detergent composition enclosed within. Therefore, it is credible that the volume within the pouches of the invention, which can be prepared in the desired form by selecting an appropriate mould, can be more efficiently used for containing an optimal amount of detergent.

Moreover, the presence of multiple compartments within the pouch provides certainly more flexibility in the choice of the dishwashing detergent composition with respect to the pouch of document (12) enclosing only a liquid pasty composition and not containing multiple compartments.

The Board thus finds that the technical problem identified by the Appellant with respect to document (12) has been convincingly solved by the use of a pouch

having the claimed characteristics in the dispenser of a dishwashing machine.

1.1.4 As agreed by the Appellant during oral proceedings, the subject-matter of claim 1 according to the main request differs from the disclosure of document (12) insofar as

a. the dispenser of the dishwashing machine has a volume in its closed state in the range from 15 to 70 ml;

b. the water-soluble pouch containing the unit dose of detergent is vacuum- or thermoformed;

c. the water-soluble pouch has a degree of deformability as calculated by the method defined in the patent in suit greater than 10%;

d. the water-soluble pouch has a shape and size such that the dishwashing product occupies more than 60% of the volume of the corresponding compartment of the product dispenser in its closed state;

e. the water-soluble pouch is a multi-compartment pouch comprising at least one compartment containing a liquid composition.

1.1.5 As regards feature (b), it is undisputed that thermoformed and/or vacuum-formed water-soluble pouches were already known from the prior art and that they had been already used in a machine dishwashing process (see, for example, documents (7) (page 1, lines 7 to 15; page 3, lines 9 to 14; page 6, lines 8 to 12); (8) (page 1, lines 1 to 3; page 7, lines 17 to 18) and (18)

(page 1, lines 5 to 6, page 3, lines 15 to 25, page 5, lines 26 to 30, page 6, lines 26 to 30).

Moreover, it was known to the skilled person that the process of thermoforming and vacuum-forming, wherein the film is drawn into a mould, can be used for preparing a pouch having the desired three-dimensional shape (see, e.g., document (18), page 8, line 31 to page 9, line 35 and page 10, lines 5 to 8); since such a product would have necessarily a greater volume to be filled than a flatter heat-sealed product of a similar length and width, it was well expectable that it can enclose more easily an optimal amount of detergent and that it can allow the arrangement of multiple compartments (see document (7), page 7, line 25 to page 8, line 3 and document (18), page 9, lines 23 to 26).

Furthermore, it was also known and belonged to the common general knowledge of the skilled person that the thermoforming and vacuum-forming process reduces the original thickness of the formed film, especially at the corners and edges of the obtained three-dimensional structure (see document (14), figure 2 on page 915 as well as document (18), page 10, line 4 and page 11, lines 18 to 19). It was also well known to the skilled person that the water-solubility of a film from which a pouch is made can be improved by reducing its thickness (see, for example, document (11), page 5, lines 11 to 12).

Therefore, the Board finds that it would have been obvious for the skilled person, faced with the technical problem of improving the dissolution

characteristics of the water-soluble pouch of document (12) and providing a pouch which allows a more efficient use of the pouch volume, to prepare a pouch by thermoforming and/or vacuum-forming instead of by heat-sealing.

1.1.6 As regards feature (e), pouches containing multiple compartments were already known in the prior art (see e.g. documents (11), page 5, lines 18 to 27 and (7), page 7, lines 25 to 28). Moreover, it has been already explained in point 1.1.5 above that the skilled person would have recognised that the use of a thermoforming and vacuum-forming process is especially suitable for including multiple compartments. Therefore, it would have been obvious for the skilled person to use more than one compartment in a thermoformed or vacuum-formed pouch in order to add a further detergent component to the liquid pasty detergent composition used in document (12).

1.1.7 The Appellant did not dispute that features (a), (c) and (d) did not provide any technical advantage over the disclosure of document (12) and did not provide any synergistic effect in combination with the other technical features of the claim. This had been already found in the decision under appeal (see page 9, third full paragraph).

In particular, feature (a) relates simply to the volume of the dispenser of dishwashing machines commercially available at the priority date of the patent in suit. Therefore, it would have been obvious for the skilled person, at the priority date of the patent in suit, to use the water-soluble pouch of document (12) into a

dishwashing machine having a dispenser commercially available at that time and possessing such a volume.

Moreover, document (12) teaches already that the used pouch should be of a convenient size so as to fit into the detergent dispenser cup of an automatic dishwasher (page 23, lines 9 to 11). In the light of what has been discussed hereinabove, it would have been also obvious for the skilled person to prepare a more three-dimensional pouch, as suggested in documents (7), (8) or (18), in the desired form in order to fit optimally into the dispenser of a dishwashing machine commercially available at the priority date of the patent in suit. It is also evident that the pouch should occupy most of the volume of the dispenser in order to be sure that it falls out when it opens. Therefore, it was also obvious to prepare a pouch complying with feature (d) of claim 1.

Feature (c) relates to a deformability of the pouch of at least 10%, wherein deformability is intended as the maximum displacement of a probe after touching the unit dose form up to the burst point (see paragraph 12). This is certainly the case for the pouches of document (12), which can be folded without breaking (page 23, line 10). Moreover, as explained above, it was obvious for the skilled person to prepare a water-soluble pouch by the method of document (18), for example by thermoforming with vacuum, instead of by heat-sealing. In this respect, document (18) expressly indicates that the pouches prepared according to its teaching are more resistant to breakage when subject to impact forces (see page 2, line 24 to page 3, line 10).

Therefore, it was obvious for the skilled person to prepare a pouch complying with the requirements of feature (c) by following the teaching of document (18).

1.1.8 Hence, the Board concludes that it would have been obvious for the skilled person, by following the teaching of document (12), using his common general knowledge and applying the technical teaching existing in documents of the detergent field making use of water-soluble pouches, to provide an alternative method of dishwashing having all the features of claim 1 of the main request in combination with the expectation that the used detergent product is capable of providing all the technical advantages mentioned by the Appellant.

Therefore, the subject-matter of claim 1 does not amount to an inventive step.

2. First auxiliary request

2.1 *Inventive step*

2.1.1 The independent claim 1 according to the first auxiliary request differs from claim 1 according to the main request insofar as it requires that the used dishwashing product is a vacuum-formed water-soluble pouch and is in a state of compression within the closed product dispenser across the smallest transverse section of the product in a direction generally perpendicular to the product dispenser closure means.

According to the Appellant, a compressed detergent product would better spring out from the dispenser on opening of the dispenser closure means since the

vacuum-forming process would provide the product with increased flexibility.

However, the Board remarks that this effect is not described or suggested in the patent in suit or in the application as originally filed. It is in this respect established jurisprudence of the Boards of Appeal of the EPO that the burden of proof for a new undisclosed effect which is not mentioned in the application as filed or in the patent lies on the party alleging this new effect (see Case Law of the Boards of Appeal of the EPO, 6th edition, 2010, I.D.9.9, page 222, first paragraph as well as T 611/04, points 2.2.2 to 2.2.4 of the reasons and T 1188/00, catchword). The fact that the other parties did not dispute in writing the Appellant's allegation with regard to this new effect does not discharge the Appellant from its obligation to submit evidence for supporting the new undisclosed effect (see also T 355/97, point 2.5.1 of the reasons, last sentence).

In the absence of any evidence the Board thus has to disregard this technical effect for the evaluation of inventive step.

2.1.2 The Appellant admitted during oral proceedings that the wording of claim 1 "vacuum-formed water-soluble pouch" included pouches prepared by thermoforming in combination with vacuum.

Documents (14) and (18), cited hereinabove in point 1.1.5, relate to pouches prepared by thermoforming in combination with vacuum. As already explained above, it was known from documents (14) and

(18) that thermoforming with use of vacuum led to a pouch having thinner walls, at least at the corner and edges. Therefore, it was expectable that such pouches had better dissolution characteristics than heat-sealed ones and it would have been obvious for the skilled person to prepare the water-soluble pouch of document (12) by such a method instead of by heat-sealing for increasing its dissolution properties.

As regards the feature of claim 1 that the pouch is in a state of compression within the closed product dispenser across the smallest transverse section of the product in a direction generally perpendicular to the product dispenser closure means, the Board remarks that it was obvious for the skilled person to prepare a pouch of the desired form occupying most of the volume of the dispenser (see point 1.1.7 above).

Moreover, it was also known to the skilled person from document (18) that vacuum- and thermoformed pouches were resistant to breakage upon impact forces. Therefore, it would have been obvious to use also three-dimensional pouches which have to be compressed in order to fit completely into the dispenser.

In such a case the skilled person would place the product into the dispenser in a way that it fits maximally with the form of the dispenser itself, which is usually wider than deeper. Therefore, it would be also obvious to place the pouch with the smallest transverse section of the product in a direction generally perpendicular to the product dispenser closure means.

2.1.3 The Board thus concludes that the subject-matter of claim 1 according to the first auxiliary request does not involve an inventive step.

3. Second and third auxiliary requests

3.1 *Inventive step*

3.1.1 Each claim 1 according to the second and third auxiliary requests differs from each claim 1 according to the main request and the first auxiliary request, respectively, insofar as they require that the multi-compartment pouch comprises also at least one compartment containing a powder composition.

As regards the advantage, mentioned by the Appellant, that the pouch, by including both a solid and a liquid detergent composition in separate compartments and having a deformability of at least 10%, would have an improved robustness, the Board remarks that this technical advantage was not mentioned in the patent in suit or in the application as filed.
In fact, the only implicit reference to robustness which can be found in the patent in suit concerns an aspect of the invention wherein the liquid component contains an air bubble having a volume of up to about 50% of the volume space of said compartment for reasons of deformability and dispenser fit under compression forces (paragraph 29). However, no indication is given that a solid component can also be contained and that the air bubble content, which is not a feature of claim 1 according to the second and third auxiliary request, is unnecessary.

Therefore, in the absence of evidence supporting this alleged previously undisclosed effect, for the same reasons given in point 2.1.1 above, this technical effect has to be disregarded in evaluating inventive step.

3.1.2 As explained in point 1.1.6 above, it was obvious for the skilled person to use a pouch containing multiple compartments; therefore, it would have been also obvious for the skilled person to include a different detergent component, for example a solid one, separately from the pasty liquid used in document (12).

Therefore, claim 1 according to the second and third auxiliary requests also lack an inventive step.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

D. Magliano G. Santavicca